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The National Academy of Sciences, India

NOMINATIONS

Valid for Consideration for Election to
Fellowship – 2014

Section of Biological Sciences

BOOK II

ANIMAL SCIENCES

(Structural, Developmental, Functional, Genetical, Ecological,
Behavioural, Taxonomical and Evolutionary Aspects)

MEDICAL & FORENSIC SCIENCES

(Basic and Clinical Medical Sciences, Pharmacology, Anthropology,
Psychology and Forensic Sciences, Human genetics, Reproduction
Biology, Neurosciences, Molecular Medicine)



5, Lajpatrai Road, Allahabad-211002

The National Academy of Sciences, India

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Section of Biological Sciences

BOOK II

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5, Lajpatrai Road, Allahabad-211002

ANIMAL SCIENCES

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ANIMAL SCIENCES

(Structural, Developmental, Functional, Genetical, Ecological, Behavioural Taxonomical and Evolutionary Aspects)

CHANDRA, GOUTAM (b 1963), Professor, Department of Zoology, The University of Burdwan, WB

Member of the NASI: No

(YON 2014, Animal Sciences)

Conducted filarial epidemiology covering vast areas of West Bengal based on WHO parameters (Hati et al., 1989; Chandra & Hati, 1993; Chandra et al., 2013), established 3rd quadrant of night as peak period of filarial transmission (Chandra, 1995), established method of computing vector survival rate per gonotrophic cycle (Chandra et al., 1996), established *Anopheles subpictus* (A) as malaria vector in rural Bengal (Chatterjee and Chandra, 2000), sandflygenic sites with limiting factors for sandfly breeding were discovered (Chandra et al., 1994), method of sandfly culture in laboratory was developed (Chandra et al., 2005), methods of phytochemical analyses by spraying reagents were developed (Ghosh et al., 2008), dose of DEC was determined for microfilaremics with high (>40) microfilarial density (Chandra and Paramanik, 2008), larvivoraicity of several fishes and insects was established (Chandra et al., 2008a, 2008b, 2013; Mandal et al., 2008), several plants were reported to have mosquitocidal, wormicidal, molluscicidal and bactericidal roles (Bhattacharjee et al., 2006; Ghosh et al., 2008, 2012; Hossain et al., 2012, 2013; Rawani et al., 2013), synergism between phytochemicals and antibiotics against pathogenic bacteria (Chatterjee et al., 2009) were established, green silver nano particles were synthesized by *Drypetes roxburghii* and *Solanum nigrum* having mosquitocidal and bactericidal activities (Haldar et al., 2012; Rawani et al., 2013). *Geobacillus thermodenitrificans* (thermophilic bacterium) was isolated and established as bioremediator of some heavy metals (Chatterjee et al., 2010). Physicochemical characterization, functional and sequence analyses and phylogenetic study of some snake venom toxin proteins and related nontoxin proteins of other chordates were done (Panda and Chandra, 2012, 2013).

Proposer : Prof. Vinod Prakash Sharma, **Second**er : Prof. Anupam Chatterjee

Ten Best Publications:

1. Chandra G (1995), Peak period of filarial transmission, American Journal of Tropical Medicine and Hygiene, 53: 378-379. (if= 2.592, ci= 7)
2. Bhattacharjee I, Chatterjee SK, Chatterjee SN & Chandra G (2006), Antibacterial potentiality of *Argemone mexicana* solvent extracts against some pathogenic bacteria, Memorias Do Instituto Oswaldo Cruz, 101(6): 645-648. (if= 1.363, ci= 69)
3. Ghosh A, Das BK, Roy A, Mandal B & Chandra G (2008), Antibacterial activity of some medicinal plant extracts, Journal of Natural Medicine, 62: 259-262. (if= 1.516, ci= 68)
4. Chowdhury N, Ghosh A & Chandra G (2008), Mosquito larvicidal activities of *Solanum villosum* berry extract against the dengue vector *Stegomyia aegypti*, BMC Complementary and Alternative Medicine, 8:10-17. (if= 2.20, ci= 54)
5. Mandal S, Bhattacharjee I, Ghosh A & Chandra G (2008), Biocontrol Efficiency of Odonate nymphs against larvae of the mosquito, *Culex quinquefasciatus* Say, 1823, Acta Tropica, 106: 109-114. (if= 2.787, ci= 13)
6. Ghosh A, Chowdhury N & Chandra G (2008), Laboratory evaluation of a phytosteroid compound of mature leaves of day jasmine (Solanaceae: Solanales) against larvae of *C. quinquefasciatus* (Diptera: Culicidae) and non-target organism, Parasitology Research, 103 :271-277. (if= 2.852, ci= 46)
7. Chandra G, Mandal S.K., Ghosh AK, Das D, Banerjee SS & Chakraborty S (2008), Biocontrol of larval mosquitoes by *Acilius sulcatus* (Coleoptera: Dytiscidae), BMC Infectious Diseases, 8: 138-145. (if= 3.15, ci= 14)
8. Chatterjee SK, Bhattacharjee I & Chandra G (2010), Biosorption of heavy metals from industrial waste water by *Geobacillus thermodenitrificans*, Journal of Hazardous Materials, 175: 117-125. (if= 4.533, ci= 59)
9. Haldar MK, Haldar B & Chandra G (2013), Fabrication, characterization and mosquito larvicidal bioassay of silver nanoparticles synthesized from aqueous fruit extract of putranjiva, *Drypetes roxburghii* (Wall), Parasitology Research, 112: 1451-1459. (if= 2.852, ci= 4)
10. Rawani A, Ghosh A & Chandra G (2013), Mosquito larvicidal and antimicrobial activity of synthesized nano-crystalline silver particles using leaves and green berry extract of *Solanum nigrum* L. (Solanaceae: Solanales), Acta tropica, 128: 613-622. (if= 2.787, ci= Nil)

CHAUHAN, RAMSWAROOP SINGH (b 1958), Professor, Veterinary Pathology, GBPUAT Pantnagar-263145 Uttarakhand

Member of the NASI: No

(YON 2014, Animal Sciences)

During his tenure as academician and scientist, he has written 73 books including 21 manuals and 1 monograph; most of them are very popular among the students world over. He contributed 80 chapters in different books and published 188 research papers in various National and International journals of repute. Besides, he participated in 16 International and 57 National Conferences. He also popularizes the scientific research by publishing 322 semi-technical articles in various magazines. He is life member of 15 scientific bodies and has been in several executive committee such as Chairman, President, Secretary-General, Vice President, Registrar, ICVP, etc. Based on his contributions and scientific achievements, he has been awarded with several prizes, medals and honours including Best Young Scientist Award (1992), IAAVR Award (1996), National Fellow Award (1999), Fellow NAVS (2000), Fellow SIIP (2001), K.S. Nair Memorial Award (1999), Vigyan Bharti Award (2000), Dr. C.M. Singh Trust Award (2002), Dr. Rajendra Prasad Award (2002), Shri Ramlal Agrawal National Award (2000), Best Teacher Award (2004) by GB Pant University, Pantnagar, Fellow, IAVP (2006), Gopalgaurav, Bharat Excellence Award (2007), Diplomat, ICVP (2008), etc. in recognition of his research and teaching endeavor. He has been the principle investigator of 19 research projects worth millions of Rupees. The scientific contributions of Dr. Chauhan have been recognized internationally as visiting Professor, University of Wageningen, The Netherlands and Temporary Advisor, WHO (Geneva). Dr. Chauhan ambitiously implemented quality management system (QMS) in CADRAD/ CDDL. CADRAD is the first veterinary diagnostic institution in India to get ISO certification. He also implemented uniform diagnostic methodology in all the Disease Diagnostic Laboratories throughout India.

Proposer : Prof U C Srivastava, **Seconded** : Prof G K Srivastava

Ten Best Publications:

1. Tikaram SM, Satija KC, Chauhan RS and Kaushik RK. 1987. Orchitis in a camel (*Camelus dromedarius*) infected with *Sarcoptes cameli*. *Veterinary Parasitology*, 23: 307-309. (if=2.016)
2. Chauhan RS and Kaushik RK. 1987. Isolation of camel pox virus in India. *British Veterinary Journal*. 143: 581-582. (if=1.755)
3. Chauhan RS and Kaushik RK. 1991. Isolation of enterotoxigenic *Escherichia coli* from camels with diarrhoea. *Veterinary Microbiology*. 29: 195-197. (if=2.01)
4. Chand P, Sadana JR, Batra HV and Chauhan RS. 1989. Comparison of the dot immunobinding assay with the complement fixation test for the detection of Brucella antibodies in sheep. *Veterinary Microbiology*. 20: 281-187. (if=2.01)
5. Chauhan RS and Singh NP. 1992. Cell-mediated immune response in rotavirus infected calves-Leucocyte migration inhibition assay. *Journal of Comparative Pathology*. 107: 115-118. (if=1.494)
6. Chauhan RS and Singh NP. 1992. Rapid diagnosis of rotavirus infection in calves by dot immunobinding assay. *Veterinary Record*. 130: 381. (if=1.087)
7. Singhal LK, Bagga S, Kumar R and Chauhan RS. 2003. Down regulation of humoral immunity in chickens due to carbendazim. *Toxicology In Vitro*, 17(5-6): 687-692. (if=2.193)
8. Ravindra PV, Tiwari AK, Ratta B, Chaturvedi U, Palia SK, Subudhi PK, Kumar R, Sharma B, Rai A and Chauhan RS. 2008. Induction of apoptosis in vero cells by Newcastle disease virus requires viral replication, de-novo protein synthesis and caspase activation. *Virus Research*, 133: 285-290. (if=2.81)
9. PV Ravindra, Ashok K Tiwari, Barkha Ratta, Manish V Bais, Uttara Chaturvedi, Sudesh Palia, Bhaskar Sharma, and R S Chauhan (2009). Time-course induction of Newcastle disease virus-induced extrinsic and intrinsic apoptotic pathways in infected cells. *Virus research*, 144 (1-2): 350-354. (if=2.81)
10. PV Ravindra, Ashok K Tiwari, Barkha Ratta, Uttara Chaturvedi, Sudesh Kumar Palia, and RS Chauhan (2009). Newcastle disease virus-induced cytopathic effect in infected cells is caused due to apoptosis. *Virus Research*, 141: 13-20. (if=2.81)

GHOSH, SUKLA (b 1958), ASSOCIATE PROFESSOR, DEPARTMENT OF BIOPHYSICS, MOLECULAR BIOLOGY AND BIOINFORMATICS, University of Calcutta, 92 APC Road, Kolkata-700009

Member of the NASI: No

(YON 2014, Animal Sciences)

Dr. (Ms) SUKLA GHOSH is an established investigator in the area of Developmental Biology especially Regeneration Biology. In her post-doctoral work on craniofacial and limb regeneration in newt and salamanders, different tissue specific genes during regeneration were identified resulting in seminal publications (Ghosh et al 1994, 1996, Ferretti and Ghosh 1997). Her study on limb regeneration in axolotl led to functional analysis of genes by successful use of viral vectors (Ghosh et al 2008). On her return to India in 2004, initially at Delhi University and subsequently at the University of Calcutta, she reestablished facilities for working on spinal cord regeneration in Zebra Fish and Axolotl. Not only these models were validated, this work led to publications of high standard on the molecular basis of this process (Hui et al. 2010, Hui et al 2013, Hui et al 2014). A recent work from her laboratory, published in PLoS ONE, uncovered the molecular basis of spinal cord regeneration by transcriptome profiling and in the process identifying several groups of event specific genes, some of which could be targeted for future therapeutic purpose. This is a signal contribution to this field from India. In addition to this the nominee has led the departmental efforts in streamlining and improving the quality of teaching and organizing new funding.

Proposer : PROF K MURALIDHAR, Seconder : PROF SAMIR BHATTACHRYA

Ten Best Publications:

1. Subhra Prakash Hui, Dhriti Sengupta, Triparna Sen, Sudip Kundu, Serene Gek Ping Lee, Sinnakaruppan Mathavan, Sukla Ghosh. 2014. Genome wide expression profiling during spinal cord regeneration identifies comprehensive cellular responses in zebrafish. PLoS ONE 9(1): e84212. doi:10.1371/journal.pone.0084212. Impact factor 4.27
2. Subhra Prakash Hui James R Monaghan, S. Randal Voss and Sukla Ghosh. 2013. Expression pattern of Nogo-A, MAG and NgR in regenerating urodele spinal cord. Developmental dynamics. 242(7):847-860. Impact factor 2.86, cited by 1
3. Subhra Prakash Hui, Anindita Dutta and Sukla Ghosh 2010. Cellular response after crush injury in adult zebrafish spinal cord. Developmental Dynamics. 239:2962-2979. Impact factor 2.86, cited by 18
4. Ghosh, S., Roy, S., Seguin, C., Bryant, S.V., and Gardiner D. M. 2008. An analysis of the expression and function of Wnt-5a and Wnt-5b in developing and regenerating axolotl (*Ambystoma mexicanum*) limbs. Development Growth and Differentiation. 50:289-297. Impact factor 2.21, cited by 20
5. Ghosh, S., and Dhoot, G. K. 1998. Both avian and mammalian embryonic myoblasts are intrinsically heterogenous. J. Mus. Res. & Cell Motility. 19:787-795. Impact factor 1.981, cited by 3
6. Ghosh, S., and Dhoot, G. K. 1998. Evidence for distinct fast and slow myogenic cell lineages in human foetal skeletal muscle. J. Mus. Res. & Cell Motility. 19:431-441. Impact factor 1.981, cited by 8
7. Ferretti, P., and Ghosh, S. 1997. Expression of regeneration associated cytoskeletal proteins reveals differences and similarities between regenerating organs. Developmental Dynamics. 210:288-304. Impact factor 3.183, cited by 15
8. Ghosh, S., Thorogood, P. V. T., and Ferretti, P. 1996. Regeneration of lower and upper jaws in urodeles is differentially affected by retinoic acid. Int. J. Dev. Biol. 40:1161-1170. Impact factor 2.87, cited by 9
9. Ghosh, S., Thorogood, P. V. T., and Ferretti, P. 1994. Regenerative capability of upper and lower jaws in the newt. Int. J. Dev. Biol. 38:479-490. Impact factor 2.87, cited by 30
10. Ghosh, S., Oten, P. W., Mukherjee, S., and Das, S. K. 1991. Study of properties of cholinephosphotransferase from fetal guinea pig lung mitochondria and microsomes. Molecular and Cellular Biochemistry 101:157-166. Impact factor 2.329, cited by 9

GHOSH, TAPASH CHANDRA (b 1959), PROFESSOR, BOSE INSTITUTE, KOLKATA

Member of the NASI: No

(YON 2014, Animal Sciences)

Dr. Ghosh has made significant contributions in the field of molecular evolution. The relationship between synonymous codon usage and protein secondary structure is one of his pioneering works (BBRC 269: 692-696 (2000); Gene 300, 179-187 (2002); DNA Research 2008 15: 347-356.). He demonstrated that the selection of synonymous codons between thermophilic and mesophilic prokaryotes are related to differential folding pattern of mRNA secondary structures and translational error minimizing property (FEBS Letters 581: 5825-5830 (2007)). His work on evolutionary systems biology established the role protein disorder, protein complexes and three dimensional structural contexts on the evolution of protein-protein interaction network (Gene 2009 429: 18-22; Gene 2009 434: 50-55; J Mol Evol 2010 71: 60-69). He established the role of protein connectivity, protein disorder, expression level, functionality and stable/transient interaction pattern for the differential evolutionary rates between the disease and non disease genes and these results might be helpful in understanding the disease process and prediction of candidate disease genes in future (Gene 2009 439: 11-16; Mol Biol Evol. 27:934- 941 (2010)); Genomics 97: 200-204 (2011)). Recently he demonstrated that protein evolutionary rates are mainly determined by protein-complex forming propensity of the proteins and these results a wide implications in understanding the protein evolutionary rates from the perspectives of neutralist/selectionist hypothesis (BMC Syst Biol. Nov 12;4(1):155 (2010); Genome Biology Evol. 5: 1366-1375 (2013))

Proposer : Dr. Chitra Dutta, **Secunder** : Professor Pinak Chakrabarti

Ten Best Publications:

1. Gupta, SK., Majumdar, S., Bhattacharya, TK., Ghosh, TC*. (2000) Studies on the relationships between the synonymous codon usage and protein secondary structural units. Biochem Biophys Res Commun. 269: 692-696. (*if*=2.406, *ci*=112)
2. Gupta, SK., Ghosh, TC*. (2001) Gene expressivity is the main factor in dictating the codon usage variation among the genes in *Pseudomonas aeruginosa*. Gene 273: 63-70. (*if*=2.196, *ci*=86)
3. Kahali, B., Basak, S., Ghosh, TC*. (2007) Reinvestigating the codon and amino acid usage of *S. cerevisiae* genome: A new insight from protein secondary structure analysis. Biochem. Biophys. Res. Commun. 354: 693-699. (*if*=2.406, *ci*=37)
4. Basak, S., Roy, S., Ghosh, TC*. (2007) On the origin of synonymous codon usage divergence between thermophilic and mesophilic prokaryotes. FEBS Letters 581: 5825-5830. (*if*=3.582, *ci*=12)
5. Mukhopadhyay, P., Basak, S., Ghosh, TC*. (2008) Differential Selective Constraints Shaping Codon Usage Pattern of Housekeeping and Tissue Specific Homologous Genes of rice and Arabidopsis. 2008. DNA Research 15: 347-356. (*if*=4.425, *ci*=16)
6. Manna, B., Bhattacharya, T., Kahali, B., Ghosh, TC*. (2009) Evolutionary constraints on hub and non-hub proteins in human protein interaction network: insight from protein connectivity and intrinsic disorder. Gene 434: 50-55. (*if*=2.196, *ci*=27)
7. Podder, S., Ghosh, TC*. (2010) Exploring the differences in evolutionary rates between monogenic and polygenic disease genes in human. Mol Biol Evol. 27:934- 941. (*if*=10.353, *ci*=14)
8. Sen, K., Podder S., Ghosh, TC*. (2011) On the quest for selective constraints shaping the expressivity of the genes casting retropseudogenes in human. BMC Genomics 8;12:401. (*if*=4.400, *ci*=3)
9. Podder, S., Ghosh, TC*. (2011) Insights into the Molecular Correlates Modulating Functional Compensation between Monogenic and Polygenic Disease Gene Duplicates in Human. Genomics 97, 200-204. (*if*=3.010, *ci*=4)
10. Chakraborty, S., Ghosh, TC*. (2013) Evolutionary rate heterogeneity of core and attachment proteins in yeast protein complexes. Genome Biology and Evolution 5(7):1366-1375. (*if*=4.759, *ci*=Not yet cited)

GOSWAMI, UMESH CHANDRA (b. 1950) Department of Zoology, Gauhati University, Guwahati

Member of the NASI: Yes

(YON 2014, Animal Sciences)

Professor Goswami, has (i) identified the vitamin A- rich fishes available from the Brahmaputra river system (Goswami and Barua 1981 a,b,c) and has shown (ii) that both retinol (vitamin A₁) and dehydroretinol (Vitamin A₂) can be synthesized by the fish either through central or terminal cleavage of pro-vitamin A - status carotenoids (Goswami & Bhattacharya, 1982, Goswami 1984,a,b; Barua & Goswami 1977; Goswami and Barua, 1981, a,b,c) such as β-carotene lutein, cryptoxanthin, astaxanthin, apocarotenals. Vitamin A₂ is synthesized from lutein, cryptoxanthin or astaxanthin through anhydrolutein, 3-hydroxyanhydroretinol and rehydrovitamin A₂. (Goswami 1984, a, b; 2006, 2007).

(iii) He has shown that chemically induced carcinogenesis viz Aflatoxin B₁- DNA adduct and benzopyrene induced stomach tumor could be controlled by naturally occurring vitamin A₂ derivatives found in fish liver oil such as 3-hydroxyretinol, 3-hydroxyanhydroretinol dehydroretinol, etc (Goswami et al.1989, 1991; Shah et al. 1992; Azune et al. 1992; Kayal et al.1993; Abobaker et al.1987; Goswami et al. 1991, 1995; Goswami and Sanna 1995)

(vii) He has shown that retinoids are essential for the growth and reproduction of fish (Goswami and Basurnatary 1988)

(viii) Established the relationship between retinol & β-carotene) and thyroid hormone (T₃ and T₄), where hyperthyroidism lowers the retinoids status, where as hypothyroidism elevates the retinol & β-carotene. (Goswami & Choudhury 1999)

(ix) Further showed that various effects of narcotic drugs such as heroin could be ameliorate through the introduction of carotenoids (Saha et al. 2012).

Proposer : Prof. Samir Bhattacharya, **Second** : Prof. Shelley Bhattacharya

Ten Best Publications:

1. Barua A.B and Goswami, U.C.(1977). Formation of vitamin A in freshwater fish. Biochem. J. 164 : 133-136. (If= 8.2, ci=64)
2. Goswami, U.C. and Barua, A.B. (1981). Origin of retinol in freshwater fish. Curr. Sci. 50: 150-151. (if=7.4, ci=42)
3. Goswami, U.C.and Barua, A.B. (1981). Distribution of retinol and dehydroretinol III freshwater fish. Indian J. Biochem. Biophys. 18 : 383-385. (if=7.5, ci=50)
4. Goswami, U.C. and Barua, A.B. (1981). Intestinal conversion of lutein into 3-dehydroretinol in *Heteropneustes fossilis* and *Channa striatus*. IndianJ. Biochem. Biophys. 18.88. (if=7.5, ci=39)
5. Goswami, U.C. and Bhattacharya, S. (1982). Biosynthesis of 3-dehydroretinol : Metabolism of lutein (Beta-E-carotene, 3-3' diol) in *Clarias batrachus* and *Ompok pabo*. Biochem. Internat. 5(4) :545-552. (if=8, ci=41)
6. Goswami, U.C. (1984). Metabolism of cryptoxanthin in freshwater fish. Br. J.Nutr. 52 : 575-581. (if=7.9, ci=45)
7. Goswami, U.C. and Basumatari, G. (1988). Vitamin A-deficient diet and its effects on the body weight of dehydroretinol-rich freshwater fish. Internat. J. Vit. Nutr. Res. 58:267-275. (if=6, ci=25)
8. Goswami, D.C.; Saloi, T.N.; Firozi, P. and Bhattacharya, R.K.B. (1989). Modulation of by natural carotenoids of DNA-adduct formation by aflatoxin B 1 in vitro. Cancer Lett. 344 : 213-217. (if=8.1, ci=44)
9. Goswami, D.C. and Sharma, N. (2005). Efficiency of a few retinoids and carotenoids in vivo in controlling the benzo (a) pyrene induced forestomach tumor in female swiss mice. Br.J.Nutr.95:1-5 (if=7.9, ci=32)
10. Goswami, D.C. and Choudhury, S.(1999). Status of retinoids in women suffering from hyper and hypothyroidism : Interrelationship between Vitamin A, Beta-carotene and Thyroid hormones. Internet. J. Vit. Nutr. Res. 69(2):132-135 (if = 6, ci = 22)

JAIN, SUBODH KUMAR (b 1958), Professor, Department of Zoology, Dr.H.S.Gour University, Sagar

Member of the NASI: Yes

(YON 2014, Animal Sciences)

Prof. Subodh Kumar Jain initially worked on remediation of metal toxicity through natural ion exchangers in fish (Jain, 1999; Mishra and Jain, 2011). He established a set of biomarkers through RAPD-PCR based approach for genetic characterization. (Neekhra et al. 2012). He studied the stimuli-specific role of vasopressin in the hypothalamus-pituitary-adrenal axis response to various stress regulation (Zelena et al. 2009), oxytocin and vasopressin are important in stress and stress related diseases (Zelena and Jain, 2009). The role of vasopressin seems to be especially critical during perinatal period as it regulate the adrenocorticotropin secretion in a time and stressor specific manner (Zelena and Jain, 2010). He proved the gender specific involvement of endogenous glutamate neurotransmission an stress- induced fear and females seem to be more sensitive therefore they require smaller doses subject to prolactin level monitoring (Jain and Zelena, 2011). He also established the regulatory role of dopamine, serotonin and TRH on PRL secretion, and the endogenous glutamate can through the NMDA receptor subtype contribute to the VIP-induced PRL secretion at the level of the anterior pituitary. This regulation may be especially important during suckling and stress response when rapid release of PRL is required (Jain and Zelena, 2013).

He organised/coordinated two day Science Communication programme of NASI (October 13-14, 2013) for more than 200 school (10+2) students at Sagar (M.P.), in which practical demonstration and lectures were given by Prof. Krishna Misra and Prof. U.C.Srivastava of NASI, Allahabad. I strongly recommend him for the award of NASI fellowship.

Proposer : Prof. U.C.Srivastava, Seconder : Prof. G.K. Srivastava

Ten Best Publications:

1. Subodh Kumar Jain (1999) Protective role of zeolite on short and long term lead toxicity in the teleost fish *Heteropneustes fossilis*. *Chemosphere* 39 (2): 247-251 (*if*=3.25, *ci*=15)
2. Mishra, PK, Dabadghao S., Modi GK, Desikan P, Jain A, Mitra I, Chauhan C, Jain SK, Maudar KK (2009) In utero exposure to methyl isocyanate in the Bhopal gas disaster: evidence of persisting hyperactivation of immune system two decades later. *Occupational and environmental medicine* 66 (4): 279-279 (*if*=3.49, *ci*=16)
3. Mishra PK, Panwar H, Bhargava A, Raghuram V, Jain SK, Banerjee S, Maudar KK (2008) Isocyanates induces DNA damage, apoptosis, oxidative stress, and inflammation in cultured human lymphocytes. (*if*=1.96, *ci*=34)
4. Mishra PK, Raghuram GV, Akhtar N, Tamrakar P, Jain SK, Maudar KK (2008) Analysis of cellular response to isocyanate using N-succinimidyl N-methylcarbamate exposure in cultured mammalian cells. *Environmental and molecular mutagenesis* 50 (4): 328-336 (*if*=2.36, *ci*=21)
5. Dora Zelena, Agnes Domokos, Subodh Kumar Jain, Ryan Jankord, Ludmila Filaretova (2009) The stimuli-specific role of vasopressin in the hypothalamus-pituitary-adrenal axis response to stress. *Journal of endocrinology* 202 (2): 262-278 (*if*=2.79, *ci*=28)
6. Jain SK, Neekhra B, Pandey D, Jain K (2010) RAPD-PCR marker system in insect study: A review. *Indian J Biotech* 9: 7-12 (*if*=0.55, *ci*=14)
7. Raghuram GV, Pathak N, Jain D, Panwar H, Jain SK, Mishra PK (2010) Molecular mechanism of isocyanate induced oncogenic transformation in ovarian epithelial cells. *Reproductive Toxicology* 30 (3): 377-386 (*if*=2.95, *ci*=17)
8. Mishra PK, Raghuram GV, Bhargava A, Ahirwar A, Samarth R, Upadhyay R, Jain SK, Pathak N (2011) Invitro and in vivo evaluation of the anticarcinogenic and cancer chemopreventive potential of a flavonoid-rich fraction from a traditional Indian herb *Selaginella bryopteris*. *British Journal of Nutrition* 106 (8): 1154 (*if*=3.45, *ci*=17)
9. S.Khan, Raghuram GV, Bhargava A, Pathak N, Chandra DN, Jain SK, Mishra PK (2011) Role and clinical significance of lymphocyte mitochondrial dysfunction in type 2 diabetes mellitus. *Translational Research* 158 (6), 344-359 (*if*=2.76, *ci*=16)
10. Jain Subodh Kumar, Zelena Dora (2011) Gender specific influence of endogenous glutamate release on stress induced fear in rats. *Endocrine regulation* 45 (1): 13-21 (*if*=1.08, *ci*=01)

MARIA JOSEPH, MICHAEL ARULDHAS (b 1954), Professor and Head, Department of Endocrinology, Dr. Arcot Lakshmanaswamy Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, Taramani Campus, Velacherry-Taramani Chennai

Member of the NASI: No

(YON 2014, Animal Sciences)

Professor MM Aruldas is an established investigator in the area of Reproductive Endocrinology. Work from his laboratory over the last 3 decades, brought out the major findings on the response of i) the testicular enzymes involved in carbohydrate and lipid metabolism and ii) the hormones of the pituitary-testicular axis, to altered thyroid functional status, thus establishing mammalian testis as a direct target for thyroid hormone action. His team also established the presence of thyroid hormone receptors in the epididymis and their roles in the control of post-testicular sperm maturation process. The findings from his laboratory also established for the first time that testosterone promoted proliferation of thyrocytes in either sex, but estradiol promoted the same only in females. Estradiol in fact was found to inhibit the process in the case of males. Evidence for the specific involvement of androgen and estrogen receptor expression in the development and progression of thyroid cancer as well as the specific role of micro RNA 124a in the same process has come from his work, thus leading to the suggestion that the gender bias in thyroid cancer incidence might be due to micro RNA 124a. Ultra-structural and functional changes in the testis and epididymis of bonnet monkeys *Macaca radiata* exposed to hexavalent chromium (CrVI) in drinking water as well as under expression of Sertoli cell tight junction proteins and receptors to FSH, androgens and estrogens in the progeny of mothers with gestational exposure to CrVI. Are some of the recent findings from his group.

Proposer : Prof. S. K. Saidapur, **Secunder** : Prof. K. Muralidhar

Ten Best Publications:

1. Aruldas MM, Valivullah HM and Govindarajulu P (1982a). Specific effect of thyroid on testicular enzymes involved in carbohydrate metabolism. II. Hyperthyroidism. *Biochim. Biophys. Acta*, 715 : 121-125 (Elsevier). Impact Factor: 4.957. Sum of Cited:14 (*if*=4.957, *ci*=14)
2. Aruldas MM, Valivullah HM and Govindarajulu P (1982b). Specific effect of thyroid on testicular enzymes involved in carbohydrate metabolism. I. Hypothyroidism. *Int. J. Androl.*, 5: 196-204 (Black Well Synergy Press). Impact Factor: 3.591. Sum of Cited: 28. (*if*=3.591, *ci*=28)
3. Aruldas MM, Valivullah HM, Srinivasan N and Govindarajulu P (1986). Role of thyroid on testicular lipids in the prepubertal, pubertal and adult rats. I. Hyperthyroidism. *Biochim. Biophys. Acta*, 881: 462-469 (Elsevier). Impact Factor:4.957. Sum of Cited: 13. (*if*=4.957, *ci*=13)
4. Sebastian SM, Selvaraj S, Aruldas MM and Govindarajulu P (1987). Pattern of neutral and phospholipids in the semen of normospermic, oligospermic and azospermic men. *J. Reprod. Fertil.*, 79 : 373-378 (High Wire Press). Impact Factor:3.512. Sum of Cited:26 (*if*=3.512, *ci*=26)
5. Antony FF, Aruldas MM, Udhayakumar RCR, Maran RRM and Govindarajulu P (1995). Inhibition of Leydig cell activity in vivo and in vitro in hypothyroid rats. *J. Endocrinol.*, 114 : 293-300 (BioScientifica Ltd). Impact Factor: 4.058. Sum of Cited: 35 (*if*=4.058, *ci*=35)
6. Banu SK, Govindarajulu P and Aruldas MM (2002a). Developmental profiles of TSH, sex steroids, and their receptors in the thyroid and their relevance to thyroid growth in immature rats. *Steroids*, 67:137-144 (Elsevier). Impact Factor: 2.803. Sum of Cited:17 (*if*=2.803, *ci*=17)
7. Banu SK, Govindarajulu P and Aruldas MM (2002b). Testosterone and estradiol up-regulate androgen and estrogen receptors in immature and adult rat thyroid glands in vivo. *Steroids*. 67:1007-1014 (Elsevier). Impact Factor:2.803. Sum of Cited:18 (*if*=2.803, *ci*=18)
8. Aruldas MM, Subramanian S, Sekar P, Vengatesh G, Chandrahasan G, Govindarajulu P and Akbarsha MA (2005). Chronic chromium Exposure-induced changes in testicular histoarchitecture are associated with oxidative stress: study in a non-human primate (*Macaca radiata* Geoffroy). *Hum. Reprod.*, 20: 2801-13 (Oxford University Press). Impact Factor: 4.617. Sum of Cited: 32. (*if*=4.617, *ci*=32)
9. Subramanian S, Rajendiran G, Sekhar P, Gowri C, Govindarajulu P and Aruldas MM (2006). Reproductive toxicity of chromium in adult bonnet monkeys (*Macaca radiata* Geoffroy). Reversible oxidative stress in the semen. *Toxicol. Appl. Pharmacol.*, 15;215(3):237-249. Impact Factor: 4.447. Sum of Cited: 21. (*if*=4.447, *ci*=21)
10. Banu SK, Samuel JB, Arsh JA, Burghardt RC and Aruldas MM (2008). Lactational exposure to hexavalent chromium delays puberty by impairing ovarian development, steroidogenesis and pituitary hormone synthesis in developing Wistar rats. *Toxicol. Appl. Pharmacol.*, 232:180-189. Impact Factor:4.447. Sum of Cited:15 (*if*=4.447, *ci*=15)

PANDA, CHINMAY KUMAR (b 1959), Assistant Director Grade, Chittaranjan National Cancer Institute, Kolkata

Member of the NASI: No

(YON 2014, Animal Sciences)

To understand the mechanism of multistage tumor progression, Dr. Panda has focused on analysis of genetic and epigenetic alterations of human primary carcinomas of oral, cervix and breast at different clinical stages due to their high prevalence in Indian subcontinent. Based on analysis of genomic copy number variation (CNV) in frequently altered chromosomal regions followed by promoter methylation, mutation and expression analysis of some putative genes in the CNV regions, novel candidate genes have been identified that are differentially associated with development and prognosis of these tumors. These genes are associated with different cellular pathways like i) homeostasis of epidermal growth factor receptor (EGFR), ii) Retinoblastoma (Rb) and p53 associated pathways, iii) Slit – ROBO associated apoptosis and cell migration, iv) PTCH/WNT associated stem cell renewal and v) different DNA damage response. The data also suggested the importance of HPV infection in development and prognosis of the carcinomas of oral and cervix.

The validation of some of the cellular pathways was done in in vitro carcinogenesis model in mouse embryonic fibroblast and in experimental mouse lung and liver carcinogenesis model systems by analyzing alterations of some key regulatory genes. It was evident that deregulation in early G1/S phase of the cell cycle might be one of the early initiating events in carcinogenesis.

Dr. Panda also showed chemopreventive potential of novel natural products (amarogentin and some tea polyphenols) in restriction of mouse liver and lung carcinogenesis.

Proposer : Dr. Susanta Roychowdhury, **Second**er : Dr. Hemanta K. Majumder

Ten Best Publications:

1. Singh, R. K., Indra, D., Mitra, S., Mondal, R. K., Basu, P. S., Roychowdhury, S. and Panda, C. K. (2007): Deletions in chromosome 4 differentially associated with the development of cervical cancer: evidence of slit2 as a candidate tumor suppressor gene. *Human Genetics* 122(1): 71-81. (*if*=4.633, *ci*=43)
2. Ghosh, A., Ghosh, S., Maity G. P., Alam, N., Sikdar, N., Roy, A., Roy, B., Roychowdhury, S. and Panda, C.K. (2008): SH3GL2 and CDKN2A/2B loci are independently altered in early dysplastic lesions of head and neck: correlation with HPV infection and tobacco habit. *Journal of Pathology* 217(3): 408-419. (*if*=7.585, *ci*=21)
3. Ghosh S., Ghosh A., Maiti GP., Alam N., Roy A., Roy B., Roychowdhury S. and Panda C. K. (2008): Alterations of 3p21.31 tumor suppressor genes in head and neck squamous cell carcinoma: Correlation with progression and prognosis. *International Journal of Cancer* 123, 2594-2604. (*if*=6.198, *ci*=23)
4. Sinha, S., Singh, R. K., Alam, N., Roy, A., Roychowdhury, S. and Panda, C. K. (2008): Alterations in candidate genes PHF2, FANCC, PTCH1 and XPA at chromosomal 9q22.3 region: pathological significance in early- and late- onset breast carcinoma. *Molecular Cancer* 7: 84-96. (*if*=5.13, *ci*=26)
5. Ghosh S., Ghosh A., Maiti G. P., Alam N., Roy A., Roychowdhury S. and Panda C. K. (2009): Alterations of ROBO1/DUTT1 and ROBO2 loci in early dysplastic lesions of head and neck: Clinical and prognostic implications. *Human Genetics* 125: 189-198. (*if*=4.633, *ci*=20)
6. Ghosh S., Ghosh A., Maiti G. P., Mukherjee N., Dutta S., Roy A., Roychowdhury S., Panda C. K. (2010): LIMD1 is more frequently altered than RB1 in head and neck squamous cell carcinoma: Clinical and prognostic implications. *Molecular Cancer* 9(58): 1-13. (*if*=5.13, *ci*=8)
7. Mazumder (Indra) D., Mitra S., Singh R. K., Dutta S., Roy A., Mondal R. K., Basu P. S., Roychowdhury S., Panda C. K. (2011): Inactivation of CHEK1 and E124 are associated with the development of invasive cervical carcinoma: clinical and prognostic implications. *International Journal of Cancer* 129: 1859–1871. (*if*=6.198, *ci*=8)
8. Mazumder (Indra) D., Mitra S., Roy A., Mondal R. K., Basu P. S., Roychowdhury S., Chakraborty R., Panda C. K. (2011): Alterations of ATM and CADM1 in chromosomal 11q22.3-23.2 region are associated with the development of invasive cervical carcinoma. *Human Genetics*, 130(6):735-48. (*if*=4.633, *ci*=4)
9. Sinha S., Singh R. K., Bhattacharya N., Mukherjee N., Ghosh S., Alam N., Roy A., Roychowdhury S. and Panda C. K. (2011): Frequent alterations of LOH11CR2A, PIG8 and CHEK1 genes at chromosomal 11q24.1-24.2 region in breast carcinoma: clinical and prognostic implications. *Molecular Oncology* 5: 454-464. (*if*=6.701, *ci*=2)
10. Pal D., Sur S., Mandal S., Das A., Roy A., Das S. and Panda C. K. (2012): Prevention of liver carcinogenesis by Amarogentin through modulation of G1/S cell cycle check point and induction of apoptosis. *Carcinogenesis* 33 (12): 2424–2431. (*if*=5.653, *ci*=4)

RAMACHANDRAN, SUNDARARAJ (b 1963), SCIENTIST G AND HEAD, FOREST AND WOOD PROTECTION DIVISION, INSTITUTE OF WOOD SCIENCE AND TECHNOLOGY, BANGALORE

Member of the NASI: Yes

(YON 2014, Animal Sciences)

The nominee, Dr. Sundararaj, enjoys an established reputation for his outstanding contributions on bio-diversity, bio-ecology and management of harmful forest entomofauna. His work on these aspects has received international acclaim not only for its scientific merit, but also for its practical application in controlling insect pests. His election as a Fellow of The Royal Entomological Society (London) stands testimony to the world-wide recognition bestowed on him.

He is an acknowledged authority on taxonomy of whiteflies and has to his credit eight genera and 131 species, described as new to science. He has also reported twelve species of these pests for the first time from Indian forest ecosystems (References 5,8,9,10,17,18,20,21,23,15,16,28,29, 39,50,52,57,61,67,68,73,76,77,78,79,82,83,84,86,89,90,91,94,97,98,99,101,103,104,105,107,110,111,116,121,129,130,131,137,138,143,144,146,147,152,153,156,157,163,169).

Dr. Sundararaj has made extensive studies on entomofaunal diversity and their interactions in different sandal-wood dominated ecosystems of South India (References 95,100,102,106,108,109, 114,117,118,119,122,128,150,161,166). He has thoroughly investigated the insect pest problems of sandalwood cultivated in different agri-horti-silvi models, and developed efficient management practices against them (References 124,125,126,127,154,160). In addition, he has also worked out integrated management strategies against insect pests of important tree species and of their nurseries. The novelty and uniqueness of these scientific contributions have, indeed, made a scholastic impact in the context of protection of our forest wealth (References 33,34,35,36,40,43,47,51,55,75,76,81,135,140, 151,158,175,181).

The nominee has also made a comprehensive study on the natural bio-resistance of imported timbers (132,164,165,167,182,183,184,185,186). The results are of practical importance in guiding wood industry to choose the right timber for end use, based on its natural durability. Dr. Sundararaj has successfully guided 10 Ph.D. students.

Proposer : Dr. L. N. SANTHAKUMARAN, Secondeer : Dr. A. JAGANNADHA RAO

Ten Best Publications:

1. Sundararaj, R. and David, B.V. 1987. Influence of biochemical parameters of different hosts on the biology of *Earias vittella* (Fab.) (Noctuidae: Lepidoptera) Proceedings of Indian Academy of Science (Ani. Sci.), 96: 329-332 (*ci=2*)
2. Sundararaj, R. and David, B.V. 1992. On the genera *Fippataleyrodes* n. gen. and *Taiwanaleyrodes* Takahashi from India (Insecta, Homoptera, Sternorrhyncha: Aleyrodidae) *Reichenbachia*, 29: 15-20. (*if=0.548, ci=4*)
3. Sundararaj, R. and David, B.V., 1993. New species of *Aleuroclava* Singh from India (Homoptera: Aleyrodidae). *Oriental Insects*, 27: 233-270 (*if=0.173, ci=3*)
4. Dubey, A.K. and Sundararaj, R. 2006. *Distinctaleyrodes setosus* Dubey & Sundararaj (Sternorrhyncha: Aleyrodidae), a new whitefly genus and species from India. *Zootaxa*, 1154: 35-39. (*if=0.974, ci=2*)
5. Sundararaj, R. 2007. On the genera *Cockerelliella* Sundararaj & David and *Pseudcockerelliella* Sundararaj gen. nov. with a key to the Indian genera of *Aleyrodidae* (Hemiptera). *Oriental Insects*, 41: 243-257. (*if=0.173, ci=2*)
6. Dubey, A.K. and Sundararaj, R. 2008. Are polyphagous aleyrodids more diverse in puparial morphology. *Current Science*, 94 (8): 968-969. (*if=0.567*)
7. Pushpa, R. and Sundararaj, R. 2010. The genus *Aleuroclava* Singh (Hemiptera: Aleyrodidae) from India. *Oriental Insects*, 44: 95-146. (*if=0.173, ci=2*)
8. Sundararaj, R. and Rajamuthukrishnan 2011. Population dynamics of some coccids (Coccoidea: Hemiptera) infesting sandal (*Santalum album* Linn.) in Bangalore, India. *Journal of Forestry Research*, 22 (2): 259-262 (*if=1.47, ci=1*)
9. Shanbhag, R.R. and Sundararaj, R. 2013. Physical and chemical properties of some imported woods and their degradation by termites. *Journal of Insect Science*, 13 (Article 63): 1-8. (*if=0.875*)
10. Shanbhag, R.R., Sundararaj, R. 2013. Imported wood decomposition by termites in different agro-eco zones of India. *International Journal of Biodeterioration & Biodegradation*, 85: 16-22. (*if=2.44*)

SARKAR, SAGARTIRTHA (b 1966), Associate Professor, University of Calcutta, Kolkata

Member of the NASI: No

(YON 2014, Animal Sciences)

Using animal models, Dr. Sarkar investigates the molecular mechanisms of heart diseases viz. cardiac hypertrophy and myocardial infarction (MI) which are major lifestyle-related health problems of recent times. The major focus of research is directed towards identifying molecular regulators involved in compromised heart function. He has significantly contributed towards understanding of the mechanisms of collagen up-regulation via cellular cross-talk and identified STAT3 as a potential regulator of cardiac fibrosis. Analysis of comparative cardiac proteome profiles of MI and hypertrophy revealed differential mode of myocyte apoptosis via different routes encompassing different subcellular organelle and identified novel candidate protein CRYAb as a switch that modulates apoptotic signaling in etiologically of different disease forms. He has done pioneering work in the field of myocyte death and regeneration during heart failure and has thrown light towards the capacity of terminally differentiated cardiomyocytes to re-enter cell cycle process during heart failure as a feedback mechanism to compensate cell loss. Precise role of p53 and NF- κ B during heart failure and their interaction with co-activator p300 has been identified during heart failure. In a translational breakthrough, he and his group developed a nano-conjugated cardiomyocyte targeted delivery system of therapeutic regimens for efficient regression of cardiac hypertrophy in rat model which has been patented in 2013.

His involvement in several national projects not only translated into high impact publications, but has also trained several young researchers. Combination of these unique skills has helped him to stand out from his contemporary scientists in a highly challenging field of animal sciences.

Proposer : Prof. Rakesh K. Tyagi, **Secunder** : Prof. Chinmay K Mukhopadhyay

Ten Best Publications:

1. Nayak MK, Agrawal AS, Bose S, Naskar S, Bhowmick R, Chakrabarti S, Sarkar S, Chawla-Sarkar M. 2014. Antiviral activity of baicalin against influenza virus H1N1-pdm09 is due to modulation of NS1-mediated cellular innate immune responses. *Journal of Antimicrobial Chemotherapy* (*if*=5.34, *ci*=0)
2. Mitra A, Ray A, Datta R, Sengupta S, Sarkar S. 2014. Cardioprotective role of P38 MAPK during myocardial infarction via parallel activation of α -Crystallin B and Nrf2. *J Cell Physiol.* (*if*=4.22, *ci*=0)
3. Mitra A., Basak T., Datta K., Naskar S., Sengupta S., Sarkar S. 2013. Role of Alpha Crystallin B as a regulatory switch in modulating cardiomyocyte apoptosis via mitochondria or endoplasmic reticulum during cardiac hypertrophy and myocardial infarction. *Cell Death and Diseases.* (*if*=6.04, *ci*=03)
4. Mir S.A., Chatterjee A, Mitra A., Pathak K., Mahata S.K., Sarkar S. 2012. Inhibition of signal transducer and activator of transcription 3 (STAT3) attenuates Interleukin-6 (IL-6) induced collagen synthesis and resultant hypertrophy in rat heart. *J. Biol. Chem.* (*if*=4.65, *ci*=28)
5. Chatterjee A, Mir S.A, Dutta D., Mitra A., Pathak K., Sarkar S. 2011. Analysis of p53 and NF- κ B signaling in modulating the cardiomyocyte fate during hypertrophy. *J Cell Physiol.* (*if*=4.22, *ci*=12)
6. Das B., Young D., VasANJI A, Gupta S, Sarkar S., Sen S. 2010. Influence of p53 in the transition of myotrophin-induced cardiac hypertrophy to heart failure. *Cardiovascular Research.* (*if*=5.94, *ci*=3)
7. Sarkar S., Chawla-Sarkar M., Young D., Nishiyama K., Hollyfield J.G., Sen S. 2004. Myocardial cell death and regeneration during progression of cardiac hypertrophy to heart failure. *J. Biol.Chem.* (*if*=4.65, *ci*=24)
8. Sarkar S., Leaman D.W., Gupta S., Sil P., Young D., Moorehead A., Rattliff N., Rayborn M., Hollyfield J.G., Sen S. 2004. Cardiac overexpression of myotrophin triggers myocardial hypertrophy and heart failure in transgenic mice. *J.Biol.Chem.* (*if*=4.65, *ci*=40)
9. Sarkar S., Vellaichamy E., Young D., Sen S. 2004. Influence of cytokines and growth factors in ANG II-mediated collagen upregulation by fibroblasts in rats: role of myocytes. *Am.J.Physiol.* (*if*=3.63, *ci*=70)
10. Pathak M*, Sarkar S.*, Vellaichamy E., Sen S. 2001. Role of myocytes in myocardial collagen production. *Hypertension.* (*if*=6.87, *ci*=55)

SHARMA, RAMESH CHANDRA (b 1954), PROFESSOR & HEAD, DEPARTMENT OF ENVIRONMENTAL SCIENCES, H.N.B. GARHWAL UNIVERSITY (A CENTRAL UNIVERSITY) SRINAGAR-GARHWAL, 246174,UTTARAKHAND

Member of the NASI: No

(YON 2014, Animal Sciences)

Prof. Ramesh C. Sharma, D.Phil., D.Sc., F.A.S.C., F.Z.S.I., F.N.E.S.A., F.S.B.; F.A.E.B.; F.I.E.S.A. has done a very good work on environmental biology of Himalayan fish. He has made a significant contribution on freshwater biodiversity including diversity of phytoplankton, periphyton, zooplankton, zoobenthos and fish dwelling Himalayan rivers and wetlands. He was also able to identify the potential bioindicator for assessing the health of aquatic ecosystems. He has made contribution on traditional wisdom (Sacred groves) for biodiversity contribution and indigenous device (water mills) for sustainable development of renewable hydroenergy in Uttarakhand Himalayas. Recently, he has made significant contributions on the assessment of organochlorine pesticides in soil, sediments, human blood and milk. In addition to it, he is an environment expert of World Bank for hydropower developments in the Himalayas. I am pleased to certify that I am personally acquainted with the scientific work of Prof. Sharma.

Proposer : PROF. M. SHAMIM JAIRAJPURI, Secondar : PROF. S.P. SINGH

Ten Best Publications:

1. Mishra, K. and Sharma, R.C. 2011. Assessment of organochlorine pesticides in human milk and risk exposure to infants from North-East India. *Science of the Total Environment*, 409:4939–4949, Elsevier. (Impact factor : 3.258; H index : 68; Citation index : 15) (*if=3.258, ci=15*)
2. Mishra, K., Sharma, R.C. and Kumar S. 2011. Organochlorine pollutants in human blood and their relation with age, gender and habitat from North-east India. *Chemosphere* :85:454-464, Elsevier. (Impact factor : 3.206; H index : 70 Citation index : 8) (*if=3.206, ci=8*)
3. Mishra, K., Sharma, R.C. and Kumar S. 2011. Contamination levels and spatial distribution of organochlorine pesticides in soils from India. *Ecotoxicology and Environmental Safet*, 76(2) : 215-225 (Impact factor : 2.617; H index : 38; Citation index : 13) (*if=2.617, ci=13*)
4. Sharma, R. C., Bisht Y.S., Sharma R. and Bhandari D.S. 2008. Gharats (Watermills): Indigenous device for sustainable development of renewable hydro-energy in Uttarakhand Himalayas. *Renewable Energy* 33: 2199-2206. (Impact factor : 3.2; H index : 56; Citation index: 4) (*if=3.2, ci=4*)
5. Sharma A., Sharma R.C. and Anthwal A. 2007. Monitoring Phytoplankton diversity in the hillstream Chandrabhaga in Garhwal Himalayas. *Life Sciences Journal* 4(1): 80-84 (Impact factor : 2.732; H index : 47; Citation index: 4) (*if=2.732, ci=4*)
6. Sharma, R.C. and Rawat J.S. 2009. Monitoring of aquatic macroinvertebrates as bioindicator for accessing the health of Asan Conservation Reserve, India: A case study. *Ecological Indicators* 9:118-128 Springer-Verlag. (Impact factor : 3.021; H index : 37; Citation index : 28) (*if=3.021, ci=28*)
7. Anthwal, A., Sharma, R.C. and Sharma, A. 2006. Sacred grooves: traditional way of conserving plant diversity in Garhwal Himalaya, Uttaranchal. *The Journal of American Science* 2 (2): 35-38. (Impact factor : 2.716; H index : 23; Citation index : 26) (*if=2.716, ci=26*)
8. Singh, D. and Sharma, R.C. 1998. Biodiversity, ecological status and fixing of order of priority for conservation of the fish of Alaknanda, a parent stream of Ganges (India). *Aquatic Conservation : Marine and Freshwater Ecosystem*, John Wiley, New York 8: 761-772. (Impact factor : 1.929; H index: 42; Citation index : 12) (*if=1.929, ci=12*)
9. Singh, D. and Sharma, R.C. 1995. Age and growth of a Himalayan teleost *Scizothorax richardsonii* (Gray) from Garhwal Hills (India). *Fisheries Research*, Elsevier, The Netherlands 24: 321-329. (Impact Factor : 1.887; H index : 48; Citation index : 6) (*if=1.887, ci=6*)
10. Sharma, R.C. 1983. Trophic dynamics of Snow-trout, *Schizothorax richarsoni* (Gray) of Garhwal Himalaya. *Indian J. Animal Sci.* 54(7): 666-670. (Impact factor : 0.12; H index : 12; Citation index : 10) (*if=0.12, ci=10*)

VENUGOPALAN, VAYALAM PURATH (b 1960), Head, Biofouling and Biofilm Processes Section, Bhabha Atomic Research Centre, Kalpakkam, Tamil Nadu

Member of the NASI: No

(YON 2014, Animal Sciences)

Dr. Venugopalan, a marine biologist, is pursuing research on biofilms and biofouling. Settlement and growth of microorganisms on surfaces exposed to aqueous milieu has major implications in biomedical and industrial environments. His work on biofouling on the offshore oil platforms in the Bombay High region augmented our understanding on the problem and development of control options. His work on development of biofilms revealed the architectural features of biofilms under different flow conditions together with their functional significance. His work on biofilms in the context of bioremediation and wastewater treatment is well recognised. He made significant contributions in the use of aerobic granular biomass for biodegradation of complex organic wastes and removal of excess nutrients such as nitrate from wastewater. He also developed technologies to combat biofilm formation in biomedical environments. The nitric oxide releasing wound dressing developed by him (patent pending) is effective in controlling bacterial and fungal biofilms in infected wounds and speeds up healing even in chronic non-healing conditions. Furthermore, his work on biofouling in the seawater intake systems of coastal power plants is relevant in controlling biofouling organisms using different methods. The use of such chemical biocides can be harmful when they are discharged to the environment. In this respect, he carried out extensive work on the impact of coolant water discharge into coastal marine systems. The book co-edited by him is an important contribution to our understanding of operational and environmental issues emanating from the use of seawater as an industrial coolant.

Proposer : Prof. T. Subramoniam, FNASc, **Secunder** : Prof. S. P. Thyagarajan, FNASC

Ten Best Publications:

1. VP Venugopalan, AB Wagh (1990). Biofouling of an offshore oil platform: faunal composition and biomass Indian journal of marine sciences 19 (1), 53-56 (*if*=0.563, *ci*=20)
2. TS Rao, PG Rani, VP Venugopalan, KVK Nair (1997) Biofilm formation in a freshwater environment under photic and aphotic conditions. Biofouling 11 (4), 265-282 (*if*=3.396, *ci*=55)
3. R Sekar, KVK Nair, VNR Rao, VP Venugopalan (2002) Nutrient dynamics and successional changes in a lentic freshwater biofilm. Freshwater Biology 47 (10), 1893-1907 (*if*=3.933, *ci*=60)
4. VP Venugopalan, M Kuehn, M Hausner, D Springael, PA Wilderer, S Wuertz (2005). Architecture of a nascent *Sphingomonas* sp. biofilm under varied hydrodynamic conditions Applied and Environmental Microbiology 71 (5), 2677-2686 (*if*=3.678, *ci*=36)
5. EH Poornima, M Rajadurai, T S Rao, B Anupkumar, R Rajamohan, SV Narasimhan, VNR Rao and VP Venugopalan (2005). Impact of thermal discharge from a tropical coastal power plant on phytoplankton. Journal of Thermal Biology 30: 307-316 (*if*=1.376, *ci*=48)
6. EH Poornima, M Rajadurai, VNR Rao, SV Narasimhan, VP Venugopalan (2006). Use of coastal waters as condenser coolant in electric power plants: Impact on phytoplankton and primary productivity. Journal of Thermal Biology 31 (7), 556-564 (*if*=1.376, *ci*=31)
7. YV Nancharaiyah, HM Joshi, TVK Mohan, VP Venugopalan, SV Narasimhan (2006). Aerobic granular biomass: a novel biomaterial for efficient uranium removal. Current Science 91 (4), 503-509 (*if*=0.905, *ci*=42)
8. S Rajagopal, VP Venugopalan, G Van der Velde, HA Jenner (2006). Greening of the coasts: a review of the *Perna viridis* success story. Aquatic Ecology 40 (3), 273-297 (*if*=1.378, *ci*=48)
9. YV Nancharaiyah, M Rajadurai, VP Venugopalan (2007). Single cell level microalgal ecotoxicity assessment by confocal microscopy and digital image analysis. Environmental Science & Technology 41 (7), 2617-2621 (*if*=5.257, *ci*=23)
10. VP Venugopalan, S Rajagopal and HA Jenner (2012). Operational and Environmental Issues Relating to Industrial Cooling Water Systems: An Overview. In: Operational and Environmental Consequences of Large Industrial Cooling Water Systems (edited by S. Rajagopal, H. A. Jenner & V.P. Venugopalan). Springer, New York, USA. DOI 10.1007/978-1-4614-1698-2 (*if*=0, *ci*=2)

GOVINDARAJU, ARCHUNAN (b 1956), Professor, Bharathidasan University, Tiruchirappalli

Member of the NASI: No

(YON 2013, Animal Sciences)

Dr. Archunan has been engaged in research extending the horizon of knowledge in pheromone biology ably assisted by his students. He has made several discoveries like identification of rodent pheromonal compounds (Achiraman and Archunan, 2002, 2005, Rajkumar et. al., 2010a, 2010b), developing a pheromone trap for rodent pests (Selvaraj and Archunan, 2002, 2006), estrus-specific pheromones in blackbuck (Archunan and Rajagopal, 2013), cow (Rameshkumar et. al., 2008, Sankar and Archunan, 2007, 2008) and buffalo (Rajananarayanan and Archunan, 2011; Karthikeyan and Archunan, 2013; Karthikeyan et. al., 2013) and estrus-specific proteins in house rat (Muthukumar et. al., 2014) and salivary odorant-binding protein in buffalo (Rajkumar et. al., 2010) to mention a few. Having gained expertise in pheromone biology research, he developed interest to turn to pheromone technology, so as to develop a cost-effective kit for estrus detection in buffaloes which is now almost ready to be released and is undergoing validation. It is noteworthy that he has obtained a patent for buffalo sex pheromones, the compounds present in the estrus urine which enhances the libido in the bull (Archunan and Rajananarayanan, 2010). His discovery of pheromone carrier protein in rat is significant in the context of making biotrap for rodents (Muthukumar et. al., 2013).

Farmers are highly benefited by his research contributions. The Centre for Pheromone Technology (CPT), established by him, has been engaged in several extension and outreach activities to the local farmers.

Considering the contribution he has made so far to science, at a rapid pace, he is confident that he will succeed in his attempt in the technological avenues.

Proposer : Prof. G.Marimuthu, **Seconder** : Prof. G.Shanmugam

Ten Best Publications:

1. S. Achiraman and G. Archunan (2002): Characterization of urinary volatiles in swiss male mice (*Mus musculus*): bioassay of identified compounds. *J. Bio. Sci.*, 27:679-686. (*if*=1.75, *ci*=24)
2. S. Rajananarayanan and G. Archunan (2004): Occurrence of flehmen behaviour in male buffaloes (*Bubalus bubalis*) with special reference to estrus. *Theriogenology.*, 61:861-866. (*if*=2.08, *ci*=23)
3. S. Achiraman and G. Archunan (2005): 3 -Ethyl- 2,7- Dimethyl octane, a testosterone dependent unique urinary sex pheromone in male mouse (*Mus musculus*). *Anim. Reprod. Sci.*, 87:151-161. (*if*=1.89, *ci*=14)
4. G. Pugalenth, G. Archunan and R. Sowdhamini (2005). DIAL: a web-based server for the automatic identification of structural domains in proteins. *Nucl. Acids Res.*, 33:130-132. (*if*=8.27, *ci*=14)
5. S. Achiraman and G. Archunan. (2006): 1 - iodo 2 methylundecane, a putative estrus specific urinary chemo-signal of female mouse (*Mus musculus*). *Theriogenology.*, 66:1913-1920. (*if*=2.08, *ci*=16)
6. G. Pugalenth, E. Ke Tang, P. N. Suganthan, G. Archunan and R. Sowdhamini (2007): A machine learning approach for the identification of odorant binding proteins from sequence-derived properties. *BMC Bioinformatics*, 8: 351-358. (*if*=3.02, *ci*=20)
7. P. Ponmanickam, K. Palanivelu, S. Govindaraj, R. Baburajendran, Y. Habara and G. Archunan (2010): Identification of testosterone-dependent volatile compounds and proteins in the preputial gland of rat *Rattus norvegicus*. *Gen. Comp. Endocrinol.*, 167: 35-43. (*if*=2.82, *ci*=2)
8. G. Archunan and T. Rajagopal (2013): Detection of estrus in Indian blackbuck: Behavioural, hormonal and urinary volatiles evaluation. *Gen. Comp. Endocrinol.* 181: 156-166. (*if*=2.82, *ci*=0)
9. S. Muthukumar, D. Rajesh, G. Saibaba, A. Alagesan, RL. Rengarajan and G. Archunan. (2013) Urinary lipocalin protein in a female rodent with correlation to phases in the estrous cycle: An experimental study accompanied by in silico analysis. *PLoS ONE* 8: e71357.
10. S. Muthukumar, R. Rajkumar, K. Karthikeyan, CC Liao, MA. Akbarsha and G. Archunan. (2014) Buffalo cervico-vaginal fluid proteomics with special reference to estrous cycle: Heat Shock Protein (HSP)-70 appears to be an estrus indicator. *Biology of Reproduction*. DOI:10.1095/biolreprod.113.113852 (*if*=4.02, *ci*=0)

HALDAR, CHANDANA (b 1952), Professor, Department of Zoology, Banaras Hindu University, Varanasi

Member of the NASI: Yes

(YON 2013, Animal Sciences)

Prof. Chandana Haldar, recipient of BHU Gold Medal and 4 Gazetted awards (INSA- YS-1983; UGC-Career Award 1990; Vigyan Ratna-2005 and UGC-BSR 2011) is working on neuroendocrine pineal gland and melatonin physiology for past three decades. She established the role of melatonin and its receptor in regulation of reproduction and immunity in Indian origin birds and mammals. For the first time she sequenced the melatonin receptor MT-1 for Indian palm squirrel, MEL-1B and MEL-1C for Indian jungle bush-quail. Her work has been recognized internationally by IBRO-UNESCO-Holland; Alexander von Humboldt Foundation, Germany and JSPS-Japan. She visited more than a dozen of country as post-doctoral fellow, visiting scientist under exchange program of UGC and INSA. She attended more than 75 National and 50 International meetings for deliberations of invited talk or chairing session. She organized 6 National and 3 International conferences. She is having 167 publications to her credit 23 book chapters and 4 edited books from International publishing houses and produced 31 Ph.Ds, 2 MD thesis; 8 post-doctoral Fellows including 2 UGC-DSK-PDFs and 5 DST-young scientists. Her Ph.D. students are placed Harvard Medical School and Washington Univ. St. Louis USA. She dignified the chairs as President of AOCP, Japan; SRBCE, Chennai and Vice -President of LASAI, CDRI. Her theory on immunity and energy allocation to maintain reproduction and immunity has internationally been accepted by International Goat Association, Nature Publishing Group and Elsevier Cell Publishing Group.

Proposer : Prof. B. N. Singh, **Second**er : Prof. M. K. Thakur

Ten Best Publications:

1. Gupta S and Haldar C (2013). Physiological cross talk between melatonin and
..... in a wild tropical rodent *F. pennanti*. Journal of Steroid Biochemistry & Molecular biology 134, 23-36. (if=2.9, ci=0)
2. Vishwas DK, Mukherjee A, Haldar C et al (2013). Improvement of oxidative stress and.....
..... An age dependent study in Golden hamster. Experimental Gerontology 48, 168-182. (if=3.74, ci=0)
3. Ahmad R, Gupta S and Haldar C (2012). Age dependent expression of melatonin in tropical rodent *F. pennanti*. Free Radical Research 46, 194-203. (if=2.8, ci=5)
4. Ahmad R and Haldar C (2011). Immune responses to LPS photoperiod entrainment and sex differences. Stress 1-12. (if=3.15, ci=2)
5. Ahmad R and Haldar C (2010). Photoperiodic regulation of MT1 and MT2 reproductively active and inactive phases. Chronobiology International 27(3), 446-462. (if=5.6, ci=3)
6. Singh SS, Yadav SK and Haldar C (2010). Effect of glucocorticoid and melatonin an invivo and in vitro study. European Journal of Inflammation 8(2), 89-98. (if=4.2, ci=2)
7. Ahmad R and Haldar C (2008). Photoperiod-testicular-immune interaction in a
.....inactive and active phases. Journal of Neuroendocrinology 21, 1-8 (if=4.6, ci=7)
8. Bishnupuri KS and Haldar C (2000). Impact of photoperiodic exposure *F. pennanti*. Journal of Reproduction and Fertility 118, 295-301. (if=3.1, ci=29)
9. Haldar C, Haußler D and Gupta D (1992). Effect of the pineal gland on (CFU-GM) from bone marrow cell cultures. Journal of Pineal Research 12, 79-83. (if=5.05, ci=22)
10. Haldar C and Gupta D (1990). Sex and age dependent nature in bovine pineal gland. Journal of Pineal Research 8, 289-295. (if=5.05, ci=17)

KAR, DEVASHISH (b 1954), Professor and Dean, School of Life Sciences, Assam University, Silchar

Member of the NASI: No

(YON 2013, Animal Sciences)

Professor Dr. Devashish Kar, M. Sc., Ph. D., Dip. Ed. (UK): Inventorying fishes 49, rivers, 245 wetlands North East India, 343 fish species reported. Identified EUS causing Fish virus. Recorded advance fry of Hilsa in wetlands. PI of: NATP-ICAR World Bank project DBT Project in EUS Fish disease problem in India UGC and ASTEC Project on zooplankton diversity. MOEF Project on mahaseer fishes. Ministry of Water resources Project Fisheries in Tipaimukh Dam. ICAR Project on Mahaseer fishes using GIS tools. Convener of: National Symposia: On current trends in Wetlands, Fisheries and Aquaculture; On Habitat mapping, ICAR; On Ornamental Fishes, MPEDA.; On Biodiversity UGC; On Frontiers of Wetlands, Fisheries and Aquaculture; UGC Refresher courses; Fisherman meets for UGC, NAAC. President, Conservation Forum. Projects with Madhav Gadgil of IISc. PI of Projects: a)WWF-India and USA, BHCP, BCCP (b) GBPIHED'Genetics and Health of Kukis of Assam. Was in King's College, London as British Council Fellow. Presented at the Gordon Research Conference, USA (b) 2nd International Symposium on GIS, Fisheries and Aquatic Sciences, UK. Scientific Fellow, Zoological Society and Linnean Society, London. Awarded, felicitated: DBT BNA; All India Congress of Zoological; Diamond Jubilee Celebration of the CIFRI, ICAR; J.S. Dutta Munshi Award by Zoological Society of India. Fellow and Life Member of ISCA, ISNA, Inland Fishery Society of India, INCA etc. Delivered key note addresses and chaired sessions. 130 research papers Research, teaching : 40 years Authors of 7 books notably Wetlands and Lakes of India and World : Springer (in Press) Recommended for NASI fellowship.

Proposer : Professor Hemanta K. Majumder, **Seconder** : Professor K. Muralidhar

Ten Best Publications:

1. Kar, D (2013) Wetlands and Lakes of the World, pp.xxx + 687, Springer (London)., Print ISBN 978-81-322-1022-1; e-Book ISBN: 978-81-322-1923-8
2. Kar, D.; Mazumdar, J.; Halder, I.; and, Dey, M. (2007). Dynamics of initiation of disease in fishes through interaction of microbes and the environment. Current Science (Bangalore) 92 (2): 177-179(25 January, 2007). IF: 0011-3891 1766 0.567 464
3. Binky, K., M. Shomorendra and Devashish Kar (2011). Nematode Parasites of Karbhala Wetland in Silchar Assam. Biological Forum . (An International Journal), 3(2): 18-21.
4. Kar, D and Sen, N. (2007). Systematic List and Distribution of Fish Biodiversity in Mizoram, Tripura and Barak drainage in North-East India. ZOOs' Print Journal, 22 (3): 2599-2607
5. Kar, D.; Shomorendra, M.; Singha, R.; Puinyabati, H.; Geetarani, B.; Binky, K.; Sangeeta, O.; Ranibala, T. (2011). Fish diversity and Helminth fauna in the fishes of Assam and Manipur, India.: Fishing Chimes, : 55-65.
6. Kar, D. and Barbhuiya, AH (2011). Status of Chocolate Mahseer of River Barak with a note on its morphometry and meristics. J. Inland Fish. Soc. India, 42 (1): 59-64.
7. Kar, D ; Dey, SC ; Kar, S ; Michael, RG ; and, Gadgil, M (1996). Ichthyoecology, Management and Conservation of Fish Resources of Lake Sone in Assam (India). Tiger Paper (Food and Agricultural Organisation of the United Nations), XXIII (3): 27-32.
8. Kar, D. (2005 b). Fish Diversity in the Major Rivers in Southern Assam, Mizoram and Tripura: pp.679-691. Proc. 2nd International Symposium on GIS and Spatial Analyses in Fisheries and Aquatic Sciences, 2-6 Sep 2002, University of Sussex, Brighton (UK), (Eds.), Vol.2, Nishida, T.; Kailola, P.J.; and, Hollingworth, C.E. Fisheries and Aquatic GIS Research Group, Kawagoe, Saitama (Japan).
9. Mazumder, Y.; Das, A.; Kar, D.; Shome, B.R.; Dutta, B.K.; Rahman, H. (2012). Isoaltion of Bordetella bronchiseptica from Pigs in North-East India. Journal of Animal Science Advances 2 (4): 396-406.
10. O.Sangeeta; M.Shomorendra; and, Kar, D. (2011). Studies on Nematode parasite of fishes of Oinam Lake, Bishnupur district, Manipur, India. J. Applied and Natural Science, 3 (2): 264-267

KADARKARAI, MURUGAN (b 1961), Professor and Head / Additional Director, DRDO - BU CLS, Department of Zoology, Bharathiar University, Coimbatore, Tamilnadu, India

Member of the NASI: No

(YON 2013, Animal Sciences)

Any meaningful approach to modern science is adoption of interdisciplinary trends, an aspect more relevant to biological science today. From this perspective, Nominee, Dr. K. Murugan have contributed regularly to the advancement of knowledge in the area of insect-plant interactions with special reference to biological control of insects by using botanicals, microbial insecticides and nanoparticles. The research investigations have been published in highly reputed Science Direct Journals.

Dr. K. Murugan has done front line research on the effect of plant compounds with microbial insecticides for the successful control of crop insect pests. Dr. Murugan has utilized major funding facilities from DRDO (Ministry of Defence, Govt. of India), UGC, CSIR, DST for the control mosquito vectors and developed biopesticides for the control of malarial, filarial, and dengue/chikungunya vectors. Also the nominee has developed collaborative research between the Defence Laboratory, Tezpur Assam, Delhi University, USDA, Florida, National Taiwan University, Chinese Academy of Sciences, Beijing, University of Sappenza, Rome, Italy for control of mosquitoes. Dr. K. Murugan organized National and International Conferences at the Bharathiar University and disseminated the Scientific Information to the Scientists, farmer and public.

Dr. K. Murugan's recent research on the ecofriendly management of mosquito vectors by using plant chemicals which has not only mosquito larvicidal activity, it also possesses water purifications properties that has been proved to synergise with copepod for the control of dengue water in stored water ecosystem.

Proposer : PROF. R. RAMAMURTHI, Seconded : PROF. G. MARIMUTHU

Ten Best Publications:

1. Murugan, K. Murugan P., and Noortheen A. (2007) Larvicidal and Repellent potential of *Albizia amara* and *Ocimum basilicum* against dengue vector, *Aedes aegypti* Liston (Insecta: Diptera: Culicidae). *Bioresource Technology*.98 (1):198-201. (if=4.365, ci=79)
2. Senthil Nathan, S., Kalaivani, K., Murugan, K., Chung, .G. (2005) The toxicity and physiological effect of neem limonoids on *Cnaphalocrocis medinalis* (Guenée) the rice leaf folder. *Pesticide Biochemistry and Physiology* 81, 113-122. (if=2.262, ci=74)
3. Nathan SS, Kalaivani K, Murugan K. (2005) Effects of neem limonoids on the malaria vector, *Anopheles stephensi* Liston (Diptera: Culicidae). *Acta Trop.* 2005 Oct; 96(1):47-55. (if=2.262, ci=72)
4. Kalimuthu Kovendan, Kadarkarai Murugan and Savariar Vincent (2012) Evaluation of larvicidal activity of *Acalypha alnifolia* Klein ex Willd. (Euphorbiaceae) leaf extract against the malarial vector, *Anopheles stephensi*, dengue vector, *Aedes aegypti* and Bancroftian filariasis vector, *Culex quinquefasciatus* (Diptera: Culicidae) *Parasitol Res* 110:571–581. (if=2.852, ci=38)
5. Kovendan Kalimuthu, Kadarkarai Murugan, Savariar Vincent and Siva Kamalakannan. (2011) Larvicidal efficacy of *Jatropha curcas* and bacterial insecticide, *Bacillus thuringiensis*, against lymphatic filarial vector, *Culex quinquefasciatus* Say (Diptera: Culicidae). *Parasitol Res.* 109:1251–1257. (if=2.852, ci=36)
6. Vahitha R Venkatachalam M R Murugan K and Jebanesan A. (2002) Larvicidal efficacy of *Pavonia zeylanica* L. *Acacia ferruginea* D.C. against *Culex quinquefasciatus* Say. *Bioresource Tech.*, 82, 203-204. (if=4.365, ci=35)
7. Murugan K and Jeyabalan D. (1999) Effect of certain plant extracts against the mosquito, *Anopheles stephensi* Liston. *Current Science*, Vol. 76, No.5. March, 631-633. (if=0.782, ci=32)
8. Murugan K and Ancy George. (1992) Feeding and Nutritional Influence on Growth and Reproduction of *Daphnis nerii* (Linn.) (Lepidoptera: Sphingidae) *J. Insect Physiol.* (Great Britain) 38: 961-967. (if=2.310, ci=21)
9. Senthil Nathan, S., Kalaivani, K., Chung, P.G., Murugan, K., (2006) Effect of neem limonoids on lactate dehydrogenase (LDH) of the rice leaf folder, *Cnaphalocrocis medinalis* (Guenée) (Insecta: Lepidoptera: Pyralidae). *Chemosphere.* 62 (8), 1388-1393. (if=3.155, ci=14)
10. Nachimuthu Senthil Kumar, Kadarkarai Murugan and Wenqing Zhang (2007) Additive interaction of *Helicoverpa armigera* Nucleopolyhedrovirus and Azadirachtin. *Biocontrol* (Springer Netherlands) 10.1007/s10526-007-9115-z (if=2.191, ci=13)

PRAKASH, ANIL (b. 1958) Scientist F, Regional Medical Research Centre, NE, (ICMR), Dibrugarh, Assam

Member of the NASI: Yes

(YON 2013, Animal Sciences)

Dr. Anil Prakash has emerged as the foremost medical entomologist in the country. His pioneering work for nearly 2 decades in Assam on the biology of malaria vectors has been most outstanding, as evidenced by his research publications in peer reviewed journals. His research contributions have enriched our knowledge particularly on the biology of *Anopheles baimaii*, the most dangerous mosquito of north-east India. Because of the ecology and terrain of north-east India, this mosquito has remained a formidable challenge in malaria control. Dr. Anil Prakash has successfully demonstrated control of malaria transmitted by *Anopheles baimaii* in most challenging and difficult situations. His contributions have provided immense help to the National Vector Borne Disease Control Programme in the operationalization of malaria control inter alia insecticide treated mosquito nets, dipstick method of early diagnosis and treatment with artemisinin based combination therapy. His field work generated vital information on the mosquito fauna of north-east India and discovered 12 new mosquito species (4 Country records, 4 NE Regional records, 4 State level records) and named 3 new mosquitoes, *Uranotaenia (Pseudoficalbia) dibrugarhensis*, *Verrallina (Neomacleaya) assamensis* and *Armigeres (Armigeres) mahantai*. Dr Anil Prakash has successfully studied parasite resistance and malaria epidemiology in various eco-epidemiological settings of and reported malaria risk factors in Indo-Myanmar border area. He investigated determinants of several malaria epidemics in north-east India and applied his knowledge of basic research in epidemic containment, thus, saving resources and preventing malaria morbidity and mortality.

Proposer : Prof. V.P. Sharma, **Seconder** : Prof. U.C. Srivastava

Ten Best Publications :

1. Sarma DK, Prakash A, O'Loughlin SM, Bhattacharyya DR, Mohapatra PK, Bhattacharjee K, Das K, Singh S, Sarma NP, Ahmed GU, Walton C, Mahanta J. 2012. Genetic population structure of the malaria vector *Anopheles baimaii* (Diptera : Culicidae) in the north-east India using mitochondrial DNA. *Malaria Journal*, 2012 : 11:76 (Impact Factor 3.191 ; Citations 1)
2. Morgan K, O'Loughlin SM, Chen B, Linton YM, Thongwat D, Somboon P, Fong MY, Butlin R, Verity R, Prakash A, Htun PT, Hlaing T, Nambanya S, Socheat D, Trung HD, Dinh TH, Walton C. 2011. Comparative phylogeography reveals a shared impact of pleistocene environmental change in shaping genetic diversity within nine *Anopheles* mosquito species across the Indo-Burma biodiversity hotspot. *Molecular Ecology*; 20: 4533-4549 (Impact Factor 5.522 ; Citations 8)
3. Prakash A, Sarma DK, Bhattacharyya DR, Mohapatra PK, Bhattacharjee K, Das K, Mahanta J. 2010. Spatial distribution and r-DNA second internal transcribed spacer characterization of *Anopheles dirus* (Diptera : Culicidae) complex species in north-east India. *Acta Tropica*; 114 : 49 – 54 (Impact Factor 2.722 ; Citations 2)
4. Morgan K, O'Loughlin SM, Mun-Yik F, Linton YM, Somboon P, Min S, Htun PT, Nambanya S, Weerasinghe I, Sochantha T, Prakash A, Walton C. 2009. Molecular phylogenetics and biogeography of the Neocellia series of *Anopheles* mosquitoes in the Oriental region. *Molecular Phylogenetics and Evolution*; 52 : 588 – 601 (Impact Factor 3.609 ; Citations 16)
5. Prakash A, Bhattacharyya DR, Mohapatra PK, Goswami, BK, Mahanta J. 2008. Bed net use practices, acceptability and prospect of up scaling of insecticide treated nets in north-east India. *Indian Journal of Medical Research*; 128 : 623-629 (Impact Factor 1.837 ; Citations 10)
6. Prakash A, Walton C, Bhattacharyya DR, O'Loughlin S, Mohapatra PK, Mahanta J. 2006. Molecular characterization and species identification of the *Anopheles dirus* and the *An. minimus* complexes in North-east India using r-DNA ITS-2. *Acta Tropica*; 100 : 156 – 161 (Impact Factor 2.722 ; Citations 16)
7. Prakash A, Bhattacharyya DR, Mohapatra PK and Mahanta J. 2005. Malaria transmission risk by the mosquito *Anopheles baimaii* (formerly known as *An. dirus* species D) at different hours of the night in North-east India. *Medical and Veterinary Entomology*; 19(4) : 423-427 (Impact Factor 1.91 ; Citations 7)
8. Prakash A, Bhattacharyya DR, Mohapatra PK and Mahanta J. 2004. Role of prevalent *Anopheles* species in malaria transmission in Assam state, north-east India. *Annals of Tropical Medicine and Parasitology* ; 98 (6) : 559 – 568 (Impact Factor 1.429 ; Citations 26)
9. Prakash A, Bhattacharyya DR, Mohapatra PK and Mahanta J. 2001 Estimation of vectorial capacity of *Anopheles dirus* (Diptera:Culicidae) in a forest fringed village of Assam (India). *Vector Borne Zoonotic Diseases*:1: 231-237 (Impact Factor 2.437 ; Citations 9)
10. Prakash A, Bhattacharyya DR, Mohapatra PK, and Mahanta J. 1997. Seasonal prevalence of *Anopheles dirus* and malaria transmission in a forest fringed village of Assam, India. *Indian Journal of Malariology*; 34 : 117-125 (renamed *Journal of Vector Borne Diseases*, Impact Factor 1.177 ; Citations 15)

SAVARIAR, VINCENT (b 1961), Professor and Dean of Research, Loyola College, Chennai-600034

Member of the NASI: No

(YON 2013, Animal Sciences)

Dr.S.Vincent is well known for commendable contributions on Bio-Pesticides- vector control management, metal pollution and bioaccumulation in food-fishes. He is the first to show that metallothioneins and its redox potential in the fish when exposed to metal toxicity. Using bioinformatics tools, he has elucidated genes expressed during the detoxification processes in organisms. Effects of heavy metals on fish were carried out to assess the toxicity levels. Industrial pollutants containing metals such as chromium, copper, lead etc., which are highly toxic to aquatic life were studied and the effect of these metals individually and in combination were recorded in edible fish, which is essential from both theoretical and control point of view. This research outcome on the metal pollution was made for master reference for further studies on metal toxicity. Toxicity of tannery effluents were carried out and concluded that the aquatic animals suffer most because of irresponsible release of tannery effluents into the aquatic habitats. Also a novel method was developed for assessing the environmental damage, and established solid state electrical conductivity of protein to reflect the presence and quantum of contaminated metals in the living organisms. Having worked extensively on metals contamination on biological tissues, Metallothionein (a metal binding protein) of fish was subjected to contaminants and studied the Redox potential of Metallothionein against heavy metals. Later genes expressed were studied during the detoxification process in the fish.

Proposer : Prof. Ramamurthi Rallapalli, **Seconded :** Dr. Peter Kuruppacharil Varkey

Ten Best Publications:

1. Susuan George and S. Vincent, 2005. Comparative efficacy of *Annona squamosa* .Linn and *Pongamia glabra* vent to *Azadirachta indica* a juss against mosquitoes. J Vect Borne Dis 42: 159-163. (IF=1.177, CI=21 times)
2. Kovendan K, Murugan K, Vincent S, Kamalakannan S. 2011. Larvicidal efficacy of *Jatropha curcas* and bacterial insecticide, *Bacillus thuringiensis*, against lymphatic filarial vector, *Culex quinquefasciatus* Say. (Diptera: Culicidae) Parasitology Research.109: 1251–1257. (IF=2.149, CI=20 times)
3. Kovendan K, Murugan K, Vincent S, Donald R. Barnard. 2012a. Studies on larvicidal and pupicidal activity of *Leucas aspera* Willd. (Lamiaceae) and bacterial insecticide, *Bacillus sphaericus*, against malarial vector, *Anopheles stephensi* Liston. (Diptera: Culicidae) Parasitology Research. 110: 195–203. (IF=2.149, CI=19 times)
4. Kovendan K, Murugan K, Vincent S. 2012b. Evaluation of larvicidal activity of *Acalypha alnifolia* Klein ex Willd. (Euphorbiaceae) leaf extract against the malarial vector, *Anopheles stephensi*, dengue vector, *Aedes aegypti* and Bancroftian filariasis vector, *Culex quinquefasciatus* (Diptera: Culicidae) Parasitology Research. 110:571–581. (IF=2.149, CI=16 times)
5. Kovendan K, Murugan K, Naresh Kumar A, Vincent S, Hwang JS. 2012c. Bio-efficacy of larvicidal and pupicidal properties of *Carica papaya* (Caricaceae) leaf extract and bacterial insecticide, spinosad, against chikungunya vector, *Aedes aegypti* (Diptera: Culicidae) Parasitology Research. 110: 669–678. (IF=2.149, CI=12 times)
6. Kovendan K, Murugan K, Panneerselvam C, Mahesh Kumar P, Amerasan D, Subramaniam J, Vincent S, Donald R. Barnard. 2012d. Laboratory and field evaluation of medicinal plant extracts against filarial vector, *Culex quinquefasciatus* Say (Diptera: Culicidae) Parasitology Research. 110: 2105–2115. (IF=2.149, CI=9 times)
7. Kovendan K, Murugan K, Prasanna Kumar K, Panneerselvam C, Mahesh Kumar P, Amerasan D, Subramaniam J, Vincent S. 2012e. Mosquitocidal properties of *Calotropis gigantea* (Family: Asclepiadaceae) leaf extract and Bacterial insecticide, *Bacillus thuringiensis*, against the mosquito vectors Parasitology Research. 111: 531–544. (IF=2.149, CI=8 times)
8. Athikesavan, S., S. Vincent T. Ambrose and B. Velmurugan. 2006. Nickel induced histopathological changes in the different tissues of freshwater fish *Hypophthalmichthys molitrix* (Valenciennes). J. Environmental Biology. 27(2), 391-395 (IF=0.64, CI=9 times)
9. Ambrose, T., T. Mani S. Vincent, L. Cyril Arun Kumar and K. Theresa Matthew, 1993. Biocontrol efficacy of *Gerris* (A) *spinolae*, *Laccotrephes griseus* and *Gambusia affinis* on larval mosquitoes. Indian J. Malarial Res., 30(4): 187-192. (IF=1.177)
10. Thomas, P. J., T. Anand, P. Suresh, S. Janarthanan and S. Vincent, 2005. Designing Specific Oligonucleotide Primers for Metallothionein Genes. Indian Journal of Biotechnology. 15: 120-122. (IF=0.55)

SHARMA, VIJAY KUMAR (b 1967), PROFESSOR AND CHAIRMAN, JAWAHARLAL NEHRU CENTRE FOR ADVANCED SCIENTIFIC RESEARCH, BANGALORE

Member of the NASI: No

(YON 2013, Animal Sciences)

The nominee's lab has shown that egg-laying rhythm in *Drosophila* is controlled by non-LNV based non-PDF mediated circadian clocks. His lab has also shown that male-driven nocturnal sex drive in *Drosophila* is mediated by the olfactory receptor 47b, and sexual interactions in fruit flies leaves long-lasting after-effect on their circadian timing systems.

In a recent study his lab has reported that fruit flies display a unique afternoon activity peak in nature which is mostly independent of circadian clocks, and correlated to their day-to-day repertoire.

Long-term laboratory selection studies from his lab have provided evidence of adaptive significance of circadian rhythms. A series of recent studies his lab has shown that selection for morning (early) and evening (late) emergence yields populations that emerge earlier and later than the controls. The early and late populations evolve circadian clocks quite different from the controls. His lab has extensively studied the genetic architecture of circadian phenotypes in the early and late flies. His lab has shown that the genes mediating timing of adult emergence in early and late populations are primarily autosomal and involve complex genetic architecture including additive, epistatic and pleiotropic interactions. The nature of genetic interaction differs between population replicates thus indicating that same phenotypes can be achieved by multiple genetic architectures. In a separate study his lab has shown that stability in circadian timing evolves as a bi-product of stabilizing selection on timing of emergence. In a separate study he demonstrated that circadian clocks regulate life history traits in *D. melanogaster*.

Proposer : PROF. MEWA SINGH, Seconder : PROF. AMITABH JOSHI

Ten Best Publications:

1. V. K. Sharma. 2003. Adaptive significance of circadian clocks. *Chronobiology International* 20:901-919. (if=4.1, ci=93)
2. Sheeba, V., Sharma, V. K., Shubha, K., Chandrashekar, M. K., and A. Joshi. 2000. The effect of different light regimes on adult lifespan in *Drosophila melanogaster* is partly mediated through reproductive output. *Journal of Biological Rhythms* 15: 380-392. (if=3, ci=47)
3. Sharma, V. K., R. Chidambaram, and M. K. Chandrashekar. 2000. Probing the circadian pacemaker of a mouse using two light pulses. *Journal of Biological Rhythms* 15:67-73. (if=3, ci=8)
4. Padiath, Q. S., Paranjpe, D., Jain S., and V. K. Sharma. 2004. Glycogen Synthase Kinase 3b as a likely target for the action of lithium on circadian clocks. *Chronobiology International* 21:43-55. (if=4.1, ci=39)
5. Paranjpe, D. A., Anitha, D., Chandrashekar, M.K., Joshi, A., and V. K. Sharma. 2005. Possible role of emergence rhythm in mediating the effect of light-dark environments on pre-adult development in *Drosophila melanogaster*. *BMC Developmental Biology* 5:5. (if=2.8, ci=22)
6. Ruoff, P., Christensen, M.K., and V. K. Sharma. 2005. PER/TIM-mediated Amplification, Gene Dosage Effects and Temperature Compensation in the Two-Loop-Model of the *Drosophila* Circadian Clock. *Journal of Theoretical Biology* 237: 42-57. (if=4.1, ci=38)
7. Howlader, G., Paranjpe, D. A., V. K. Sharma. 2006. Non-ventral lateral neuron based non-PDF mediated clocks control circadian egg-laying rhythm in *Drosophila melanogaster*. *Journal of Biological Rhythms* 21:13-20. (if=3, ci=18)
8. Sheeba, V., Fogle, K. J., Kaneko, M., Rashid, S., Chou, Y. T., Sharma, V. K., and T. C. Holmes. 2008. Large ventral lateral neurons modulate arousal and sleep in *Drosophila*. *Current Biology* 18:1537-1545. (if=11, ci=81)
9. De, J., Verma, V., Saha, S., Sheeba, V. and V. K. Sharma. 2013. Significance of activity peaks in fruit flies, *Drosophila melanogaster*, under seminatural conditions. *Proceedings of National Academy of Sciences USA* 110:8984-8999. (if=4.1, ci=1)
10. Vaze, K. M., Nikhil, K. L., and V. K. Sharma. 2013. Genetic architecture underlying morning and evening circadian phenotypes in fruit flies *Drosophila melanogaster*. *Heredity* 111: 265-274. (if=9.8, ci=3)

SWARUP, ANOOP (b 1959), Vice Chancellor, Jagran Lakecity University, Bhopal

Member of the NASI: No

(YON 2013, Animal Sciences)

Dr Anoop Swarup PhD, MSc (Zoology and Immunology), MPhil (Environmental Science) has a brilliant academic record being recipient of University Gold Medals and over 32 years of extensive and diverse experience as a scientist and an academic having also worked as Vice Chancellor of Shobhit University in 2008 and the founding Vice Chancellor of Jagran Lakecity University in 2012.

A Fulbright Fellow to US, he was earlier National Science Talent Scholar, JRF with UGC and SRF with CSIR in 1981, had undertaken pioneering research to develop an effector mechanism for tumor specific immunity and delayed hypersensitivity in experimentally induced carcinoma and followed his work with researches on abnormal human hemoglobin proteins and the effect of radiation on lymphocytes under pathological conditions. His work on analysis of systems and interpretation of a hypothetical model of existence has been cited as a unique and multidisciplinary research on human interaction with the ecosystem, opening the field of anthropogenesis and futuristic studies on life sciences and the environment from the perspective of human conflicts, political ecology and development economics.

Recipient of India's Presidential Award, he undertook comprehensive climate change peer review as Global Environment Outlook Reviewer working with IPCC, UNEP that was awarded the Nobel Prize in 2007. A resource person with Linnaean Society, British Natural History Museum, WIPO, UNEP, WII, WWF, Lancaster University and Monash University. He is Chief Editor 'International Journal of Contemporary Research in Engineering and Technology' and Patron of 'Nice Journal of Business', has authored many books and research publications.

Proposer : Prof. D. K. Belsare, Seconded : Prof. P. D. Prasad Rao

Ten Best Publications:

1. "Stomach Specific Drug Delivery Systems: a Brief Review", Inventi spreading knowledge. Invent Rapid: NDDS Vol. 2012, Issue 3, ISSN 0976-3791 (*IF=2.84, CI=3*)
2. "Development and In-Vitro evaluation of Floating Microspheres of 5-Fluorouracil" International Journal Pharmaceutical Sciences and Research, IPJSR (2012), Vol3, Issue03, ISSN:0975-8232 (*IF=4.57, CI=5.07*)
3. "Global Environment Outlook GEO4 (Environment for Development)", United Nations Environment Programme, ISBN: 978-92-807-2836-1 (UNEP paperback); 978-92-807-2872-9 (UNEP hardback), Contributor and Peer Review: Anoop Swarup, (2007).
4. "The Implementation of Disaster Management by Indian Banks – International Journal on Arts, Management and Humanities" 1(1): 73-80 (2012) ISSN (Online): 2319-5231.
5. "Human alpha-synuclein mutant A53T over-expression increases intracellular reactive oxygen species levels and modulates mitochondrial functions", Conference on Next-Generation Sequencing, 18th Sept 2012, EMB-EBI, London
6. "Regional Economic Engagements And Free Trade Agreements: Analytical Insights and Policy Options" World Scientific, Singapore, (2009); ISBN: 13 978-981-283-915-2
7. "Banking by the use of handheld devices & gadgets like Smart-phones, Tablets (Using Banking Applications & Widgets that are Based on Mobile Operating Systems like Android etc), International Journal on Emerging Technologies 3(2): 61-66(2012), ISSN (Print): 0975-8364, ISSN (Online): 2249-3255.
8. "Wireless MAN, mbwa (Mobile Broadband wireless access) and Wireless RAN (Regional Area Network)": IEEE 802.16, IEEE 802.20 and IEEE 802.22 & Comparative Technologies & Standards, (2011).
9. "Principles & Perspectives in Biotechnology, KEPM (2011); ISBN: 978-81-8283-148-3.
10. "Bio Innovations and Entrepreneurship", KEPM (2012); ISBN: 978-81-8283-123-0.

TAHSEEN, QUDSIA (b 1964), Professor of Zoology, Aligarh Muslim University, Aligarh

Member of the NASI: No

(YON 2013, Animal Sciences)

Dr Qudsia Tahseen has made remarkable and outstanding contributions in the field of Nematology. She has described and revised a good number of nematode taxa that serve bioindicators of environmental quality, from the relatively unexplored Indian habitats. Her taxonomic findings published in reputed journals are considered authoritative and rewarding as she has addressed the taxonomic identification from different perspectives so as to adopt a holistic approach combining morphological, developmental and ecological characteristics for better scientific value instead of the lopsided approach which mainly involves very shallow morphological study. Her lucid and critical analyses of species supplemented with SEM details were commended by experts as exemplary contributions (Sudhaus, 2011). Currently she has undertaken the task of verifying morphologically identified species using ecogenomics on the invitation of Ecosystem Sciences, CSIRO. Her wide taxonomic skills have been accredited internationally as she remains so far the only Asian to receive ONTA Special Award for sustained excellence in Nematology. She has also conducted pioneering studies in India on nematode development while her ecological findings led to the understanding of shifts in subterranean food web. The integrated nature of her work reflects a clear understanding and deep insight into the subject. Due to the skills and expertise, she has been invited to reputed labs of Europe and America under Royal Society, Rothamsted International, INSA, DBT, TWAS, TWOWS, Chinese Academy of Sciences, European Union Consortium, Australian Academy of Sciences etc. for collaborative research or to teach/ guide post-graduate students at Erasmus Mundus and EUMAINE programmes.

Proposer : Prof. V. P. Sharma, **Second**er : Prof. U. C. Srivastava

Ten Best Publications:

1. TAHSEEN, Q. & JAIRAJPURI, M.S. (1988). Description and developmental biology of *Teratorhabditis andrassyi* n. sp. (Nematoda: Rhabditida). *Revue de Nematologie* 11: 333-342. (if=0.91, ci=9)
2. TAHSEEN, Q.; JAIRAJPURI, M. S. & AHMAD, I. (1991). Observations on the embryonic and post-embryonic development of *Diploscapter orientalis* (Nematoda: Rhabditida). *Revue de Nematologie* 14: 251-260. (if=0.91, ci=8)
3. TAHSEEN, Q.; JAIRAJPURI, M.S. & AHMAD, I. (1990). The life cycle of *Mononchooides fortidens* (Nematoda: Diplogastrida) with emphasis on gonad development. *Nematologica* 36: 440-447. (if=0.91, ci=7)
4. TAHSEEN, Q.; AHMAD, I.; BILGRAMI, A.L. & AHMAD, W. (1992). A scanning electron microscope study on *Mononchooides fortidens* (Schuurmans Stekhoven, 1951) Taylor & Hechler, 1966. *Nematologica* 38: 296-303. (if=0.91, ci=6)
5. TAHSEEN, Q.; JAIRAJPURI, M. S. & AHMAD, I. (1992). Description and developmental biology of *Plectus zelli* n. sp. (Nematoda: Araeolaimida). *Fundamentals and applied Nematology* 15: 503-510. (if=0.91, ci=7)
6. TAHSEEN, Q.; AHMAD, I. & AHMAD, W. (1994). Description of two new species of *Chronogaster* Cobb, 1913 from India. *Journal of Nematology* 26: 222-227. (if=1.22, ci=7)
7. TAHSEEN, Q; AHMAD, I. & JAIRAJPURI, M. S. (1999). Observations on three species of the sub family Acrobelinae (Nematoda: Cephalobidae) from India. *Nematology* 1: 527-537. (if=0.91, ci=6)
8. TAHSEEN, Q.; CLARK, I. M.; ATKINS, S. D.; KERRY, B. R. & HIRSCH, P. R. (2005). Impact of the nematophagous fungus *Pochonia chlamydosporia* on nematode and microbial populations. *Communications in Agricultural and Applied Biological Sciences* 70: 81-87. (if=2014 evaluation pending, ci=9 (one of the most accessed paper))
9. TAHSEEN, Q. & NISA, S. (2006). Embryology and gonad development in *Oscheius shamimi* sp. n. (Nematoda: Rhabditida). *Nematology* 7: 1-11. (if=0.91, ci=6)
10. TAHSEEN, Q., SULTANA, R. & KHAN, R. (2007). Species of *Teratorhabditis* (Osche, 1952) Dougherty, 1953 (Nematoda: Rhabditida) from sewage and manure samples in India including a discussion on relationships within the genus. *Hydrobiologia* 583: 127-140. Link: <http://dx.doi.org/10.1007/s10750-006-0489-1> (if=1.99, ci=5 (categorized as exemplary contribution))

TRIPATHI, RENU (b 1962), Senior Principal Scientist, CSIR- Central Drug Research Institute, Lucknow

Member of the NASI: No

(YON 2013, Animal Sciences)

Based on experimental studies with malaria animal models, Dr Tripathi has discovered several fast acting blood schizontocides (1) α/β Arteether intramuscular, (2) α Arteether, (3) β Arteether, (4) α sod. Artelinate, (5) β sod. Artelinate and (6) 1, 2, 4- Trioxanes). Arteether (α/β) has been marketed as antimalarial – EMAL (1997), which is exported to 43 countries & manufactured by 20 Pharmaceuticals in India. It is a drug of choice for control of MDR infection, as emergency drug for comatose, cerebral/ complicated *Plasmodium falciparum* infection. Arteether has shown 100% protection in experimental malaras (*P. knowlesi*, *P. fragile*, *P. cynomolgi*, *P. berghei* and MDR *P. yoelii nigeriensis*). This can also be used as suppository for rectal use for emergency treatment in acute malaria (Patented in 2000). Oral α/β Arteether + Fansidar was patented in 2008. This combination provides multiple synergistic actions. Besides, Dr Tripathi has also identified another antimalarial- Sodium α Artelinate, a water soluble drug for control of cerebral malaria (patented 1989). It gives 100% protection against *P. knowlesi* (Pub.2008). Dr Tripathi has established malaria transmission model which helped her in the discovery of novel gametocytocidal action of artemisinin (Pub.1989), Arteether (Pub.1990, 1997) and artelinate (Pub.1996). Her findings opened up new vistas in the control of malaria transmission and this action has been confirmed by international investigators. Mefloquine drug resistance reversal action could be achieved by ketoconazole (Pub.2005) and Clarithromycin (Pub.2011). NMT gene study has indicated that it exists in *P.falciparum* and its inhibitors may be developed as anti-malarial agents (Pub.2000).

Proposer : Dr Tushar Kanti Chakraborty, **Seconder** : Dr GP Dutta

Ten Best Publications:

1. Bajpai, Renu, Dutta, G.P. and Vishwakarma, R.A. (1989). Schizontocidal activity of a new antimalarial drug arteether against *Plasmodium knowlesi* in rhesus monkey. Trans. R. Soc. Trop. Med. Hyg. 83: 484. (if=2.615, ci=Cited by= 17)
2. Tripathi, Renu, Dutta, G.P. and Vishwakarma, R.A. (1990). Gametocytocidal activity of antimalarial arteether against *Plasmodium cynomolgi* B. Am. J. Trop. Med. Hyg. 43(6): 571-575. (if=2.592, ci=Cited by = 5)
3. Tripathi, Renu, Dutta, G.P. and Vishwakarma, R.A. (1991). Comparison of antimalarial efficacy of α , β and α/β arteether against *Plasmodium cynomolgi* B infection in monkey. Am. J. Trop. Med. Hyg. 44(5): 560-563. (if= 2.592, ci= Cited by = 17)
4. Tripathi, Renu, Vishwakarma, R.A. and Dutta, G.P. (1997). *Plasmodium fragile*: Efficacy of Arteether (α/β) against cerebral malaria model. Experimental Parasitology 87: 290-292. (if=2.122, ci=Cited by = 2)
5. Tripathi, Renu, Umesh, Aseen, Mishra, Meenu, Puri, S.K. and Dutta, G.P. (2000). *Plasmodium yoelii nigeriensis* (MDR) – Efficacy of oral pyronaridine against multi drug-resistant malaria in Swiss mice. Experimental Parasitology 94: 190-193., (if=2.122, ci= Cited by = 5)
6. Gunaratne, Ruwani S., Sajid, Mohd., Ling, I.T., Tripathi, Renu, Pachebat, J.A. and Holder, Anthony A. (2000). Characterization of N-myristoyl transferase from *Plasmodium falciparum*. Biochemical J. 348: 459-463. (if=4.897, ci=Cited by = 43)
7. Agarwal, R., Tripathi, R., Tekwani, B.L., Jain, S.K., Dutta, G.P. & Shukla O.P. (2002). Haem polymerase as a novel target of antimalarial action of cyproheptadine. Biochemical Pharmacology. 74:12: 1-8. (if= 4.705, ci=Cited by = 6)
8. Tripathi Renu, Aradhana Awasthi and Guru P. Dutta (2005) Mefloquine resistance reversal action of ketoconazole- A cytochrome P450 inhibitor, against mefloquine resistant malaria. Parasitology 130: 475-479. (if=2.961, ci=Cited by = 11)
9. Tripathi R., S.Dhwan and G.P.Dutta (2005) Blood schizontocidal activity of azithromycin and its combination with α/β arteether against multidrug resistant *Plasmodium yoelii nigeriensis*, a novel MDR parasite model for antimalarial screening. Parasitology 131: 295-301. (if=2.961, ci=Cited by = 4)
10. Tripathi Renu, C.W. Jefford, G.P. Dutta (2006) Blood schizontocidal activity of selected 1,2,4-trioxanes (Fenozans) against multidrug resistant strain of *Plasmodium yoelii nigeriensis* (MDR) in vivo Parasitology 133: 1-9. (if=2.961, ci=Cited by = 9)

WUDAYAGIRI, RAJENDRA (b 1955), VICE CHANCELLOR & PROFESSOR OF ZOOLOGY, SRI VENKATESWARA UNIVERSITY, TIRUPATI- 517 502, A.P

Member of the NASI: No

(YON 2013, Animal Sciences)

Dr. W. Rajendra, Vice-Chancellor and Professor of Zoology, Sri Venkateswara University, Tirupati is a dedicated researcher and illustrious guide throughout his career. After obtaining Ph. D in Muscle physiology, he visited Canada and USA on post-doctoral assignments to carry out research on behavioral tolerance to Organophosphate toxicity and peptide toxins from scorpion venom. With the experience gained, he mobilized funds from different agencies for the establishment of independent research laboratory to work on bioactive compounds from herbal plants and peptide toxins from animal venoms. His noteworthy contributions include the isolation and characterization of novel Lepidopteran-selective toxin (Buta-IT), for the first time, from the venom of South Indian red scorpion, *Mesobuthus tamulus*, which selectively causes flaccid paralysis in Lepidopteran insect larvae (Publication No.1). Realizing the potential of this 37 amino acid long peptide toxin, as an alternative to the synthetic insecticides, he constructed a recombinant baculovirus (*Autographa californica* nuclear polyhedrosis virus) expressing Buta-IT that can be effectively used as a biopesticide for the control of Lepidopteran insect pests, which are otherwise resistant to most of the known synthetic insecticides (Publication No.2).

Prof. W. Rajendra has also proposed potential applications of ion-channel peptide toxins as well as non-proteinaceous compounds derived from venomous and non-venomous animals for the treatment of variety of neurodegenerative disorders (Publication No.3 & 4). In addition, he has made significant contributions in diverse areas of molecular biology of toxins, neurobiological implications of Newcastle disease virus infection, pharmacology and toxicology, muscle physiology and ethnopharmacology (Refer list of publications).

Proposer : Prof. T. Subramoniam, **Seconder** : Prof. S. Dayananda

Ten Best Publications:

1. Rajendra, W., Bora Inceoglu., Rafael Herrmann., Maher Derbel, Prabhakar, V. Choudary, and Bruce D. Hammock. (2001). "Isolation and characterization of a novel lepidopteran-selective toxin from the venom of South Indian red scorpion, *Mesobuthus tamulus*"., BMC Biochemistry ., 2:16. (if= 1.78, ci= 42)
2. Rajendra, W., Kevin J. Hackett, Ellen Buckley and Bruce D. Hammock. (2006). "Functional expression of Lepidopteran-selective neurotoxin in baculovirus: Potential for effective pest management"., Biochimica et Biophysica Acta.2 (16): 1-8 (if= 3.848, ci= 28)
3. Rajendra, W., Armugam, A., Jeyaseelan, K. (2004). "Neuroprotection and Peptide toxins"., Brain Research Reviews., 45: 125-141 (if= 7.818, ci= 22)
4. Rajendra, W., Armugam, A., Jeyaseelan, K. (2004). "Toxins in Anti-nociception and Anti-inflammation"., Toxicol., 44: 1-17. (if= 2.924, ci= 42)
5. Sahitya Chetan, P., Shanmugam, R.K., Sangeetha Lakshmi, R., Pavan Nagavenkata, K., Saritha, P., Murali Mohan, P., Rajendra, W. (2012). "Alterations in antioxidant enzyme activities and oxidative damage in alcoholic rat tissues: Protective role of *Thespesia populnea*" Food Chemistry. 132: 150-159 (if= 3.334, ci= 2)
6. Venkata Subbaiah, K., Lokanatha, V., Visweswari, G., Raniprameela, D. and Rajendra, W. (2011). Perturbations in the antioxidant metabolism during Newcastle Disease Virus (NDV) infection in chick: Protective role of vitamin E. Naturwissenschaften., 98:1019-1026.(if= 2.144, ci= 1)
7. Visweswari, G., Siva Prasad, K., Sahitya Chetan, P. Lokanatha, V., Rajendra, W. (2010). "Evaluation of anticonvulsant effect of *Centella asiatica* (Gotu kola) in Pentylene-tetrazole-induced epilepsy with reference to Cholinergic neurotransmission"., Epilepsy and Behavior. 17: 332-335 (if= 1.844, ci= 11)
8. Mallikarjuna, K., Chetan, P.S., Sathyavelu Reddy, K. and Rajendra, W. (2008). "Ethanol Toxicity: Rehabilitation of Hepatic Antioxidant defense system with dietary ginger" Fitoterapia., 79: 174-178 (if= 2.231, ci= 30)
9. Rajendra, W. (1987). "High performance liquid chromatographic determination of amino acids in biological samples by pre column derivatization with O phthaldialdehyde," J. Liq. Chromatography, 10(5): 941-950 (if= 0.565, ci= 55)
10. Banister, E.W., Rajendra, W. and Mutch, B.J.C. (1985). "Ammonia as an indicator of exercise stress: Implications of recent findings to sports medicine"., Sports Medicine., 2: 34-46 (if= 5.1, ci= 57)

ALI, SHARIQUE ATHAR (b 1957), ASSOCIATE PROFESSOR, SAIFIA COLLEGE OF SCIENCE, BHOPAL

Member of the NASI: No

(YON 2012, Animal Sciences)

Research work done by Dr. Sharique Ali, Associate Professor Saifia College of Science Bhopal on vertebrate melanophores and their physiological and pharmacological control via cellular receptors has been outstanding, particularly on the nature, classification and involvement of histamine and serotonin receptors. His paper on histamine receptors on melanophores appeared in Journal of CPB Elsevier(1998) for the first time showing the significance of histamine receptors in pigmentary responses of an amphibian, he has classified the histamine receptors into H1 & H2 subtype, similarly his recent publication in the prestigious British Journal of Pharmacology has demonstrated for the first time the role of serotonergic receptors as novel targets for optimizing skin pigmentary responses in Indian bullfrog *Hoplobatrachus tigerinus* (British Journal of Pharmacology, U.K. 2012, The British Pharmacological Society Vol. 165, Issue 5, 1515–1525. The nominee has further shown that modulation and activation of these receptors through new bio active compounds can cause melanogenesis leading to pigment darkening. These studies open new vistas for the use of *N. sativa* active ingredient, thymoquinone, as a novel melanogen for its clinical application in skin disorders. (J. of Pharmacy and Pharmacology, Wiley – Blackwell, 2012). An important aspect of contributions of the candidate are that he is working in a private college amidst several odds, one of them being the fact that the entire private govt aided college teachers of Madhya Pradesh are getting less than 50 % salary in unrevised 5th Pay scale, since last 14 years, as their case is in Supreme Court.

Proposer : Dr Devidas Kisan Rao Belsare, **Seconder** : Dr.PDP Rao, Nagpur

Ten Best Publications:

1. Salim S, Ali AS and Ali SA. (2013). 5-HT receptors subtype as key regulators in causing pigment dispersion within the melanophores of *O. mossambicus*. Comp. Biochem. Physiology. (Part B), Elsevier IF 2.0 (USA), 164(2): 117-23. (*if=2.178*)
2. Ali SA, Naaz I and Choudhary RK. (2013). Berberine induced pigment dispersion in *Bufo melanostictus* melanophores by stimulation of beta-2 adrenergic receptors. Journ. Recep. Sign. Transd. (USA) (doi:10.3109/10799893.2013.843193) (*if=2.0*)
3. Ali, S.A. S. Salim, T. Sahni and A. S. Ali (2012) Serotonergic receptors as novel targets for optimizing skin pigmentary responses in Indian bullfrog *Hoplobatrachus tigerinus*. British Journal of Pharmacology, U.K. The British Pharmacological Society Vol. 165, Issue 5: 1515–1525 (IF: 5.925) (*if=5.09*)
4. Ali S A and. K. V. Meitei (2012) *Nigella sativa* seed extract and its bioactive compound thymoquinone the new melanogens causing hyperpigmentation in the wall lizard melanophores. J. of Pharmacy and Pharmacology, Great Britain Society UK (Wiley – Blackwell) IF 4.0 63-741- 746 (*if=1.98*)
5. Ali S.A. J.Galgut and RK Choudhary (2012) On the novel action of melanolysis by a leaf extract of *Aloe vera* and its active ingredient Aloin, potent skin depigmenting agents. *Planta Medica Thiem* (UK) 2012/02/0121 (IF: 2.369) (*if=3.45*)
6. Meitei KV and Ali SA. (2012). Fig leaf extract and its bioactive compound psoralen induces skin darkening effect in reptilian melanophores via cholinergic receptor stimulation. *In Vitro Cellular & Developmental Biology – Animal*, Springer (USA), 48(6): 335-33(*if=2.87*)
7. S. Salim and Ali S A. (2011) Vertebrate Melanophores as potential model for drug discovery and development: A Review *Cell & Mol Biol. Letters* UK 16(1): 162-200 (IF:1.455) (*if=1.953*)
8. Sajid .M and Ali SA., (2011)Mediation of cholino-piperine like receptors by extracts of *Piper nigrum* induces melanin dispersion in *Rana tigerina* tadpole melanophores, *J. Receptors & Signal Transduction*, USA, 31 (4) :286-290 (IF: 1.894) (*if=1.68*)
9. Sajid .M and Ali SA., (2011)Mediation of cholino-piperine like receptors by extracts of *Piper nigrum* induces melanin dispersion in *Rana tigerina* tadpole melanophores, *J. Receptors & Signal Transduction*, USA, 31 (4) :286-290 (IF: 1.894) (*if=1.68*)
10. Ali S.A., Peter J, Ali A S (1998) Histamine receptors in the skin melanophores of Indian Bull frog, *Rana tigerina*. *Comp. Biochem. Physiol A*, Elsevier: 121: 229-234.(IF: 2.302) (*if=2,178*)

DUBE, ANURADHA (b 1955), Chief Scientist, Central Drug Research Institute, Lucknow-226031

Member of the NASI: No

(YON 2012, Animal Sciences)

Dr Anuradha Dube leads Leishmania group in CDRI and has made notable research contributions in the areas of model development, drug discovery as well as development of immunoprophylactics against visceral leishmaniasis (VL) - a fatal protozoan disease, if left untreated:

Dr Dube developed screening models, most notably the generation of stable Green Fluorescent Protein transfectant cell lines of *Leishmania donovani* for rapid screening of antileishmanials which is also being used in some national and international labs. The only nonhuman primate (*Presbytis entellus*) model for VL for preclinical evaluation of potential drug/vaccine was developed by her. She also developed drug (SAG) resistant in vitro and in vivo models of leishmaniasis.

Generated valuable antileishmanial leads and contributed to the discovery of two new potential and safe oral antileishmanial compounds from natural resources. Evaluated new drug delivery systems to increase the affectivity of Amphotericin B- a toxic but most effective antileishmanial drug at reduced dose schedules.

Demonstrated successful immunization with killed *Leishmania* parasites in hamsters and Indian langurs. A long lasting immunity against VL was also shown using live suicidal mutants of *Leishmania* in hamsters. With proteomic approach parasite molecules with Th1 stimulatory property were identified as potential immunoprophylactic agents against VL and cloned. Some of these have shown remarkable protection against *L.donovani*. Successful immunization with the DNA-encoding N-terminal domain of proteophosphoglycan (glycoprotein), suggests it to be a promising antileishmanial DNA vaccine candidate.

Genomic & proteomic analysis of *L. donovani* clinical isolates (drug resistant and sensitive) revealed several novel potential genes/proteins which are to be explored further.

Proposer : Prof. Chhitar Mal Gupta, **Second** : Dr (Mrs) Shailja Misra-Bhattacharya

Ten Best Publications:

1. PK Kushawaha, R Gupta, S Sundar, AA Sahasrabuddhe & A Dube (2011) Elongation Factor-2- a Th1 stimulatory protein of *Leishmania donovani* generates strong IFN- & IL-12 response in cured *Leishmania*-infected patients/hamsters and protects hamsters to *Leishmania* challenge. *Journal of Immunology* 187:6417-6427 (if=5.52, ci=15)
2. M Samant, R Gupta, S Kumari, P Misra, P Khare, PK Kushawaha, AA. Sahasrabuddhe & A Dube (2009) Immunization with the DNA Encoding N terminal domain of Proteophosphoglycan 3 of *Leishmania donovani* generates Th-1 type immuno-protective response against Experimental Visceral Leishmaniasis. *Journal of Immunology* 183: 470-479 (if=5.52, ci=21)
3. N Singh, R Gupta, AK Jaiswal, S Sundar & A Dube (2009) Transgenic *Leishmania donovani* clinical isolates expressing GFP-constitutively for rapid and reliable ex-vivo drug screening. *Journal of Antimicrobial Chemotherapy* 64: 370-4 (if=5.38, ci=16)
4. P Misra, K.V. Sashi-dhara, SP Singh, A kumar, R Gupta, S Srivastava, S Sen Gupta, HK Majumdar, AK Saxena, & A Dube (2010) 16 α -hydroxycyclohexa-3, 13 (14) Z-dien-15, 16-olide from *Polyalthia longifolia*: A safe and orally active antileishmanial agent *British Journal of Pharmacology* 159:1143-1150 (if=5.07, ci=11)
5. S Kumari, M Samant, P Khare, P Misra, S Dutta, BK Kolli, S Sharma, KP Chang & A Dube (2009) Photodynamic vaccination of hamsters with inducible suicidal mutants of *Leishmania amazonensis* elicits T cell-transferable immunity against visceral leishmaniasis. *European journal of Immunology* . 39: 178-191 (if=4.97, ci=12)
6. Das S, Shah P, Baharia RK, Tandon R, Khare P, Sundar S, Sahasrabuddhe AA, Siddiqi MI, Dube A (2013). Over-Expression of 60s Ribosomal L23a Is Associated with Cellular Proliferation in SAG Resistant Clinical Isolates of *Leishmania donovani*. *PLoS Neglected Tropical Disease*. Dec 5; 7 (12):e2527. (if=4.57, ci=-)
7. SK Gupta, BS Siso-dia, S Sinha, K Hajela, S Naik, AK Shasany & A Dube (2007). Proteomic approach for identification and characterization of novel immunostimulatory proteins from soluble antigens of *Leishmania donovani* promastigotes *Proteomics* 7: 816–823 (if=4.1, ci=49)
8. PK Kushawaha, R Gupta, CDP Tripathi, S Sundar, & A Dube (2012) Evaluation of *Leishmania donovani* Protein Disulfide Isomerase as a Potential Immunogenic Protein/Vaccine Candidate against Visceral Leishmaniasis *PLoS One* 7(4) :e35670 (if=3.73, ci=6)
9. S Kumari, M Samant, P Misra, P Khare, B Sisodia, AK Shasany & A Dube (2008) Th1-stimulatory polypeptides of soluble *Leishmania donovani* promastigotes ranging from 89.9 to 97.1kDa offers long-lasting protection against experimental visceral leishmaniasis *Vaccine* 26: 5700-5711 (if=3.49, ci=15)
10. A Misra, A Dube, B Srivastava, P Sharma, JK Srivastava, JC Katiyar & S Naik (2001) Successful vaccination against *Leishmania donovani* infection in Indian langur using Alum-precipitated Autoclaved L. major (ALM) with BCG Vaccine 19: 3485-3492 (if=3.49, ci=75)

HOTI, SUGERAPPA LAXMANAPPA (b 1956), Scientist F/Dy Director (Sr. Grade), Regional Medical Research Centre (ICMR), Belgaum

Member of the NASI: No

(YON 2012, Animal Sciences)

His contributions to the control of vector borne diseases are outstanding. His basic research on biology of filarial parasites towards understanding gene expression during extrinsic cycle, lead to identifying genes highly expressed in infective stage of parasite and development of RT-PCR assay, much needed for monitoring Global Filariasis Elimination Programme. Developed simple and inexpensive species-specific and drug resistance PCR assays for surveillance of filariasis, suited for countries with poor resources. Developed Molecular marker for differentiating lymphedemas useful for case management, and Silver nanosurafces for surgical applications.

Working on Dengue and Chikungunya molecular epidemiology investigated several outbreaks and provided information to Public Health Authorities for control measures.

Developed highly mosquitocidal and safe bacterial agents and simple, cost effective technology for their production, sustainable in developing countries, and technology for L-DOPA for treatment of Parkinson's disease and blood clot dissolving enzyme for cardiovascular disease, all patented/commercialized.

Teaching biological control of vectors and diagnostics for Medical Entomology students, guided/guiding Ph.D (10) and PG (60) students of many Universities. Training (short term) students from Saint Olaf College and Georgia University. Involved in workshops on Pharmacogenomics and Bioinformatics. Serving as Temporary Advisor/Consultant to WHO and SEARO/WHO on Monitoring of Drug Efficacy in Large Scale Treatment Programmes in Human Helminthiasis and contributed to formulation of Comprehensive Guidelines for Prevention and Control of Dengue and Chikungunya. Member of committees of ICMR/DST. Life member of several Indian scientific/academic associations and President of Indian Association of Parasitology. Editorial member of The Open Parasitology Journal, Journal of Bacteriology and Parasitology, and Tropical Parasitology. Currently, he has identified traditional leads for treatment of arthritis and diabetes and working on their Translation.

Proposer : Dr Vinod Prakash Sharma, **Second**er : Prof. U.C. Srivastava

Ten Best Publications:

1. Hoti SL, Balaraman K. 1993. Formation of melanin pigment by a mutant of *Bacillus thuringiensis* H14. *J Gen Microbiol.* 139: 2365-69. (*if*=3.025, *ci*=35)
2. Pani SP, Hoti SL Elango A, Yuvaraj J Lall R, Ramaiah KD. 2000. Immunodiagnosics: Evaluation of the ICT whole blood antigen card test to detect infection due to nocturnally periodic *Wuchereria bancrofti* in South India *Trop Med Int Health.* 5: 359-563 (*if*=2.938, *ci*=39)
3. Vasuki V, Patra KP, Hoti SL. 2001. A rapid and simplified method of DNA extraction for the detection of *Brugia malayi* infection in mosquitoes by PCR assay. *Acta Trop.* 79:245-248. (*if*=2.787, *ci*=16)
4. Michael E Ramaiah KD, Hoti SL Barker G Paul MR Yuvaraj J Das PK Grenfell BT Bundy DA. 2001. Molecular Epidemiology of Lymphatic Filariasis: Quantifying mosquito biting patterns on humans by DNA fingerprinting of blood meals. *Am J Trop Med Hyg.* 65:722-8. (*if*=2.534, *ci*=39)
5. Hoti SL, Sridhar A, Das PK. 2003. Presence of *Wolbachia* endosymbionts in microfilariae of *Wuchereria bancrofti* (Spirurida: Onchocercidae) from different geographical regions in India. *Mem Inst Oswaldo Cruz.* 98:1017-19. (*if*=2.058, *ci*=12)
6. Hoti SL, Subramaniyan K, Das PK. 2003. Detection of codon for amino acid 200 in isotype 1 beta-tubulin gene of *Wuchereria bancrofti* isolates, implicated in resistance to benzimidazoles in other nematodes *Acta Trop.* 88: 77-81 (*if*=2.787, *ci*=32)
7. Soundravally R Hoti S.L. 2007. Immunopathogenesis of dengue hemorrhagic fever and shock syndrome: role of TAP and HPA gene polymorphism *Hum Immunol.* 68:973-979. (*if*=2.872, *ci*=32)
8. Sankari T, Hoti SL, Govindaraj V, Das PK. 2008. Chikungunya and respiratory viral infections *Lancet Infect Dis.* 8:3-4 (*if*=19.966, *ci*=10)
9. Ghosh S, Saraswathi A, Indi SS, Hoti SL, Vasan HN. 2012. Ag@Agl, core@shell structure in agarose matrix as hybrid: synthesis, characterization, and antimicrobial activity. *Langmuir.* 5(28):8550-8561. (*if*=4.187, *ci*=13)
10. Soundravally R, Hoti SL, Patil SA, Cleetus CC, Zachariah B, Kadhiravan T, Narayanan P, Kumar BA. 2014. Association between proinflammatory cytokines and lipid peroxidation in patients with severe dengue disease around defervescence. *Int J Infect Dis.* 18:68-72(*if*=2.357, *ci*=latest publication)

JENA, JOYKRUSHNA (b 1965), Director, National Bureau of Fish Genetic Resources (ICAR), Lucknow

Member of the NASI: No

(YON 2012, Animal Sciences)

The scientific contributions of Dr. J. K. Jena have been mainly on the aspects of freshwater aquaculture. Important technologies developed by Dr. Jena during last 21 years of his professional career includes: Multiple cropping of carps with two crops in a year showing at least by 30% reduction of input expenditure; Intensive carp culture with production levels of 10-15 tonnes/ha/year; Duckweed-fish based sewage treatment systems; Breeding and mass-scale seed production of diversified medium carps; Diversification of carp culture with medium carps; High-density seed rearing; and Freshwater pearl culture. His other research contributions include: Cryopreservation of fish milt; Tissue culture for in vitro pearl production; Periphytic substrates and aeration for production enhancement; Development of protocol for organic carp farming, diets for major and medium carps; Development of mechanical and electronic gadgets; besides basic studies on Environmental stressors like ammonia and nitrite, low dissolved oxygen and pH on fish physiology; Host-parasitic relation of glochidial larvae of freshwater mussels, cell line development, mitogenomics, stock characterization etc. His contribution through implementation of three developmental projects on freshwater aquaculture is also quite significant. Dr Jena has operated over 20 research projects, including 10 Externally-funded projects as Principal Investigator. He has published 88 Research Papers, 9 Books as author/editor, 20 Book chapters, 7 Review Papers, 56 Popular articles and 110 Research Abstracts, besides contributing 7 documents for National Planning. He has served as Member or Expert panel member of different committees including Task Force of DBT and DST, Committees of DAHD&F, NBA, CAA, NFDB etc.

Proposer : Prof. Saiyed Asif Husain Abidi, **Seconder** : Prof. B. N. Dhawan

Ten Best Publications:

1. Jena, J. K., S. Ayyappan and P. K. Aravindakshan, 2002. Comparative evaluation production performance in varied cropping patterns of carp polyculture systems. *Aquaculture*, 207: 49-64. (IF=2.041, CI=22)
2. Jena, J. K. S. Ayyappan, P. K. Aravindakshan, B. Dash, S. K. Singh and H. K. Muduli, 2002. Evaluation of production performance in carp polyculture with different stocking densities and species combinations. *J. Appl. Ichthyology*, 18:165-171. (IF=0.869, CI=20)
3. Jena, J. K., P. C. Das, R. Das and S. Mondal, 2007. Performance of olive barb, *Puntius sarana* (Hamilton) in fingerling rearing with rohu, *Labeo rohita* (Hamilton) and mrigal, *Cirrhinus mrigala* (Hamilton). *Aquaculture*, 265: 305-308. (IF=2.041, CI=9)
4. Jena, J. K., P. C. Das, S. Mondal and R. Das, 2007. Compatibility of silver barb *Puntius gonionotus* (Bleeker) with Indian major carps in grow-out polyculture. *Aqua. Res.*, 38:1061-1065. (IF=1.203, CI=9)
5. Jena, J. K., P. C. Das, S. Kar and T. K. Singh, 2008. Olive barb, *Puntius sarana* (Hamilton) is a potential candidate species for introduction into the grow-out carp polyculture system. *Aquaculture*, 280: 154-157. (IF=2.041, CI=8)
6. Das, P. C., S. Ayyappan, B. K. Das and J. K. Jena, 2004. Nitrite toxicity in Indian major carps: sub-lethal effect on selected enzymes in fingerlings of *Catla catla*, *Labeo rohita* and *Cirrhinus mrigala*. *Comp. Bio. Physiol., Part C*, 138: 3-10. (IF=2.616, CI=28)
7. Das, P. C., S. Ayyappan, J. K. Jena and B. K. Das, 2004. Acute toxicity of ammonia and its sub-lethal effects on selected haematological and enzymatic parameters of mrigal, *Cirrhinus mrigala* (Hamilton). *Aqua. Res.*, 35: 134-143. (IF=1.203, CI=42)
8. Das, P. C., S. Ayyappan, J. K. Jena and B. K. Das, 2004. Nitrite toxicity in *Cirrhinus mrigala* (Ham.): Acute toxicity and sub-lethal in selected haematological parameters. *Aquaculture*, 235: 633-644. (IF=2.041, CI=21)
9. Mohanta, K. N., S. N. Mohanty, J. K. Jena and N. P. Sahu, 2008. Protein requirement of silver barb, *Puntius gonionotus* fingerlings. *Aqua. Nutrition*, 14: 143-152. (IF=2.179, CI=25)
10. Sahu, P. K., J. K. Jena, P. C. Das, S. Mondal and R. Das, 2007. Production performance of *Labeo calbasu* (Hamilton) in polyculture with three Indian major carps *Catla catla* (Hamilton), *Labeo rohita* (Hamilton) and *Cirrhinus mrigala* (Hamilton) with provision of fertilizers, feed and periphytic substrate as varied inputs. *Aquaculture*, 262: 333-339. (IF=2.041, CI=20)

KEERIKKATTIL, JOY PAILY (b 1950), Professor, Department of Zoology, Banaras Hindu University, Varanasi-221005, U. P.

Member of the NASI: No

(YON 2012, Animal Sciences)

Prof. K. P. Joy has made substantial contributions to brain regulation of gonadotropin secretion and ovarian physiology in fish. The demonstration that hypothalamic monoamines mediate environmental and steroid feedback information on gonadotropin secretion is a novel contribution in fish. The current research of Prof. Joy focuses on paracrine/autocrine roles of catecholestrogens, catecholamines and vasotocin in ovary. He is the first to show that ovarian catecholestrogens (estrogen metabolites) play a vital role in steroidogenic shift essential for oocyte maturation. The demonstration of anti-aromatase activity of hydroxyestrogens is a pioneering discovery. He has demonstrated the mechanism of action of hydroxyestrogen in oocyte maturation that involves both estrogen and adrenergic receptors and cell signaling pathways (cAMP-protein kinase A, MAP kinase and protein kinase C). Recently, he has demonstrated for the first time vasotocin (VT, a neuropeptide) in fish ovary and its involvement in the modulation of steroidogenesis and dependent functions. VT and its receptor genes are expressed in ovary. Prof. Joy edited a special issue of the Journal Fish Physiology and Biochemistry, Springer (Volume 33, No. 4, December 2007), entitled Fish Research in India: Basic and Applied. He is presently an Editor of Fish Physiology & Biochemistry. As Chairman, Prof. Joy organized the 9th International Symposium on reproductive physiology of fish in Cochin in 2011, for the first time in India and edited the symposium proceedings. The Nominee has published his work in international journals having good impact factor, which has been cited extensively. He is a Fellow of Indian National Science Academy.

Proposer: Prof. B. N. Singh, **Seconder:** Prof. Rajiva Raman

Ten Best Publications:

1. B. Senthilkumaran and K.P. Joy (1995). Changes in hypothalamic catecholamines, dopamine- β -hydroxylase and phenylalanine-N-methyltransferase in the catfish *Heteropneustes fossilis* in relation to season, raised photoperiod and temperature, ovariectomy and estradiol-17 β replacement. Gen. Comp. Endocrinol. 97: 121-134. (IF=3.108, CI=46)
2. B. Senthilkumaran and K.P. Joy (1994). Effects of ovariectomy and estradiol replacement in hypothalamic serotonergic and monoamine oxidase activity in the catfish, *Heteropneustes fossilis*: a study correlating plasma oestradiol and gonadotropin levels. J. Endocrinol. 142: 193-203. (IF=3.099, CI=37)
3. B. Senthilkumaran and K. P. Joy (1993). Annual variations in hypothalamic serotonin and monoamine oxidase in the catfish, *Heteropneustes fossilis*, with a note on brain regional differences of day-night variations in gonadal preparatory phase. Gen. Comp. Endocrinol. 90: 372-382. (IF=3.108, CI=28)
4. K. P. Joy and A. K. Agha (1991). Seasonal effects of administration of melatonin and 5-methoxytryptophol on ovarian activity in the catfish, *Heteropneustes fossilis* (Bloch). J. Pineal Res.10: 65-70. (IF=5.855, CI=23)
5. P. Manickam and K. P. Joy (1990). Changes in hypothalamic catecholamine levels in relation to season, ovariectomy and 17 β - estradiol replacement in the catfish, *Clarias batrachus* (L.). Gen. Comp. Endocrinol. 80: 167-174. (IF=3.108, CI=23)
6. I. A. Khan and K.P. Joy (1988). Seasonal and daily variations in hypothalamic monoamine levels and monoamine oxidase activity in the teleost *Channa punctatus*. Chronobiol. International 5: 311-316. (IF=5.576, CI=23)
7. P. Manickam and K.P. Joy (1989). Induction of maturation and ovulation by pimozide-LHRH analogue treatment and resulting high quality seed production in the Asian catfish, *Clarias batrachus* (L.). Aquaculture 83: 193-199 (IF=1.735, CI=22)
8. A. Mishra and K. P. Joy (2006). HPLC-electrochemical detection of ovarian and catecholestrogens in the catfish \square estradiol-17 β *Heteropneustes fossilis*: seasonal and periovulatory changes. Gen. Comp. Endocrinol. 145: 84- 91. (IF=3.108, CI=18)
- 9.. K. P. Joy and I. A. Khan (1991). Pineal-gonadal relationship in the teleost *Channa punctatus* (Bloch): evidences for possible involvement of hypothalamic serotonergic system. J. Pineal Res. 11: 12-22. (IF=5.855, CI=15)
10. A. Mishra and K. P. Joy (2006). Effects of gonadotrophin in vivo and 2-hydroxyoestradiol-17 β in vitro on follicular steroid hormone profile associated with oocyte maturation in the catfish *Heteropneustes fossilis*. J. Endocrinol. 189: 341-353. (IF= 3.099, CI=14)

KROTHAPALLI, RAJA SURYA SAMBASIVA RAO (b 1958), Professor of Zoology, Acharya Nagarjuna University, Nagarjuna Nagar-522510, Guntur, A.P.

Member of the NASI: No

(YON 2012, Animal Sciences)

In the past 24 years of research and teaching experience, knowledge has been gained and propagated to students in environmental biotechnology research areas.

In continuation of his academic pursuit, he has made outstanding contributions in aquaculture biotechnology, in identifying and control of aquaculture diseases such as WSSV and Appendage Deformity Syndrome. His research experience in aquaculture, prompted him to continue research in marine biotechnology area and obtained DBT funding for Isolation, cloning and production of industrially important cold adaptive enzymes from marine extremophiles. Very progressive results were obtained in this process, and he could be able to isolate and identify two novel species of bacteria producing cold active enzymes having great industrial potential with one patent filed and 6 papers communicated. He has made highly significant contributions to develop a novel staphylokinase variant having an improved half life and with reduced antigenicity. He has emphasized his studies on designing and production of a bacterial friendly multifunctional recombinant staphylokinase molecule having novel features for effective blood clot lysis with anti reocclusion property. The study has been extended to develop an engineered staphylokinase having a signal sequence to target the blood brain barrier system, and he could file two patents and 3 publications in this process.

His teaching and research career has been extended in these important areas and is being continued for developing further scientific achievements in his career.

Proposer : DR. P.D. PRASADA RAO, Secondar : DR. APPA RAO PODILE

Ten Best Publications:

1. Sambasiva Rao, K.R.S., N.K.Tripathy, Y.Mahalakshmi and R.S.Prakasham. (2012) Laccase- and Peroxidase-Free Tyrosinase Production by Isolated Microbial Strain. J. Microbiol. Biotechnol, 22(2): 207-214 (IF=2.06, CI= 0.088.)
2. R.Ramya, B.Mohan Subramanian, V.Siva Kumar, R.L.Senthil Kumar, K.R.S.Sambasiva Rao, V.A.Srinivasan. (2011) Expression and solubilization of insect cell-based Rabies Virus Glycoprotein and assessment of its immunogenicity and protective efficacy in mice. Clinical and Vaccine Immunology. 18 (10) 1673-1679 (IF=2.471, CI=0.05258)
3. F. Ghasemi, F. Tabandeh, B. Bambai and K. R. S. Sambasiva Rao. (2010) Decolorization of different azo dyes by *Phanerochaete chrysosporium* RP78 under optimal condition. Int. J. Environ. Sci. Tech., 7 (3), 457-464 (IF=3.157, CI=0.025)
4. P.Suresh Kumar, KK Pulicherla, Mrinmoy Ghosh, Anmol Kumar and K. R. S. Sambasiva Rao. (2011) Structural prediction and comparative docking studies of psychrophilic β - Galactosidase with lactose, ONPG and PNPG against to its counter parts of mesophilic and thermophilic enzymes. Bioinformation 6(8): 311-314 (IF=1.43, CI=0.0823)
5. R.S. Prakasham, P. Brahmaiah, T. Sathish, K.R.S. Sambasiva Rao. (2009) Fermentative biohydrogen production by mixed anaerobic consortia: Impact of glucose to xylose ratio. International Journal of Hydrogen Energy, 34: 9 3 5 4 – 9 3 6 1 (IF=4.407, CI=0.092)
6. Ch.Madhu Babu, R.Chakrabarti and K.R.S.Sambasiva Rao, (2008) Enzymatic isolation of carotenoid-protein complex from shrimp head waste and its use as a source of carotenoids, LWT Food Science and Technology, 41(2): 227-235 (IF=2.459, CI=0.036)
7. Sunila Mahavadi, Jiean Huang, Vimolpak Sriwai, Krothapalli R.S.S. Rao, Karnam S.Murthy, (2007) Cross-regulation of VAPC2 receptor internalization by m2 receptors via c-Src-mediated phosphorylation of GRK2, Regulatory Peptides, 139: 109-114 (IF=2.387, CI=0.417)
8. R.K.Patel, K.M.Singh, K.J. Soni, J.B.Chauhan, K.R.S.Sambasiva Rao, (2006) Lack of carriers of citrullinaemia and DUMPS in Indian Holstein cattle, J. Appl. Genet., 47(3): 239-242 (IF=1.324, CI=0.0625)
9. A.Ravi Kumar, G.V.Rao and K.R.S.Sambasiva Rao, (2004) Appendage Deformity Syndrome – A new disease observed in *Macrobrachium rosenbergii*, Disease of Aquatic Organisms, 59(1): 75-78 (IF=1.69, CI=0.0732)
10. Rajesh K. Patel, Krishna M. Singh, Kalpesh J. Soni, Jenabhai B. Chauhan, Krothapalli R. S. Sambasiva Rao, (2007) Low Incidence of Bovine Leukocyte Adhesion Deficiency (BLAD) carriers in Indian Cattle and Buffalo breeds, Journal of Applied Genetics, 48(2) (IF=1.324, CI=0.0646)

NAPPAN VEETIL, GIRIDHARAN (b 1949), Scientist 'F', National Institute of Nutrition, Hyderabad-500007

Member of the NASI: No

(YON 2012, Animal Sciences)

Dr. NV Giridharan has unique distinction of making our country a global player in the field of laboratory animal sciences nascent science, still in our country. He achieved this by firelessly working in the area for the past 38 years and helping the nation by establishing a centre of excellence called National Centre for Laboratory Animals Sciences (NCLAS) under the aegis of Indian Council of Medical Research (ICMR). Also he achieved a rare feat of establishing two animal models of obesity a feat yet to be achieved by any Indian scientist.

NCLAS established in 1987 is an unique organization to the needs of biomedical fraternity in our country in terms of supply of quality laboratory animals for research, laboratory animal feed, blood and blood products and training persons in care breeding and experimentation using laboratory animals. It serves over 100-150 institutions in the country and has been contributing to building up human resources in this specialized area. The animal models established by Dr. NV Giridharan are examples of his diligent observation and painstaking efforts in his chosen field. WNIN/ob and WNIN/ GR-ob as their mutant strains are known, are excellent models to study human metabolic syndrome encompassed by tumor, cataract, infertility, osteoporosis, diabetes, hypertension and have accelerated ageing. These are easy to maintain as they follow simple Mendelian inheritance of autosomal incomplete dominance.

Proposer: Prof. K. Muralidhar, **Seconded:** Prof. B.K. Thelma

Ten Best Publications:

1. Giridharan NV, Bamji.M.S., Sesikeran B.and Madhyastha H.N. (1987): Dose and time related changes in LDX-x activity, epididymal carnitine levels and fertility in gossypol treated male rats, *Contraception* 35 (1) : 89-100 (*IF= 2.51, CI= 9*)
2. Giridharan, N; Harishankar, N; Satyavani, M (1996) : A New Rat Model For the Study of Obesity *Scand J Lab Animal Sci* 23 (3) : 131-137 (*IF=0.87, CI=18*)
3. Jeyakumar SM, Vajreswari A, Sesikeran B and Giridharan NV. (2005): Vitamin A supplementation induces adipose tissue loss through apoptosis in lean but not in obese rats of the WNIN/Ob strain. *J Mol Endocrinol* 35: 391-398 (*IF = 3.53, CI= 23*)
4. . B. Kumar Kiran , Bhanu Nvijaya rao M.Vishnuvardhan and Nappan Veetil Giridharan NV (2007) DNA fingerprinting and phylogenetic analysis of WNIN rat strain and its obese mutant using microsatellite markers. *Biochem Genet*, 45(12): b 77-91 (*IF = 0.825, CI=3*)
5. Sheril A, Jeyakumar SM, Jayashree T, Giridharan NV, Vajreswari A. (2009) Impact of feeding polyunsaturated fatty acids on cholesterol metabolism of dyslipidemic obese rats of WNIN/GR-Ob strain. *Atherosclerosis*. 204: 136-140. (*IF= 7.235, CI= 11*)
6. G. B. Reddy, MNA Mandal, V. Vasireddy, T. Mrudula, X. Wang, M. M. Jablonski, N. V. Giridharan and R. Ayyagari (2009) A novel rat model with obesity associated retinal degeneration. *Invest Ophthalmol Vis Sci* 2009 Apr 15. (*IF= 3.4, CI=10*)
7. . Pratibha Bandau, Hemlatha R., Giridharan Nappan Veettil (2011) Altered or impaired immune response upon vaccination in WNIN/ob rats. *Vaccine* 16: 3308-3042 (*IF= 3.4, CI= 4*)
8. Madhira S.L, NappanVeetil Giridharan, Koddavilla V.V Venkatesan V (2011) Comparison of adipocytes gene expression from WNIN/Ob mutant obese rats ,lean control and parental control. *M Mol. Cell.Biochem*. 357 (1-2).217-225 (*IF= 2.16, CI=1*)
9. Mammani Harishankar, Vajreswari A Giridharan Nappan Veettil (2011) WNIN/GR- a mountain resistant obese ramodel from inbreed WNIN strain. *Indian J. Med. Res* 134-340-329 (*IF=1.82, CI=5*)
10. Punna Ramulu, NappanVeetil Giridharan P, Vidyasekharan Rao and Marsanapalle Janardana Sarma (2011) Insulin sensitization and resistance interrelationship in padiabetic rat: A quantitative molecular model. *J. Diabetes Metab* 2: 140 (*IF= 2.42, CI=4*)

NAQVI, SYED MOHAMMAD KHURSHEED (b 1958), Director, Central Sheep & Wool Research Institute, AVIKANAGAR

Member of the NASI: Yes

(YON 2012, Animal Sciences)

Dr S.M.K. Naqvi has made significant research and technological contribution in sheep physiology and reproductive biotechnology. His innovative accomplishment covers the development and application of indigenous low cost but efficient reproductive technologies and number of protocols for ram semen freezing, transcervical AI, laparoscope aided embryo transfer and intrauterine artificial insemination, low cost superovulation. The indigenous vaginal device for estrus synchronization in sheep, goat, buffalo and yak has been commercialised and > 11000 vaginal sponges were supplied.

Dr Naqvi was first to report in the country, the production of sheep and goat embryos through IVM-IVF-IVC in 1991, full term lamb in 1999 and first lamb from frozen-thawed embryo in 1998. A nucleus flock prolific crossbred (GXM) sheep carrying fecundity gene (Fec B) was successfully created using AI technique.

Dr. Naqvi is Life Member of 8 Scientific Societies and has served as Secretary, Vice-President, Executive Member and Editorial board member of scientific societies. He is recipient of several prestigious awards and honours of which most significant are ICAR, ISCA and ASC. He is also recipient of Dr D.N Mullick Memorial Award (2006-07) . He has been conferred with FELLOWSHIP of ISSGPU, SAPI and NAAS(wef 1.1.2012) and membership of NASI.

Dr. Naqvi has 253 publications of which > 113 research papers in reputed journals and others as popular articles, conference Proceedings, book chapters, training manuals and extension bulletin etc. Dr Naqvi has filed four patents through ICAR and two records of their work were published in the Limca Book of Records (India).

Proposer : Prof. Nirmal Kanti Bhattacharya , **Secunder :** Prof. Nirmal Kumar Lohiya

Ten Best Publications:

1. Naqvi, S.M.K., Anil Joshi, Das, G.K. and Mittal, J.P. 2001. Development and application of ovine reproductive technologies: an Indian experience. *Small Ruminant Research*, 39:199-208 (IF= 1.640, CI= 20)
2. Naqvi, S.M.K., Gulyani, R. 1999. Ovarian response and embryo recovery to different superovulatory regimens in Rambouillet ewes under semi arid conditions. *Small Ruminant Research*, 34:127-131. (IF=1.640, CI=15)
3. Bag, S., Joshi, A., Naqvi, S.M.K., Rawat, P.S. and Mittal, J.P. 2002. Effect of freezing temperature at which straws were plunged in to liquid nitrogen, on post thaw motility and acrosomal status of ram spermatozoa. *Animal Reproduction Science*, 72:175-183. (IF=1.721, CI= 15)
4. Naqvi, S.M.K., Pandey, G.K., Gautam, K.K., Joshi, A. and Mittal, J.P. 2005. Evaluation of gross anatomical features of cervix of tropical sheep using cervical silicone moulds. *Animal Reproduction Science*. 85: 337-344 (IF=1.640, CI=12)
5. Naqvi, S.M.K., Anil Joshi, Bag, S., Pareek, S.R. and Mittal, J.P. 1998. Cervical penetration and transcervical artificial insemination of tropical sheep (Malpura) at natural estrus using frozen thawed semen. *Small Ruminant Research* 29:329-333. (IF=1.640, CI=12)
6. Bag, S., Joshi, A., Naqvi, S.M.K. and Mittal, J.P. 2004. Effect of post-thawing incubation on sperm kinematics and acrosomal integrity of ram spermatozoa cryopreserved in medium-sized French straws. *Theriogenology*. 62: 415-424 (IF=2.506, CI=10)
7. Joshi, A., Bag, S., Naqvi, S.M.K., Sharma, R.C., Rawat, P.S. and Mittal, J.P. 2001. Effect of short-term and long-term preservation on motion characteristics of Garole ram spermatozoa: A prolific microsheep breed of India. *Asian-Australasian Journal of Animal Sciences*, 14: 1527-1533. (IF=1.132, CI=10)
8. Naqvi, S.M.K., Maurya, V.P., Gulyani, R., Joshi, A. and Mittal, J.P. 2004. Effect of thermal stress on superovulatory response and embryo production in Bharat merino ewes. *Small Ruminant Research* 55: 57-63. (IF=1.640, CI=8)
9. Joshi, A., Bag, S., Naqvi, S.M.K., Sharma, R.C. and Mittal, J.P. 2005. Effect of post-thawing incubation on sperm motility and acrosomal integrity of cryopreserved Garole ram semen. *Small Ruminant Research*, 56: 231-238. (IF=1.640, CI=9)
10. Naqvi, S.M.K., Maurya, V.P., Joshi, A., Sharma, R.C. and Mittal, J.P. 2002. Production of crossbred lambs through artificial insemination of non-prolific medium size Malpura and Avikalin ewes using fresh diluted semen of prolific micro size Garole rams. *Asian-Australasian Journal of Animal Sciences*. 15:633-636. (IF=1.132, CI=7)

OMKAR (b 1958), Professor, Department of Zoology, University of Lucknow, Lucknow

Member of the NASI: Yes

(YON 2012, Animal Sciences)

Prof. Omkar for more than 25 years has done ground-breaking work in insect ecology especially sexual activity, ageing, prey-predator and predator-predator interactions, intra and inter-specific competition. His pioneering studies on sexual activities, reproductive output and aging of ladybirds and chrysomelids, have elucidated, that both sexes mate multiply but at different rates causing sexual conflict. These multiple matings are evolutionarily significant for they enhance reproductive output especially under polyandrous conditions, a benefit which is further increased under mate choice, indicating intersexual selection. Reproductive-longevity trade-off (reduced longevity with more matings), has proven to be a result of early onset of aging and not enhanced rate of aging, indicating regulation of aging gene through mating incidence. This rate of aging however differs in both sexes, a difference that was charted for first time in insects using reproductive parameters. These differing rates were synchronized to enhance reproductive output by varying and optimizing age differences, a first in insects. Aging of parents were found to not only decrease reproductive output but also detrimentally affect offspring development and survival, indicating long term effects. Such deleterious influence on offspring was also found in case of parental diet. Parents also safeguard their offspring by choosing safe ovipositing sites, with reduced physical and chemical (oviposition deterring pheromones) cues from other predators. He has multiple citations (citation index:1021); also in books (i) Ecology and Behaviour of the Ladybird Beetles (Coccinellidae), Hodek et al. (2012), Wiley Blackwell, (ii) Ecology of Insects: Concepts and Applications, Speight et al. (2008) Wiley Blackwell (p.155), etc.

Proposer : Prof. Ravi Prakash, **Seconder** : Prof. U.C. Srivastava

Ten Best Publications:

1. Jarosik, V, Kumar, G., Omkar & Dixon, A.F.G. (2014) Are thermal constants constant? A test using two species of ladybird. Journal of Thermal Biology Elsevier 40, 1-8. (*if*=1.392)
2. Michaud, J.P., Mahadev Bista, Geetanjali Mishra & Omkar (2013) Sexual activity diminishes male virility in two Coccinella species: Consequences for female fertility and progeny development. Bulletin of Entomological Research, Cambridge University Press, UK 103, 570–577. (*if*=1.987)
3. Mishra, G, Singh, Neha, Mohd. Shahid & Omkar (2013) The effects of three sympatric ladybird species on oviposition by Menochilus sexmaculatus (Coleoptera: Coccinellidae). Chemoecology Springer 23, 103–111. (*if*=1.945)
4. Pervez, Ahmad & Omkar (2005) Functional responses of coccinellid predators: an illustration of a logistic approach. Journal of Insect Science, USA, 5 (5):1-6. (*if*=0.875, *ci*=80)
5. Pervez, A. & Omkar (2004) Prey-Dependent Life Attributes of an Aphidophagous Ladybird Beetle, Propylea dissecta (Coleoptera: Coccinellidae). Biocontrol Science & Technology, Taylor & Francis UK, 14(4), 385-396. (*if*=0.712, *ci*=54)
6. Pervez, A., Omkar and Aaron S. Richmond (2004) The Influence of Age on Reproductive Performance of a Predatory Ladybird beetle, Propylea dissecta. Journal of Insect Science, USA, 4 (22), 1-8. (*if*=0.875, *ci*=37)
7. Omkar, Ahmad Pervez & Avani K. Gupta (2004) Role of surface chemicals in egg cannibalism and intraguild predation by neonates of two co-occurring aphidophagous ladybirds, Propylea dissecta and Coccinella transversalis. Journal of Applied Entomology, Blackwell Wiley Interscience Germany 128 (9-10), 691-695. (*if*=1.56, *ci*=28)
8. Srivastava, Shefali & Omkar (2004) Age Specific Mating and Reproductive Senescence in Seven Spotted Ladybird, Coccinella septempunctata. Journal of Applied Entomology, Blackwell Wiley Interscience Germany 128 (6), 452-458. (*if*=1.56, *ci*=24)
9. Omkar & Geetanjali Mishra (2005) Preference-performance of a generalist predatory ladybird: a laboratory study. Biological Control, Elsevier USA 34(2), 187-195 (*if*=2.290, *ci*=23)
10. Omkar & Barish E. James (2004) Influence of prey species on immature survival, development, predation and reproduction of Coccinella transversalis Fabricius (Col., Coccinellidae). Journal of Applied Entomology, Blackwell Wiley Interscience Germany 28 (2), 150-157. (*if*=1.56, *ci*=22)

RANA, SURESH VIR SINGH (b 1950), Former Vice Chancellor, Bundelkhand University, Jhansi.

Member of the NASI: No

(YON 2012, Animal Sciences)

Prof. Rana has made contributions in a variety of research areas including toxicogenomics, free radical biology, reproductive pharmacology, occupational toxicology and the development of molecular markers. His most innovative contribution is indicated by his recent publications on benzene and arsenic (human carcinogen) toxicity. For the first time, he has shown that genes corresponding to circadian rhythms are affected by benzene. The biochemical pathway analysis showed the involvement of calcium signaling, transferases and HSPs in benzene toxicity (Biomarker Insights, 2008). Gene and protein expression changes provoked in experimental cholestasis induced by phalloidin (International J. Toxicol., 2007, Mol. Cell. Toxicology, 2010) and acetaminophen (Physiol. Chem. Phys. and Med. NMR, 2007) have been presented as meaningful markers of their toxicity. Prof. Rana and his team has recently developed a new male nanocontraceptive known as Smart RISUG. They suggest that it is a potential non invasive reversible contraceptive of future (International J. Pharmacol., 2009, Fertility and Sterility, 2010). Prof. Rana has elucidated the mechanisms underlying the radio-protective effects of a few herbal principles. He has shown that free radical scavenging and blocking of cell cycle by interfering with telomerase I activity contribute to the efficacy of RH-3 (Cell Mol. Biochemistry, 2003). Similarly (RP-I) extracted from *Podophyllum hexandrum* acted as an antioxidant modifying the radiation induced apoptosis. This research can be exploited for radiation induced cancer management (J. Pharmacy and Pharmacology, 2003).

Prof. Rana is the only toxicologist, who practices biological monitoring as a tool in occupational and environmental health risk assessment (Industrial Health, 2003).

Proposer : Dr. Sher Ali, Seconder : Dr. P.K. Seth

Ten Best Publications:

1. Rana, S.V.S. (2008). Metals and apoptosis- Recent developments. Journal of Trace Elements in Medicine and Biology. 22(4): 262-284 (IF=2.176, CI=101)
2. Rana, S.V.S., Singh, R. and Verma, S. (1997). Protective effects of GSH, vit E, and selenium on lipid peroxidation in cadmium fed rats. Biol. Trace. Element. Res., 51: 161-168 (IF=1.523, CI=88)
3. Rana, S.V.S., Allen, T. and Singh, R. (2002). Inevitable glutathione, then and now. Indian J. Exp. Biol., 40: 706-716 (IF=0.702, CI=62)
4. Goel, H.C., Prem Kumar, I., Samenta, N. and Rana, S.V.S. (2003). Induction of DNA-protein cross links by *Hippophae rhamnoides*, implications in radiation protection and cytotoxicity. Molecular and cellular Biochemistry. 245: 57-67 (IF=2.168, CI=34)
5. Allen, T. and Rana, S.V.S. (2003). Oxidative stress by inorganic arsenic: modulation by thyroid hormones in rat. Comp. Biochem. and Physiol (Part C). 135: 157-162 (IF=2.325, CI=28)
6. Rana, S.V.S. and Boora, P.R. (1992). Antiperoxidative mechanisms offered by selenium against liver injury caused by cadmium and mercury in rat. Bull. Env. Cont. and Toxicol., 48: 120-124 (IF=1.139, CI=27)
7. Seokjoo Yoon, Sang Seop Han and S.V.S. Rana (2008). Molecular markers of heavy metal toxicity – A new paradigm for health risk assessment. Journal of Environmental Biology. 29(1): 1-14 (IF=1.359, CI=26)
8. Rana, S.V.S. and Verma, S. (1997). Protective effects of GSH, tocopherol and selenium on lipid peroxidation in liver and kidney of copper fed rats. Bull. Environ. Cont. Tox. 59: 152-158 (IF=1.139, CI=20)
9. Allen, T. and Rana, S.V.S. (2004). Effect of Arsenic (III) on Glutathione- Dependent enzymes in Liver and Kidney of fresh water fish *Channa punctatus*. Biological Trace Element Research. 100: 39-48. (IF=1.923, CI=17)
10. Lim, J.S., Jeong, S.Y., Hwang, Y., Park, H.J., Kim, Y.B., Rana, S.V.S. and Yoon S.J. (2007) Effect of phalloidin on hepatic gene expression in mice. Int. J. Toxicol. 26(3): 213 - 220. (IF=1.282, CI=16)

SHARMA, MANDEEP (b 1963), Professor and Head, Deptt. of Veterinary Microbiology, Dr. G.C. Negi, College of Veterinary and Animal Sciences, CSK, HPA University, Palampur - 176062

Member of the NAS: No

(YON 2012, Animal Sciences)

Dr. Mandeep Sharma is a graduate of veterinary and animal sciences. He did his masters and then Ph. D. in Veterinary Microbiology from Mathura Veterinary College, UP, India. He has been the recipient of University merit scholarship and the prestigious JRF of ICAR for his masters. He also got an opportunity to work as a postdoctoral fellow in USDA lab in IOWA, USA.

He joined the faculty of Veterinary College, Palampur as an Assistant Professor in 1989. Since then apart from teaching microbiology to UG and PG students, he has been associated with many research projects both as CO-PI and PI. He is now Professor of Veterinary Microbiology and also the Head of Department for the last nine years. Further, he has been given the responsibilities of Associate Director of Research and Nodal Officer- NAIP cell of the University. He is currently the PI of seven national research proposals running in the department.

During a span of more than twenty three years as a microbiologist, Dr. Sharma has worked on different conventional and molecular aspects of many pathogens. He has 135 research publications to his credit both in national and international journals.

He has been rewarded with several national and international awards and honours. Also, he has visited USA, Canada, UK, France, Cyprus, Pakistan, Israel, Singapore, New Zealand and Australia in connection with his professional commitments.

Dr. Sharma has membership of vital professional societies.

Proposer : Professor Shyam Kumar Sharma, **Secunder** : Professor CL Acharya

Ten Best Publications:

1. Subhash Verma; L.K. Verma; V. K. Gupta; V. C. Katoch; V. Dogra; B. Pal & Mandeep Sharma (2011). Emerging Capri poxvirus disease outbreaks in Himachal Pradesh, a Northern State of India. *Transboundary and Emerging Diseases* 58 (1):79-85. (IF=TT055/ 7.7/, CI=2.448)
2. S. Deshmukh; R.K. Asrani; N. Jindal; D.R. Ledoux; G.E. Rottinghaus; Mandeep Sharma and S.P. Singh (2005). Effects of *Fusarium Moniliforme* culture material containing known levels of fumonisin B1 on progress of *Salmonella gallinarum* infection in Japanese quail: Clinical signs and hematological changes. *Avian Diseases* 49:274-280. (IF=A233/ 7.5/, CI=1.62)
3. S. Deshmukh; R.K. Asrani; D.R. Ledoux; N. Jindal; A. J. Bermudez; G.E. Rottinghaus; Mandeep Sharma and S.P. Singh (2005). Individual and Combined Effects of *Fusarium moniliforme* Culture material, Containing Known levels of Fumonisin B1, and *Salmonella gallinarum* infection of Liver of Japanese Quail. *Avian Diseases* 49:592-600. (IF=A233/ 7.5/, CI=1.62)
4. R.C. Katoch; Mandeep Sharma; Deepak Pathania; Subhash Verma; Rajesh Chahota and Arvind Mahajan (2003). Recovery of important bacterial and mycotic fish pathogens from carps and other fish in Himachal Pradesh. *Indian J. Microbiology* 43 (1): 65-66. (IF=I060/ 7.0/, CI= 0.938)
5. Aneesh Thakur; Mandeep Sharma; Vipin C. katoch, Prasenji Dhar and R.C. Katoch (2011). Detection of *Mycobacterium bovis* and *Mycobacterium tuberculosis* from cattle: Possible Public Health Relevance. *Indian J. Microbiol.* 08. (IF=I060/ 7.0/, CI=0.938)
6. Mandeep Sharma; R.C. Katoch; M.K. Batta; R.K. Asrani; K.B. Nagal; S.K. Sharma and D.S. Sambyal (1994). Isolation of *Moraxella bovis* and *Branhamella ovis* from infectious bovine kerato- conjunctivitis in H.P. *Indian J. Anim. Sci.* 64(6):562-64. (IF=I032/ 6.6/, CI= 0.14)
7. Mandeep Sharma; M.K. Batta; R.K. Asrani; R.C. Katoch; V.B. Joshi and K.B. Nagal (1995). *Brucella melitensis* abortions among organized sheep farms in North- West States of India. *Indian J. Anim. Sci.* 65 (8): 874-875. (IF=I032/ 6.6/, CI=0.14)
8. Mandeep Sharma; M.K. Batta; Madhumeet Singh; R.C. Katoch; V.B. Joshi and K.B. Nagal (1996). *Salmonella dublin* abortions in Yaks. *Indian J. Anim. Sci.* 66(4): 343-345. (IF=I032/ 6.6/, CI= 0.14)
9. Mandeep Sharma and A.A. Andersen (2000). Isolation and growth of chlamydiae in cell culture. *Indian J. Anim. Sci.* 70 (11):1127-28. (IF=I032/ 6.6/, CI=0.14)
10. Mandeep Sharma; Prasenjit Dhar; Rajender Kumar; Vipasha Kapoor; Dushyant Gupta; Lovit Verma and R.C. Katoch (2010). Drug sensitivity profile of various capsular types of *Pasteurella multocida* in Himachal Pradesh. *Indian J. Anim. Sci.* 80 (11):1066-69. (IF=I032/ 6.6/, CI=0.14)

VARSHNEY, AKHILESH CHANDRA (b. 1955), Vice-Chancellor, UP Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan, Vishwavidyalaya Evam Go-Anusandhan Sansthan, Mathura-281001

Member of the NASI : No

(YON 2012, Animal Sciences)

Dr. A. C. Varshney, at present assuming the position of Vice-Chancellor, U.P. Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan, Vishwavidyalaya Evam Go-Anusandhan Sansthan, Mathura, served earlier at the positions of Dean, College of Veterinary Science, Central Agricultural University, Aizawl (Mizoram) and Dean College of Veterinary and Animal Sciences, CSKHPKV, Palampur (H.P.). He has a distinguished record first as a student and later as a teacher and research worker at G.B. Pant University of Agriculture and Technology, Pantnagar and Himachal Pradesh Agricultural University, Palampur. He is an avid research worker and handled 13 research projects so far. His contribution in soft tissue and fracture repair, treatment of osteomyelitis, traumatic arthritis and gastric ulcer, regional and general anaesthesia and application of surgical technology for improving meat quality are well recognized at National and International levels. He has guided 13 postgraduate students and published over 160 research papers. He is the reviewer and editorial member in 12 prestigious research journals of India. He has worked with dedication to promote the cause of Indian Society for Veterinary Surgery also as its Vice-President and Convener of XXI Annual Congress and National Symposium. He is recipient of 14 national and state level awards besides being the fellow of Indian Society for Veterinary Surgery (ISVS), Indian Association for Advancement of Veterinary Research (IAAVR) and National Academy of Veterinary Sciences (NAVS, India). As a Dean of the college he was instrumental in bringing 3 Networking, 3 ACRIP and 5 NAIP research projects of ICAR and 5 other research projects were brought through RKVY.

Proposer : Prof. Shyam Kumar Sharma, **Seconder** : Dr. P.S. Ahuja

Ten Best Publications :

1. Varshney, A.C., Singh, Harpal, Kumar, A. and Prakash, P. 1981 Effect of castration on the morphology of skeletal muscle in buffalo (*Bubalus bubalis*). *Acta Veterinaria* A030 (Marks 7.5)
2. Varshney, A.C., Singh Harpal and Kumar, A. 1982 Note on meat production under various methods of castration in male buffalo calves. *Indian J. Anim. Sci.* 1032 (Marks: 6.6)
3. Varshney, A.C. and Kumar, A 1984 Comparative evaluation of tracheal anastomosis in dogs. *India J. Anim. Sci.* 1032 (Marks: 6.6)
4. Varshney, A.C., Singh Harpal, Gupta, R.S. and Singh, S.P. 1989 Experimental model of *Staphylococcus osteomyelitis* in dogs. *Indian J. Exp. Biol.* 27: 816-819. 1046 (Marks: 6.6)
5. Varshney, A.C., Singh Harpal, Gupta, R.S. and Singh, S.P. 1990 Microbiological aspects of experimental osteomyelitis in dogs. *Indian J Anim. Sci.* 1032 (Marks: 6.6)
6. Varshney, A.C., Jadon, N.S., Verma, M.C. and Kumar, A. 1990 Repair of abdominal wall defects by biological grafts in buffaloes: An experimental study. *Indian J Anim. Sci.* 1032 (Marks: 6.6)
7. Varshney, A.C., Singh Harpal and Prakash, P. 1991 Enriched collagen as adjuvant therapeutic agent in experimental osteomyelitis in dogs. *Indian J. exp. Biol.* 29 : 35-38. 1046 (Marks 7.5)
8. Varshney, A.C., Sharma, D.N.; Singh, M.; Sharma, S.K. and Nigam, J.M. 1997 Therapeutic value of Bovine saliva in wound healing: A histomorphological study. *Indian J. Expt. Bio.* 35: 535-553. 1046 (Marks 7.5)
9. Sharma, S.K., Nigam, J.M., Varshney, A.C., Singh, M. and Kumar, A. 2001 Use of Detomidine hydrochloride as a sedative in yaks (*Bos grunniens*). *Indian J. Anim. Sci.* 71:691-692. 1032 (Marks: 6.6)
10. Gupta, A.K., Varshney, A.C., Singh, M. and Sharma, S.K. 2004 Synovial fluid alterations following homologous synovia transfusion in acute aseptic arthritis in equines. *Indian J. Anim. Sci.* 74: 51-53. 1032 (Marks: 6.6)

VERMA, RAMA SHANKER (b 1956), PROFESSOR, INDIAN INSTITUTE OF TECHNOLOGY MADRAS, CHENNAI – 60036

Member of the NASI: No

(YON 2012, Animal Sciences)

- 1: Developed A Protocol For Acellular Detoxification Using Glutaraldehyde Cross-Linking For Tissue Engineering. Santosh Et Al. (2013) Materials Science And Engineering Materials C33; 1561-1572(Impact Factor 2.68)
- 2: Developed Biological Patches For Ischemic Heart Repair Using Neonatal Cardiac Tissues And Provided The Proof Of Concept For Transplantation By Demonstrating The Capability Of Such Patches To Adhere, Sustain Stress And Help In Developing Progenitor Cells. [Sreejit And Verma (2011) European Cell And Material Journal (Ecm) 21: 107 - 121 Impact Factor 9.36] Sreejit P & R. S. Verma (2013) Stem Cell Rev And Rep Doi 10.1007/S12015-013-9427-6 Impact Factor 3.74
- 3: Development Of Stem Cell Lines For Mechanism And Regenerative Studies. Sreejit et al. (2012) Cell And Tissue Research 350(1): 55-68. Doi: 10.1007/S00441-012-1458-9 Impact Factor 3.11
- 4: Developed Several Toxin Based Therapeutic Molecules For Targeted Cancer Therapy, And These Include Diphtheria Toxin Conjugated With Il-2 And Stem Cell Factor. Developed A Novel Fusion Toxin Containing Diphtheria Toxin And Hn1 For Targeting Head And Neck Cancer.
- 5: Constructed Humanised Immunotoxins Comprising Proapoptotic Proteins (Dff40) Fused With Cytokines/Growth Factor (Gmcsf) To Circumvent The Problem Of Immune Response Caused By Toxins Of Bacterial Origin. Mrudula Mathew Et Al (Apoptosis Doi Doi: 10.1007/S10495-013-0840-8 Impact Factor 4.77
- 6: Developed A Refined Method For Electron Microscopy Sreejit And Verma (2011) Analytical Biochemistry 15; 416 (2): 186-90 Impact Factor 3.256].
7. First Time Nomenee Has Postulated The Anchoring Machnism For Folate Recetpor In Membrane Organization. [Verma et al. (1992) J. Biol. Chem. 267:4119 4127. Impact Factor: 7.66: Citation: 52]

Proposer : Prof. Rajendra Prasad, **Second** : Prof. Sayed E Hasnain

Ten Best Publications:

1. Mrudula Mathew, Zaineb.K.C., Rama Shanker Verma (2013)Gm-Csf-Dff40:Anovel Humanized Immunotoxin Induces Apoptosis In Acute Myeloid Leukemia Cells Apoptosis Doi: 10.1007/S10495-013-0840-8 (IF=4.77, CI=Recent Publication)
2. Madhumathi J And Verma R S (2012) Therapeutic Targets And Recent Advances In Protein Immunotoxins Current Opinion In Microbiology 15, 300–309 (IF=7.92, CI=8, Recent Publication)
3. Mathew And Verma (2009) Cancer Sciences 100, (8), 1359-1365: (IF=3.47, CI=54)
4. Sreejit P And R S Verma (2011) "Cardiogel Supports Adhesion, Proliferat Ion And Differentiation Of Stem Cells With Increased Oxidative Stress Protection" Euroian Cell And Material Journal (Ecm) 21: 107 - 121(IF=9.65, CI=5, Recent Publication)
5. Swati Choudhary, Mrudula Mathew And Rama S. Verma (2011) "Therapeutic Potential Of Anticancer Immunotoxins" Drug Discovery Today 6 (11-12): 495-503 (IF=7.25, CI=17)
6. Taichman R.S., Reilly M.J., Verma R.S., And Emerson S.G. (1997) Augmented Production Of Interleukin 6 By Normal Human Osteoblasts In Response To Cd³⁴⁺ Hematopoietic Bone Marrow Cells In Vitro Blood 15: 89(4): 1165-1172. (IF=10.37, CI=54)
7. Verma, R. S., Gullapalli, S., And Antony, A. C. (1992) Evidence That The Hydrophobicity Of Isolated In Situ And De Novo Synthesized Native Human Placental Folate Receptor Is A Function Of Glycosyl Phosphatidy- Linositol Anchoring To Membranes. J. Biol. Chem. 267:4119-4127. (IF=7.66, CI=56)
8. Rs Taichman, Mj Reilly, Rs Verma, K Ehrenman, Sg Emerson Hepatocyte Growth Factor Is Secreted By Osteoblasts And Cooperatively Permits The Survival Of Haematopoietic Progenitors British Journal Of Haematology 112 (2): 438-448 (IF=4.77, CI=63)
9. Antony, A. C., Briddell, R. A., Brandt, J. E., Straneva, J. E., Verma, R. S., Miller, M. E., Kalasinski, L. A., And Hoffman, R. (1991) Megaloblastic Hematopolesis In Vitro: Interaction Of Anti Folate Receptor Antibodies With Hematopoletic Cells Leads To A Proliferative Response Independent Of Megaloblastic Changes J. Clin. Invest. 87: 313-325 (IF=14.15, CI=33)
10. Antony, A. C., Bruno, E., Briddell, R., Brandt, J., Verma, R. S., And Hoffman, R. (1987) Effect Of Perturbation Of Specific Folate Vitro Erythropoiesis. J. Clin. Invest. 80(6): 1618-1623 (IF=14.15, CI=20)

AHMAD, WASIM (b 1957), Professor of Zoology, Aligarh Muslim University, Aligarh

Member of the NASI: No

(YON 2011, Animal Sciences)

Prof. Wasim Ahmad has made outstanding contribution to the taxonomy of soil-inhabiting nematodes and has described over 300 new taxa. His SEM studies led to the discovery of several hitherto unknown morphological features in nematodes where as the molecular studies using 18s rDNA sequence has given new insight into phylogenetic relationships. He has also contributed significantly to the functional diversity and food web diagnostics of soil inhabiting nematodes in natural forests as well as polluted crop fields. His over 160 papers have been published in top Nematology Journals, published from The Netherlands, France, Spain, Japan, U.K. USA, New Zealand etc. His monumental books "Dorylaimida; Free-living, predaceous and plant parasitic nematodes" (1992) and Mononchida: Predaceous nematodes (2010), both published by E.J. Brill, Leiden, The Netherlands are unique world-wide reference for study of dorylaim and mononchid nematodes. His other books include "Plant-parasitic nematodes of India: An Identification Manual", a monograph on Alaimina and a book on management of gram pod borer, published from Germany. He has visited many countries on prestigious visiting fellowships from Royal Society (UK), DFG (Germany), JSPS (Japan), Erasmus Mundus Scholar (European Union), CAS (China), KOSEF (Korea), NIS Singapore, INBio Costa Rica and many others. Dr. Ahmad is recipient of E.K. Janaki Ammal National Award on Animal Taxonomy (2009) by Ministry of Environment & Forests, Government of India and the Vigyan Ratan Award (2010-2011) of the Uttar Pradesh, Department of Science & Technology and Recognition Award in Plant Protection (2011-2012) of The National Academy of Agricultural Sciences in addition to many other awards.

Proposer : Prof. M. Shamim Jairajpuri, **Second** : Dr. Qaiser H. Baqri

Ten Best Publications:

1. Ahmad, W. & Jairajpuri, M.S. (1982). Some new and known species of Dorylaimoidea. *Nematologica* 28, 39-61 (CI 26) (IF= 0.937; CI= 26)
2. Jairajpuri, M.S. & Ahmad, W. (1992). *Dorylaimida: Free living, Predaceous and plant parasitic nematodes*. E.J. Brill, Leiden, The Netherlands 458 pp. (IF= Monograph, CI= 152)
3. Sami, E., Ahmad, W. & Reid, A. (1997). *Steinernema abbasi* sp n. (Nematoda: Steinernematidae) from Sultanat of Oman. *Fundamentals and Applied Nematology* 20, 435-442 (IF= 0.937, CI= 51)
4. Hussaini, S.A.; Ansari, M.A.; Ahmad, W. & Subbotin, S.A. (2001). Identification of some Indian populations of *Steinernema* species (Nematoda) by RFLP analysis of the ITS region of rDNA. *International Journal of Nematology* 11, 73-76 (CI= 13)
5. Ahmad W. & Jairajpuri, M.S. (1982). *Opisthodorylaimus* n. gen. and some new and known species of Dorylaimoidea (Nematoda) from India. *Revue de Nematologie* 5(2), 261-275 (IF= 0.937, CI= 11)
6. Khan T.H., Jairajpuri M.S. & Ahmad W (1989). Description of some new and known species of dorylaim nematodes. *Nematologica* 35 (4), 419-437 (IF= 0.937, CI= 08)
7. Ahmad, W. & Shaheen, A. (2004). Five new and two known species of the family Dorylaimidae (Nematoda: Dorylaimida) from Costa Rica. *Nematology* 6, 567-584 (IF= 0.937, CI= 06)
8. Tomar, V.V.S. & Ahmad, W. (2009). Food web diagnostics and functional diversity of soil inhabiting nematodes in a natural woodland. *Helminthologia* 46 (3), 183-189 (IF= 0.951, CI= 01)
9. Ochia, M., Ahmad, W., Araki, M. & Minaka, N. (2009). Molecular characterization of some species of *Mylonchulus* (Nematoda: Mononchida) from Japan and comments on the status of *Paramylonchulus* and *Pakmylonchulus*. *Nematology* 11(3), 337-342 (IF= 0.937, CI= 2)
10. Ahmad, W & Jairajpuri, M.S. (2010). *Mononchida : The Predaceous Nematodes*. *Nematology Monographs and Perspectives* 7. E. J. Brill, Leiden-Boston 299 pp (IF= Monograph, CI= 03)

BHATNAGAR, MAHEEP (b. 1955) Professor and Head, Department of Zoology and Dean and Chairman, Faculty of Science, University College of Science, M.L. Sukhadia University, Udaipur

Member of the NASI: Yes

(YON 2011, Animal Sciences)

Dr. Bhatnagar trained as zoologist took M.Sc and Ph.D from University of Udaipur with first rank. He has acquired international acclaim in the field of regulatory peptides, brain aging, neuroprotection and fluoride toxicity. Extensive research work carried out by him is published in Regulatory peptides, Eur J Neurobiology, Brain Research, Cell and Molecular Biology, Thorax, Frontiers of Neuroscience, Neurochemical Research, Current Science, Ind. J Exp Biology etc and quoted in various books and publications. His Post doctoral work at RPMS, London led him to first time show a relationship and role of Atrial Natriuretic factor and essential hypertension. His studies at ORPRC, USA led him to first time demonstrate that Stress conditions modulate both secretion and synthesis of somatostatin peptide from hypothalamus. His extensive studies on GR and MR receptors demonstrated that GR receptors and NGF modulate brain aging. In recent years using mice/rat as experimental model, he has first time demonstrate a close link between loss of memory and cognitive changes found in patients suffering from Fluorosis. He has published more than 100 research papers, twenty popular science articles, chapters in books and is a regular author on science popularization in local news papers. He has delivered several invited lectures in schools and colleges.

Proposer: Prof. C.B.L. Srivastava, **Seconded:** Prof. U.C. Srivastava

Ten Best Publications:

1. A. Cintra, M.Bhatnagar, G.Chadi, B.Tinner, J.Lindberg, J.Gustaffsson, LF Agnati, K.Fuxe (1994) Glial and neuronal glucocorticoid receptor immunoreactive cell populations in developing, adult and aging brains. *Annals of New York Acad of Sciences*, 746: 42-61 (CI=42, IF=3.155)
2. K.Fuxe, R.Diaz, A.Cintra, M.Bhatnagar, B.Tinner, J.A Gustafsson, SO Ogren, LF Agnati (1996) On the role of glucocorticoid receptors in brain plasticity *Cellular and Molecular Neurobiology*, 16:239-258 (CI=38, IF=1.969)
3. J.Bhatnagar, HB Tewari, M.Bhatnagar, GE Austin (1999) Comparison of Carcinoembryonic antigen in tissue amnd serum with grade and stage of colon cancer *Anti Cancer Res.* 19:2181-2200 (CI=34, IF= 1.656)
4. SD Shukla, S Jain, K.Sharma, M.Bhatnagar (2000) Stress induced neuron degeneration and protective effects of *SEmecarpus anacardium* Linn and *Withania somnifera* Dunn. In hippocampus of albino rats: an ultrastructural study. *Ind. J Exp. Biol.* 38: 1007-1013 (CI=21, IF=1.295)
5. Gluco and mineralocorticoid receptor mediated regulation of neurotrophic factor gene expression in the dorsal hippocampus and neocortex of the rat. AC Hanson, A Cintra, N Belluardo, WSommer, M Bhatnagar, G Genten, LF agnatio, K Fuxe *Europ. J.Neurosci.*12: 2918-2934(2000) (CI=85, IF=3.658)
6. S.Jain, SD Shukla, K.Sharma, M.Bhatnagar (2001) Neuroprotective effects of *Withania somnifera* Dunn in Hippocampal sub regions of female albino rat. *Phyto. Ther Res.* 15: 546-548 (CI=58, IF=2.086)
7. Neurodegenerative effects of fluoride in drinking water: Effects in hippocampus of female mice. *Ind. J.Exp. Biol.* 40: 546-549 (2002) (CI=55)
8. M.Bhatnagar, SS Sisodia, R.Bhatnagar (2005) Antiulcer and antioxidant activity of *Asparagus racemosus* Willd and *Withania somnifera* Dunal in rats. *Annals of the New York Acad of Sci.*1056: 261-278 (CI=54, IF=3.155)
9. M.Bhatnagar, P Rao, A Saxena, R Bhatnagar, P Meena, S Barbar, A Chouhan, S Vimal (2006) Biochemical Changes in brain and other tissues of young adult female mice from fluoride in their drinking water. *Fluoride* 39: 280- 284 (CI=17, IF=0.824)
10. M. Bhatnagar, D.Sharma, M.Salvi (2009) Neuroprotective effects of *Withania somnifera* Dunal: A possible mechanism *Neurochemical Res.* 34:1975-1983 (CI=16, IF=2.376)

CHANDRA, Amar Kumar (b. 1951) Professor, Dept. of Physiology, University of Calcutta, Kolkata - 700009

Member of the NASI : No

(YON 2011, Animal Sciences)

Prof. Amar K Chandra is an investigator in the fields of thyroid and male gonadal physiology and has made significant contributions to this field. His epidemiological studies on IDD in Eastern and North Eastern India, sub-Himalayan tarai flat lands (in the foot hills of Himalayas) revealed that endemic goiter, is still prevalent in those regions in spite of adequate iodine supplementation. Based on *In vivo* and *in vitro* studies on animals, he showed that region specific dietary factors e.g. cyanogenic constituents of bamboo shoots etc., flavonoid containing polyphenolic constituents of tea, excess calcium and magnesium salts of drinking, even excess iodine in environment and salt other than iodine deficiency are responsible for the occurrence of thyroid disorders in those regions. The possible mode of prevention of these goitrogenic effects has also been suggested.

His group has also demonstrated the deleterious effects of chromium and vanadium (heavy metals), calcium and magnesium (hard water constituents), excess iodine in edible salt, catechin in tea (flavonoids) etc. on male gonadal functions and their amelioration by dietary or parenteral supplementation with antioxidant vitamin E, curcumin, zinc, testosterone. The biochemical details have been worked out.

Dr. Chandra, in addition to publishing more than 60 articles in peer reviewed journals, book chapters has also mentored 15 PhDs and supervised many dissertations of PG students on the topic of his interest. At present, Dr. Chandra is the General Secretary, Physiological Society of India, Secretary, Federation of Indian Physiological Societies (FIPS) and Member of ICMR Task Force Study on IDD.

Proposer : Prof. (Dr.) E. Vijayan, **Seconder** : Prof. (Dr.) K. Muralidhar

1. Chandra A K and Ray I (2002): Evaluation of the effectiveness of salt iodization status in Tripura, north east India. *Indian J Med Res* 115: 22-27 (CI= 15 times, IF= 1.837)
2. Chandra A K, Ghosh D, Mukhopadhyay S and Tripathy S (2004): Effect of bamboo shoot, *Bambusa arundinacea* (Retz.) Willd. on thyroid status under conditions of varying iodine intake in rats. *Indian J Exp Biol* 42: 781-86 (CI= 11 times, IF= 1.295)
3. Chandra A K, Mukhopadhyay S, Lahari D and Tripathy S (2004): Goitrogenic content of cyanogenic plant foods of Indian origin and their anti-thyroidal activity in vitro. *Indian J Med Res* 119:180-185 (CI= 23 times, IF= 1.837)
4. Chandra A K, Tripathy S, Ghosh D, Debnath A and Mukhopadhyay S (2005): Iodine nutritional status & Prevalence of goitre in Sundarban delta of South 24- Parganas, West Bengal, *Indian J Med Res*.122 (5): 419-424 (CI=15 times, IF= 1.837)
5. Chandra AK, Chatterjee A, Ghosh R, Sarkar M, Chaube SK (2007): Chromium Induced Testicular Impairment in Relation to Adrenocortical Activities in Adult Albino Rats. *Reproductive Toxicology*, 24(3-4):388-96 (CI= 7 times, IF= 3.667)
6. Chandra AK, Ghosh R, Chatterjee A, Sarkar M (2007): Effects of Vanadate on Male Rat Reproductive Tract Histology, Oxidative Stress Markers and Androgenic Enzyme Activities. *J Inorg Biochem*, 101(6), 944-956 (CI= 13 times, IF= 3.495)
7. Chandra AK, Ghosh R, Chatterjee A, Sarkar M (2007): Amelioration of vanadium induced testicular toxicity and adrenocortical hyperactivity by vitamin E acetate in rats. *Mol Cell Biochem*, 306 (1-2), 189-200 (CI= 8 times, IF= 2.057)
8. Chandra AK, Bhattacharjee A, Malik T, Ghosh S (2008): Goiter prevalence and iodine nutritional status of school children in Sub-Himalayan tarai (flat land) region of eastern Uttar Pradesh, *Indian Pediatrics*, 45(6):469 – 475 (CI= 8 times, IF= 1.048)
9. Chandra AK, Chatterjee A, Ghosh R, Sarkar M (2010): Vitamin E-supplementation protect chromium (VI)-induced spermatogenic and steroidogenic disorders in testicular tissues of rats, *Food Chem Toxicol* 48: 972–979 (CI= 7 times, IF= 3.078)
10. Chandra AK, N De (2010): Goitrogenic/antithyroidal potential of green tea extract in relation to catechin in rats, *Food Chem Toxicol* 48: 2304-2311 (CI= 7 times, IF= 3.078)

CHOUBISA, SHANTI LAL (b 1954), Regional Editor, Fluoride, Assoc. Prof. and Head, Dept. of Zoology, Govt. Meera Girls College, Udaipur 313001, India

Member of the NASI: Yes

(YON 2011, Animal Sciences)

I know Dr. S. L. Choubisa by worth of his outstanding contribution in the field of 'hydrofluorosis' in humans and domestic animals. He has investigated the genesis of diverse abnormalities in teeth, bones, and other soft organs due to chronic fluoride intoxication through drinking water. He has reported hydrofluorosis for the first time in camels and equines. He has detected the cause of amelioration of the fluorotoxicosis in browsers (camels and flocks) and also reported that bovines (cattle and buffaloes) are highly susceptible and sensitive to fluoride. Recently, Dr. Choubisa has also investigated that bovine-calves are ideal bio- indicators for fluoridated drinking water and endemic osteo-dental fluorosis. He has also derived a scientific formula by which severity of fluorosis can be detected. Apart from fluorotoxicosis, Dr. Choubisa has also done a commendable research work on 'haemoglobinopathies in relation to malaria'. He has reported that tribals of Rajasthan are protected naturally from malaria by the presence of sickle-cell, beta- thalasseamic, and G-6-PD enzyme deficiency genes. In India, Hb-C gene was detected for the first time by Dr. Choubisa. He has also contributed in the field of parasitology and reported the mechanism of histopathogenesis and parasitic castration by larval trematode parasites in aquatic snails. He has published >100 research papers in national and International journals and his research works, Fluorosis and Haemoglobinopathies are also recognized by I.C.M.R. awards. Dr. Choubisa has also published >180 scientific general articles in leading news papers and magazines.

Proposer : Prof. V. P. Sharma, **Secorder** : Dr. G. C. Mishra

Ten Best Publications:

1. Choubisa SL, Sompura K, Bhatt SK et al. (1996) Prevalence of fluorosis in some villages of Dungarpur district of Rajasthan. Indian Journal of Environmental Health, 38(2): 119-126. (ci=24)
2. Choubisa SL, Choubisa DK, Joshi SC, Choubisa L (1997) Fluorosis in some tribal villages of Dungarpur district of Rajasthan, India. Fluoride, 30(4): 223-228. (if=0.824, ci=21)
3. Choubisa SL (1999) Chronic fluoride intoxication (fluorosis) in tribes and their domestic animals. International Journal of Environmental Studies, 56(5):703-716. (if=1.829, ci=12)
4. Choubisa SL (1999) Some observations on endemic fluorosis in domestic animals of southern Rajasthan (India). Veterinary Research Communications 23(7): 457-465. (if=1.076, ci=48)
5. Choubisa SL (2001) Endemic fluorosis in southern Rajasthan (India). Fluoride, 34(1): 61-70. (if=0.824, ci=95)
6. Choubisa SL, Choubisa L, Choubisa DK (2001) Endemic fluorosis in Rajasthan. Indian Journal of Environmental Health, 43(4):177-189.(ci=44)
7. Choubisa SL (2007) Fluoridated ground water and its toxic effects on domesticated animals residing in rural tribal areas of Rajasthan (India). International Journal of Environmental Studies, 64(2):151-159. (if=1.829, ci=17)
8. Choubisa SL (2010) Osteo-dental fluorosis in horses and donkeys of Rajasthan, India. Fluoride, 43(1):5-10. (if=0.824, ci=10)
9. Choubisa SL (2010) Natural amelioration of fluoride toxicity (Fluorosis) in goats and sheep. Current Science, 99(10):1331-1332.(if=0.935, ci=10)
10. Choubisa SL, Mishra GV, Sheikh Z et al. (2011) Food, fluoride, and fluorosis in domestic ruminants in the Dungarpur district of Rajasthan, India. Fluoride, 44(2):70-76. (if=0.824, ci=9)

DEY, SUDIP (b 1957), Scientific Officer, Sophisticated Analytical Instrument Facility, North Eastern Hill University, Shillong

Member of the NASI: Yes

(YON 2011, Animal Sciences)

- The nominee developed a simple, rapid air-drying method for Scanning microscopy (Dey et al., 1989) which is recognized internationally as the best technique for animal cells (Ting Beal et al., 1995)
- He has discovered a new biological structure in the silk moth *Antheraea assamensis* (Dey, 1999) exhibiting multi-sensory function relevant to the unique eco physiology, of the insect, which can be utilized for developing strategies for its hither to unsuccessful indoor rearing.
- The nominee has provided the only plausible explanation for the biological mystery of refractive index gradation in medulla and cortex of fish lens by demonstrating differential distribution of elements (having different optical properties) through SEM-EDK (Dey, 1992).
- Electron microscopic, ESR, IR, AAS detection of some nano- structured biomaterials with antireflective and bio-capacitor properties respectively (Dey, 1988; Dey et al., 1998) are likely to have technological applications as models.
- Electron microscopic and biochemical evidence of high serum level of ascorbic acid as antidote for lead toxicity; environmental acid stress causing population decline in some hill-stream fishes; involvement of pesticide in fish disease, EUS are the other innovations of the nominee.
- By detecting and utilizing gravity-receptors & UV-reflecting wing scales governing correct feeding posture and auto-coupling respectively in *Antheraea assamaensis*, the nominee could achieve three-fold increase in food consumption and cent percent auto-coupling in contrast to 30-50% in conventional methods (Dey et al., 2002; Dey et al. 2011), thereby increasing silk out put significantly.

Proposer : Prof.N.Saha, **Seconder** : Prof. Ramesh Sharma,

Ten Best Publications:

1. Sudip Dey (1988): Scanning electron microscopic detection of corneal antireflection coating in the grasshopper, *Epacromia dorsalis* and its physiological significance. Vision Res. (UK). 28: 975-977. (if=2.512, ci=10)
2. Sudip Dey, TS. Basu Baul, B Roy & D Dey (1989): A new rapid method of air-drying for scanning electron microscopy using tetra-methyl silane. J. Microscopy. (Oxford). 156: 259-261. (if=1.612, ci=56)
3. Sudip Dey & B Dkhar (1992): An unusual type of corneal nipple in the earwig *Forficula* sp. with a possible anti reflection role. Micron. Microsc. Acta. (UK). 23: 337-339. (if=1.626, ci=9)
4. Sudip Dey, RNK Hooroo & D Wankhar (1995): Scanning electron microscopy studies on the external morphology of sensilla on the legs of a butterfly, *Graphium sarpedon* (Lepidoptera: Papilionidae), Micron. (UK). 26 (5): 367 – 376. (if=1.783, ci=10)
5. Sudip Dey, RNK Hooroo & N Biswas (1997). Dendritic organization of prominent sensory structures on the body of the first instar larva of the muga silk moth *Antheraea assmensis*. Cytobios. (UK). 92: 99-110. (if=1.0, ci=6)
6. Sudip Dey, RNK Hooroo & CR Bhattacharjee (1998): Electron microscopic and Spectroscopical studies on the coloured patches on the wing of a butterfly, *Graphium sarpedon* (Lepidoptera: Papilionidae) with reference to their photo-biological and electrical properties. Pigment Cell Res. (USA). 11 (1): 1-11. (if=4.29, ci=7)
7. Sudip Dey, S Singh, NJ Dhar, N Biswas, R Chakraborty, PK Das & DK Sharma (2002): Possible relationship between dorsal campaniform sensilla in head surface and preferred feeding posture of muga silk worm, *Antheraea assama* during indoor rearing. Sericologia. (France). 42(2): 171-180. (if=1.031, ci=6)
8. Sudip Dey, B Sinha & J Kalita, (2005): Effect of Eupatorium adenophorum Spreng leaf extracts on the mustard aphid, *Lipaphis erysimi* Kalt: a scanning electron microscope study. Microsc. Res. Tech. (USA). 66,1,31-36 (if=1.851, ci=18)
9. Bashida Massar, Sudip Dey (2013): Ultra-structural Abnormalities in Liver of *Cyprinus carpio* L. caused by Municipal wastes and other pollutants in the reservoir, Umiam (India). J.Toxicol.Health,103:312-319) (if=4.72, ci=Recently published(Dec,2014))
10. Eva M.Pala, Sudip Dey, A.Borkotoki and Kevin H. M. Pala (2014): Electron Microscopic studies on the gills of a fresh water fish *Channa gachua* inhabiting a North East Indian hill stream, Umkhrah, contaminated by municipal wastes. J. Toxicol.Health,104:369-380(if=4.72, ci=Recently published (Feb,2014))

GARG, LALIT C (b 1952), Staff Scientist VII, National Institute of Immunology, New Delhi

Member of the NASI: No

(YON 2011, Animal Sciences)

The major focus of Dr. Garg's research has been to unravel the molecular mechanisms of infectious diseases to explore new drug targets and development of vaccines against pathogenic bacteria. His work on epsilon and beta toxins of *Clostridium perfringens*, a major cause of veterinary enteric disease, has led to the development of vaccine against the pathogen. Dr. Garg has been able to translate his basic research into a technology. The technology for epsilon toxin has been transferred to an industry and clinical trials are under progress. Using structure- function analysis, he has identified the amino acid residues which are crucial to the toxicity of the epsilon toxin. His work on heat-labile enterotoxin B subunit from enterotoxigenic *Escherichia coli*, a diarrhea causing organism, has clearly demonstrated that the integrity of the N-terminal $\alpha 1$ helix of LTB is essential for its stability (PNAS).

Dr. Garg has been engaged in the field of recombinant proteins of therapeutic importance. He holds the distinction of being the first to submit any gene sequence (growth hormone) of buffalo (*Bubalus bubalis*) to the Gene Bank in 1993. He has successfully expressed both the buffalo and human growth hormone in large amounts using bacterial expression systems and transferred the technology for their industrial production to an industry.

He contributed immensely in advancing our knowledge in regulation of rDNA transcription by demonstrating the role of DNA topoisomerase I in the transcription of supercoiled rDNA and identifying the functional enhancer motifs of rat ribosomal gene.

Proposer : Prof A. Surolia, **Secunder** : Dr. Sher Ali

Ten Best Publications:

1. Chatrath S, Gupta VK and Garg LC (2014) The PGRS domain is responsible for translocation of PE_PGRS30 to cell poles while the PE and the C-terminal domains localize it to the cell wall. FEBS Lett. 2014 Feb 11., doi: 10.1016/j.febslet.2014.01.059. (if=3.582)
2. Mathur DD, Deshmukh S, Kaushik H and Garg LC (2010) Functional and structural characterization of soluble recombinant epsilon toxin of *Clostridium perfringens* D, causative agent of enterotoxaemia. Applied Microbiol Biotechnol. 88(4):877-84. (if=3.689, ci=5)
3. Chandran D, Naidu SS, Sugumar P, Rani GS, Vijayan SP, Mathur D, Garg LC and Srinivasan VA (2010) Development of a recombinant epsilon toxoid vaccine against enterotoxemia and its use as a combination vaccine with live attenuated sheep pox virus against enterotoxemia and sheep pox. Clin. Vaccine Immunol. 17(6):1013-1016. (if=2.598, ci=10)
4. Alone P, Malik G, Krishnan A and Garg LC (2007). Deletion mutations in N-terminal alpha1 helix render heat labile enterotoxin B subunit susceptible to degradation. Proc Natl Acad Sci U S A, 104 (41): 16056-61. (if=9.737, ci=6)
5. Patra AK, Mukhopadhyay R, Mukhija R, Krishna A and Garg LC, Panda AK (2000) Optimization of inclusion body solubilization and renaturation of recombinant human growth hormone from *Escherichia coli*. Protein Expr Purif., 18(2):182-92. The paper topped the list of most downloaded papers of the journal during the year of publication. (if=1.429, ci=151)
6. Pillai D, Dixit A, Krishnan T, Garg LC (1996) Production of the B-subunit of human chorionic gonadotropin in *Escherichia coli* and its export mediated by the heat labile enterotoxin chain-B signal sequence. Gene, 173: 271-74. (if=2.196, ci=14)
7. Goswami P, Rupa P, Prihar NS and Garg LC (1996) Molecular cloning of *Clostridium perfringens* epsilon-toxin gene and its high level expression in E. coli. Biochem. Biophys. Res. Commun., 226: 735-740. (if=2.406, ci=20)
8. Mukhija R., Rupa P, Pillai D and Garg L.C. (1995). High level expression and one step purification of biologically active human growth hormone in E. coli. Gene, 165: 303-306. (if=2.196, ci=52)
9. Garg LC, Dixit A. and Jacob ST (1989). A 37-basepair element in the far upstream spacer region can enhance transcription of rat rDNA in vitro and can bind to the core promoter-binding factor(s). J. Biol. Chem., 264: 220-224. (if=4.651, ci=15)
10. Garg LC, DiAngelo S and Jacob ST (1987). Role of DNA topoisomerase I in the transcription of supercoiled rDNA. Proc. Natl. Acad. Sci. U.S.A., 84: 3185- 3188. (if=9.737, ci=78)

GOMES, ANTONY (b 1951), PROFESSOR, DEPARTMENT OF PHYSIOLOGY, UNIVERSITY OF CALCUTTA, KOLKATA – 700009

Member of the NASI: No

(YON 2011, Animal Sciences)

1. Prof. Gomes has established the importance of Herbs in snake bite. He has identified several anti snake venom herbal compounds [Toxicon, 1994; Journal of Ethnopharmacology, 2006; Phytomedicine, 2007; OPEM, 2011]. Prof. Gomes has proposed a new idea for the treatment of snake bite in the rural areas, where antiserum may be given along with herbal antidote, thereby providing double protection [Toxicon, 1998].
2. Prof. Gomes has identified a peptide from Indian king cobra venom, having fibrinolytic activity (Patent No. 189277 / 2008) [Biophys Biochem Res Comm, 1999]. He has also identified a long chain aliphatic compound having antiarrhythmic property (US Patent No : 7,018,659/ 2006). This is in the process of commercialization by ICMR (2012)
3. A heat stable protein toxin from Indian viper venom having anticancer activity has been identified [Toxicon, 2007]. Anticancer activity of scorpion venom has been established for the first time [Leukemia Research, 2007]. A non-protein & protein compound has been isolated from the toad skin extract that induced antiproliferation and apoptosis in cancer cells [Toxicon, 2007 & 2011]. The non protein compound synergistically acted with Curcumin in colon cancer cells [Anticancer Research, 2009].
4. Prof Gomes have established the anti osteoporotic & anticancer activity of a protein toxin (Bengalin) from scorpion venom [Toxicon, 2010 & Chemico-Biological Interactions, 2010]. For the first time, Prof. Gomes have established the antiarthritic activity of Indian Cobra venom (Toxicon, 2010).
- 5 With on-going DBT research project, successful conjugation of Gold nano particle with cytotoxic protein NK-CT1 was done to increase the Cytotoxicity & decrease toxicity (Accepted, 2013)

Proposer : Dr. Hemanta K. Majumder, Secondar : Dr. S. Roy

Ten Best Publications:

1. M I Alam & Antony Gomes. (2003) Snake venom neutralization by Indian medicinal plants (*Vitex negundo* and *Emblica officinalis*). Journal of Ethnopharmacology, 2867, 1-6 (IF=2.260, CI=106)
2. M I Alam, B Auddy & Antony Gomes. (1994) Isolation, purification and partial characterization of viper venom inhibiting factor from the root extract of Indian medicinal plant sarsaparilla (*Hemidesmus indicus* R. Br.). Toxicon, 32, 1551-1557 (IF=2.460, CI=62)
3. M I Alam & Antony Gomes. (1998) Adjuvant effects and antiserum action potentiation by a herbal compound 2-hydroxy-4-methoxy benzoic acid isolated and purified from the root extract of the Indian medicinal plant "Sarsaparilla". Toxicon, 36, 1423-1431 (IF=2.460, CI=46)
4. Ipshita Chatterjee, A. K. Chakravarty, Antony Gomes. (2006) *Daboia russellii* and *Naja kauthia* venom neutralization by lupeol acetate isolated from the root extract of Indian Sarsaparilla *Hemidesmus indicus* R. Br., Journal of Ethnopharmacology, 106, 38-43 (IF=2.260, CI=42)
5. M I Alam, B Auddy & Antony Gomes. (1996) Viper venom neutralization by Indian medicinal plants *Hemidesmus indicus* and *Pluchea indica* root extract. Phytotherapy Research, 10, 58-61 (IF=1.43, CI=41)
6. Antony Gomes, Archita Saha, Ipshita Chatterjee and A. K. Chakravarty. (2007) Viper and Cobra venom neutralization by β -sitosterol and stigmasterol isolated from root extract of *Pluchea indica* Less (Asteraceae). Phytomedicine, 14, 637-643 (IF=2.330, CI=41)
7. Antony Gomes, P Bhattacharjee, R Mishra, A K Biswas, S C Dasgupta, B Giri, Anindita Debnath, Shubho Das Gupta, Tanaya Das Aparna Gomes, (2010) Anticancer Potential of Animal Venoms & Toxins. Indian Journal of Experimental Biology, 48 (2), 93-103 (IF=1.295, CI=27)
8. Nazmun Lyle, Antony Gomes, Tapas Sur, Santanu Munshi, Suhrita Paul, Suparna Chatterjee, Dipankar Bhattacharyya, (2009) The role of antioxidant properties of *Nardostachys jatamansi* in alleviation of the symptoms of the chronic fatigue syndrome, Behavioural Brain Research, 202, 285–290 (IF=3.171, CI=23)
9. B Giri, A Gomes, A Debnath, A Saha, A K Biswas, S C Dasgupta and Antony Gomes. (2006) Antiproliferative, cytotoxic and apoptogenic activity of Indian toad (*Bufo melanostictus*, Schneider) skin extract on U937 & K562 cells. Toxicon, 48, 388-400 (IF=2.460, CI=18)
10. Antony Gomes and Pallabi De. (1999) Hannahpep : A novel fibrinolytic peptide from the Indian king cobra (*Ophiophagus hannah*) venom. Biochem Biophys Research Communication 266, 488-491 (IF=2.648, CI=15)

GOYAL, NEENA (b 1962), Sr. Principal Scientist (Scientist F), CSIR-Central Drug Research Institute, Lucknow - 226001

Member of the NASI: No

(YON 2011, Animal Sciences)

Dr. Neena Goyal has made outstanding contributions in the rational drug development program against visceral Leishmaniasis, a major tropical threat in Indian subcontinent. She has developed a long term axenic culture of amastigotes, the pathogenic stage of the parasite, *Leishmania donovani*. She established that these axenic amastigotes are bonafide amastigotes, hence can be used as model for basic and applied research. She was first to establish transgenic cell lines of *L. donovani* promastigotes and amastigotes that constitutively express luciferase gene and developed a simple, highly sensitive, HTS compatible, primary screen which is in routine use at CDRI for anti-leishmanial compound screening. She has also developed and patented a process for large scale production of trypanothione reductase, a validated drug target. This is the first biological patent (US) from CDRI. Using DNA microarray, she, for the first time, discovered a differentially expressed gene, encoding dipeptidylcarboxypeptidase enzyme (LdDCP) in kinetoplastid parasite and established it as novel drug target. She has also identified four potential lead compounds (LdDCP inhibitors) with promising in vivo efficacy. She has demonstrated that the mechanism of antimony resistance in field isolates is different from laboratory mutants and is multi-factorial. She has explored this multiplicity by transcriptome analysis and has identified novel resistance related genes. She for the first time demonstrated that downregulation of Mitogen activated protein kinase1 is associated with clinical antimony resistance. She is the recipient of INSA and CSIR Young Scientist Awards and her students have also secured Best paper, Young Scientist and other awards.

Proposer : Prof. T.K. Chakraborty, **Second**er : Dr. Vinod Bhakuni

Ten Best Publications:

1. Bhaskar, Neeti Kumari, Neena Goyal*. Cloning, characterization and sub-cellular localization of gamma subunit of T-complex protein-1 (chaperonin) from *Leishmania donovani*. BBRC, 429: 70-74 (IF=2.52, CI=NA)
2. Ashutosh, Garg M, Sundar S, Duncan R, Nakhasi HL, Goyal N*. (2012) Downregulation of mitogen-activated protein kinase 1 of *Leishmania donovani* field isolates is associated with antimony resistance. Antimicrob Agents Chemother. 56:518-25. (IF=4.802, CI=1)
3. Baig, M.S., Kumar, A., Siddiqi, M.I., Goyal, N*. (2010) Characterization of dipeptidylcarboxypeptidase of *Leishmania donovani*: a molecular model for structure based design of antileishmanials. J. Computer-Aided Mol. Des. 24, 77-87 (IF=3.83, CI=5)
4. Ashutosh, Shyam Sundar and N. Goyal*. (2007) Mechanism of antimony resistance in *Leishmania* J. Medical Microbiology 56, 143-153, (IF=2.27, CI=60)
5. Mittal, M. K., Rai, S., Ashutosh, Ravinder, Gupta, S., Sundar, S. and Goyal, N*. (2007) Characterization of natural antimony resistance in *Leishmania donovani* isolates. Am. J. Trop. Med. Hyg. 76, 681-688 (IF=2.79, CI=48)
6. Goyal, N*, Duncan, R., Selvapandiyar, A., Debrabant, A., Baig, M. S. and Nakhasi, H. L. (2006) Cloning and characterization of angiotensin converting enzyme related dipeptidylcarboxypeptidase from *Leishmania donovani*. Mol. Biochem. Parasitol., 145,147-157 (IF=2.95, CI=12)
7. Ashutosh, Gupta, S., Ramesh, Sundar, S. and Goyal, N*. (2005) Use of *Leishmania donovani* field isolates expressing the luciferase reporter gene in in vitro drug screening. Antimicrob. Agent Chemother. 49, 3776-3783 (IF=4.802, CI=35)
8. Mittal, M.K., Misra, S., Owais, M. and Goyal, N*. (2005) Expression, purification and characterization of *Leishmania donovani* trypanothione reductase in E.coli. Protein Expression and Purification, 40, 552-556, (IF=1.56, CI=10)
9. Gupta, N., Goyal N. and Rastogi, A.K. (2001) Cultivation and Characterization of axenic amastigotes of *Leishmania*. Trends in Parasitology, 17,150-153 (IF=4.69, CI=68)
10. Goyal, N*, Roy, U. and Rastogi, A.K. (1996) Relative resistance of promastigotes and amastigotes of a virulent and avirulent strains of *Leishmania donovani* to hydrogen peroxide. Free Rad. Biol. Med., 21, 638-639 (IF=6.0, CI=9)

SINGH, DILEEP K (b 1957), Associate Professor, Department of Zoology, University of Delhi, Delhi-110007

Member of the NASI: Yes

(YON 2011, Animal Sciences)

Dr. D. K. Singh is working on the development of pesticide residue analysis methods, impact of pesticide usage on soil health, biodegradation of pesticide by microbes, trace-ability of food and feeds in India. His one of the paper published in J. Agric. Food Chemistry 40 (9): 1713-1716 (1992), has been used as protocol for DDT residue analysis by FAO/IAEA, the protocol was published in J. Environ. Science and Health B29 (i) 202 : 1994. He has made significant contribution in the area of soil health studies and published papers in Chemosphere 55 (2) : 197-205, 2004, Chemosphere 60 : 32-42, 2005 and J. Agric. Food Chemistry 53 : 363-368, 2005. He has isolated microbes capable of degrading monocrotophos and able to demonstrate the enzyme responsible for monocrotophos degradation. The work is published in Canadian J. of Microbiology 49 (2) : 101-109 2003 and Canadian J. Microbiology 52 : 157-168, 2006. He has submitted 43 new microbial genes from the agricultural soil to Gene Bank, Accession no. HM063700 to HM063742. He is working on the development of enzyme as technology for biodegradation of pesticides in field conditions. He has also started work on waste water irrigation and its impact on soil microbes of peri-urban agricultural fields. He has demonstrated that Yamuna river water is contaminated by heavy metals and pathogenic microbes. He has reported two new species of nitrogen metabolizing bacteria from India (Annals of Microbiology, 2013 & 2014). In view of his significant contributions in science, I propose his name for the fellow of the academy.

Proposer : Prof. V.P.Sharma, **Second**er : Prof. H.C. Agarwal

Ten Best Publications:

1. Madhu and Dileep K. Singh (2014) Endosulfan induced alteration in bacterial protein profile and RNA yield of *Klebsiella* sp. M3, *Achromobacter* sp. M6, and *Rhodococcus* sp. M2. Journal of Hazardous Materials 265 : 233-241, DOI 10.1016/j.jhazmat.2013.11.061. (if=3.925, ci=0)
2. Singh N. Sarat and Dileep K. Singh (2011) Biodegradation of Endosulfan and Endosulfan sulfate by *Achromobacter xylosoxidans* strain C8B, broth medium. Biodegradation 25 (5): 845-857, DOI : 10.1007/s10532-010-9442-0 (if=2.017, ci=7)
3. Goswami S. Komal Vig and Singh D.K. (2009) Biodegradation of α and β Endosulfan by *Aspergillus syndoni*, Chemosphere 75:883-888 (if=3.137, ci=17)
4. Singh D.K. and Kumar S. (2008) Nitrate reductase, arginine deaminase urease and dehydrogenase activities in natural soil (ridges with forest) and in cotton soil after acetamidrid treatments. Chemosphere 71 : 412-418. (if=3.137, ci=32)
5. Vig K., Singh D.K., Agarwal H.C., Dhawan A.K. and Dureja P. (2008) Soil microorganisms in cotton fields sequentially treated with insecticides. Ecotoxicology and Environmental Safety 69 : 263-276. (if=2.294, ci=15)
6. Sushma Pandey and Dileep K. Singh (2006) Soil dehydrogenase and phosphomonoesterase and arginine deaminase activities in an insecticide treated groundnut (*Arachis hypogaea* L.) soil. Chemosphere 63: 869-880. (if=3.137, ci=15)
7. Singh J. and Singh D.K. (2005) Dehydrogenase and phosphomonoesterase activities in groundnut (*Arachis hypogaea* L.) field after imidacloprid, diazinon and lindane treatments. Chemosphere 60 : 32-42 (if=3.137, ci=32)
8. Pandey S. and Singh D.K. (2004) Total bacterial and fungal population after chlorpyrifos and quinalphos treatments in groundnut (*Arachis hypogaea* L.) soil Chemosphere 55 : 197-205 (if=3.137, ci=38)
9. Das S. and Singh D.K. (2003) Utilization of Monochrotophos as phosphorus source by *Pseudomonas aeruginosa* and *Clavibacter michiganense insidiosum*. Canadian J. of Microbiology 49 : 101-109, (if=1.363, ci=13)
10. Singh D.K. and Agarwal H.C. (1992) Chemical Release and nature of soil bound residues of DDT in soil. J. Agricultural Food Chemistry 40:1713 – 1716. (if=2.906, ci=16)

BISWAS, SUBHASISH (b 1961), Director of Research, Extension and Farms and Controller of Examination (Actg.), West Bengal University of Animal & Fishery Sciences, Kolkata

Member of the NASI: No

(YON 2010, Animal Sciences)

Professor Subhasish Biswas served the department as Head continuously for 12 years and promoted the department to Ph.D. level. He was the PI of two ICAR projects and guided 20 Masters' and 5 Ph.D. scholars. Presently he is Director of Research, Extension and Farms and Controller of Examination (Actg.), West Bengal University of Animal & Fishery Sciences, Kolkata apart from his teaching assignment as Professor in the Department. He is associated with different National Institutions as Academic Expert in his subject. He was awarded Fellow of National Academy of Veterinary Sciences and Society of Applied Biotechnology, Member, National Poultry processing Board, Govt. of India and also received RRKS Award from Indian Society of Veterinary Research and Advancement for his contribution to the Veterinary Research. He is having a number of books and nearly 100 publications in national and International Journals of repute. He attended special appreciation in OIE Conference, 2008 at Bangkok for his presentation on Food Microbiology. He represented West Bengal to formulate the Food Policy of the SAARC Countries organized at Dacca, Bangladesh by Cornell University. He is the Coordinator between University and National Meat and Poultry processing Board, Government of India and organized a series of programme for propagating and developing human resources to face the challenges of meat industry for the coming days.

I am personally acquainted with the scientific work of Prof. Biswas and it is my pleasure to propose his name to elect as the Fellow of 'The National Academy of Sciences', India.

Proposer : Prof. Hemanta K. Majumder, **Secunder** : Prof. Susanta Roychoudhury

Ten Best Publications:

1. U. Biswas, S. Sarkar, M.K. Bhowmik, A. K. Samanta and S. Biswas (2000). Chronic Toxicity of Arsenic in Goats: Clinico-biochemical changes, Pathomorphology and tissue residues. *Small Ruminant research*. 38: 229-235 (*if=1.124, ci=38*)
2. M. Sinhamahapatra, S. Biswas, A. K. Das & D. Bhattacharyya. (2004). Comparative study on effect of different surface decontaminants on chicken quality. *British poultry Science*, 45(5): 624-630. (*if=1.15, ci=17*)
3. D. Bhattacharya, M. Sinhamahapatra & S. Biswas. (2007). Preparation of Sausage from Spent Duck-an acceptability study, *International Journal of Food Science and Technology*. 42:24-29. Black Well Publication (*if=1.24, ci=21*)
4. S. Biswas, Arun K. Das, R. Banerjee, N. Sharma (2007), Effect of electrical stimulation on quality of tender stretched chevon sides. *Meat Science* 75 (2007): 342-346 (*if=2.754, ci=11*)
5. Biswas, S., Banerjee, R., Chakraborty, A., Borpuzari, RN, (2007) Effect of electrical stimulation on carabeef quality, *Journal of food science and technology*, 44(5): 487-490. Published by AFST (I). (*if=1.123, ci=05*)
6. Arun K Das, A.S.R. Anjaneyulu, S. Biswas, (2006) Effect of carnosine preblending on the quality of ground buffalo meat. *Food chemistry*, 97: 531-538. (*if=4.072, ci=17*)
7. Subhasish Biswas, Apurba Chakraborty, Sanjib Sarkar, Rajendra N. Barpuzari and Trishna Barpuzari (2007). Effect of Incorporation of Chicken Fat and Skin on Quality of Chicken Sausages. *The Journal of Poultry Science, Japan*. 44(1): 111-115. (*if=0.684, ci=01*)
8. Biswas, S., Chakraborty, A. and Sarkar, S. (2006). Comparison among the qualities of the chicken broiler, spent hen and duck meats. *The Journal of Poultry Science*. 43:180-186. Published by Japan Poultry Science Association (*if=0.684, ci=12*)
9. Vijayakumar, K. S. and S. Biswas (2006). Quality and storage stability of enrobed duck cutlet. *Journal of Food Science and Technology*, 43(2):154-156 (*if=1.123, ci=01*)
10. S. Hazra, S. Biswas, D. Bhattacharyya, S. K. Das and A. Khan; (2011). Quality of cooked ground buffalo meat treated with the crude extracts of *Moringa oleifera* (Lam.) leaves; *Journal of Food Science & Technology*: 49(2): 240-245 (*if=1.123, ci=02*)

MISRO, MAN MOHAN (b 1953), Professor, National Institute of Health and Family Welfare, New Delhi - 110067

Member of the NASI: No

(YON 2010, Animal Sciences)

Understanding the molecular pathways of regulation of germ cell proliferation and removal would provide insights for an effective intervention to develop a new contraceptive methodology for the male which at present is limited. In the process of developing and testing new methodologies for regulating fertility in the male, Dr.Misro successfully reported the first chemical based non-occlusive contraceptive composition (J Reprod. Fert.1981) which presently is undergoing a Phase 3 clinical trial under the auspices of ICMR and Govt of India. His recent focus was mostly concentrated to understand the physiological mechanisms of effect of hormone withdrawal and oxidative stress leading to germ cell removal from the seminiferous epithelium (Apoptosis 2005, 2006, 2007, 2012). The signaling mechanism by which oxidative stress is responsible for the induction of germ and leydig cell apoptosis was elaborately studied and reported by him (FEBS J. 2009, Mol Reprod Dev. 2009, 2010, 2011, Mol.Cell Endocrinol. 2012).

Proposer : Prof.Kasturi Datta, **Seconder** : Prpf.Sher Ali

Ten Best Publications:

1. Maheshwari A, Misro MM, Aggarwal A, Sharma RK (2012) N-Acetylcysteine modulates multiple signaling pathways to rescue male germ cells from apoptosis induced by chronic hCG administration to rats. *Apoptosis*: 17:551-565 (IF=4.798 (2011), CI=2)
2. Aggarwal A, Misro MM, Maheshwari A, Sehgal N. (2012) Differential modulation of apoptotic gene expression by NAC in Leydig cells stimulated persistently with hCG in vitro. *Mol Cell Endocrinol*, 348: 155-164 (IF=4.397 (2011), CI=9)
3. Maheshwari A, Misro MM, Aggarwal A, Sharma RK, Nandan D. (2009) Pathways involved in testicular germ cell apoptosis induced by H₂O₂ in vitro. *FEBS Journal* 276:870-881. (IF=3.79 (2011), CI=39)
4. Misro M.M. and Chaki, S.P (2008) Development of a rapid, sensitive and reproducible laboratory test kit for the assessment of plasma membrane integrity of human sperms. *Fertil. Steril.* 89: 223-227 (IF=3.958 (2011), CI=14)
5. Gautam D.K., Misro M.M., Chaki, S.P., Kaushik M. and Sehgal N. (2007) hCG treatment increases H₂O₂ levels and induces germ cell apoptosis in the rat testis. *Apoptosis* 12 (7):1173-1182 (IF=4.798 (2011), CI=13)
6. Gautam D.K, Misro M.M, Chaki S.P. and Sehgal N (2006) H₂O₂ at physiological concentrations modulates Leydig cell function inducing oxidative stress and apoptosis. *Apoptosis* 11:39-46. (IF=4.798, (2011), CI=30)
7. Chaki S.P., Misro, M.M., Ghosh, D., Gautam, D.K. and Srinivas, M. (2005) Apoptosis and cell removal in the cryptorchid rat testis. *Apoptosis* 10 (2): 395-406. (IF=4.798 (2011), CI=24)
8. Misro, M.M., Ganguly, A. and Das, R.P.(1993) is testosterone essential for the maintenance of morphology in Leydig cells in prepubertal rats. *Intl. J. Androl.* 16: 221-226. (IF=3.591 (2011), CI=18)
9. Misro, M.M. and Conn, P.M. (1988) Isolation and characterization of gonadotropin rich secretory granules from rat pituitary: Selective depletion by GnRH and a high affinity agonist. *Mol. cell. Endocrinol.* 55: 131-140. (IF=4.397 (2011), CI=3)
10. Verma, K., Misro, M.M., Singh, H., Mahajan S., Ray, A.R. and Guha, S.K. (1981) Histologic studies on the rat vas deferens in chemical contraception. *J Reprod. Fertil.* 63: 539-542 (IF=3.049 (2011), CI=12)

NALLUR, RAMACHANDRA BASAPPA. (b 1958), PROFESSOR IN ZOOLOGY (GENETICS), COORDINATOR FOR M.Sc., GENETICS, DEPARTMENT OF STUDIES IN ZOOLOGY, UNIVERSITY OF MYSORE, MANASAGANGOTRI, MYSORE- 570006

Member of the NASI: No

(YON 2010, Animal Sciences)

In *Drosophila* genetics, Dr. Ramachandra has been involved in conducting long range interracial hybridization experiments and has evolved new stabilized cytoraces under laboratory conditions which would have taken million of years in nature (Ramachandra and Ranganath, 1986; 1990; 1996). He provides the evidence for "adaptive evolution of genome" due to "recombinational speciation" which illustrates the power of evolution by introgressive hybridization (Harini and Ramachandra, 1999; 2003; Bijaya and Ramachandra, 2010; 2011; Ranjini and Ramachandra, 2009; Ranjini et al., 2011). Induction and isolation of second chromosome specific Indirect Flight Muscle mutants in *Drosophila* involved in myoblast proliferation, myofibril assembly and function was introduced to science by him (Upendra and Ramachandra, 1999; Babu and Ramachandra, 2007; Salvi et al., 2012).

In human genetics, Dr. Ramachandra identified advanced maternal grandmother age as one of the risk factors for young mothers to produce more Down, Turner and Klinefelter syndrome babies (Malini and Ramachandra, 2006; 2007; 2009; 2010). Several novel mutations, SNPs in GATA4, NKX2.5, CRELD1 along with many chromosomal anomalies were identified as risk factors for Congenital Heart Diseases (Smitha and Ramachandra, 2006; Smitha et al., 2006; 2010; Dinesh et al., 2010a,b,c; Kusuma et al., 2010, 2011). Association of several SNPs in candidate genes of both Dyslexia (Saviour and Ramachandra, 2005; 2006; Venkatesh et al., 2011) and Asthma (Mehdi et al, 2009; Parisa et al., 2012) were found for the Indian population. He carried out first genome-wide copy number scan on dyslexics which led to the identification of new genes involved in spinal plasticity.

Proposer : Prof. H.A. Ranganath, **Seconded :** Prof. Mewa Singh

Ten Best Publications:

1. Malini S S and NB Ramachandra (2006), Influence of advanced age of maternal grandmothers on Down syndrome. BMC Medical genetics. 7: 4-12 (IF=2.44, CI=36.)
2. Morros J, Ramachandra NB, Ladurner P., Egger B, Rieger R and V., Hartenstein (2004). The embryonic development of flatworm *Macrostomum* sp. Dev. Genes Evol. 214:220-239 (IF=2.146, CI=35)
3. Ramachandra, NB and HA Ranganath (1986). The Chromosomes of two *Drosophila* races: *D. nasuta nasuta* and *D. nasuta albomicana*. IV. Hybridization and karyotype repatterning. Chromosoma, 93: 243-248. (IF=4.196, CI=29)
4. Upendra Nongthomba and Nallur B. Ramachandra, A (1999) direct screen identifies new flight muscle mutants on the *Drosophila*, second chromosome. Genetics, USA, 71-83 (IF=4.283, CI=17)
5. Smitha R and Ramachandra N.B, (2006). Parental consanguinity increases Congenital Heart Diseases in South India. Annals of Hum. Biol. 33(5/6):519-928. (IF=1.713, CI=21)
6. Ramachandra, NB and HA Ranganath (1985), Supernumerary chromosomes in *Drosophila nasuta albomicana*. Cellular and molecular Life Sciences, 1: 680-681. (IF=7.047, CI=11)
7. Harini BP and NB Ramachandra (2003). Evolutionary experimentation through hybridization under laboratory condition in *Drosophila*: Evidence for Recombinational Speciation. BMC Evolutionary Biology, 3(20): 1-19 On line (IF=3.70, CI=08)
8. Shyamala K. Venkatesh, Anand Siddaiah, Prakash Padakannaya and Nallur B. Ramachandra (2011). An examination of candidate gene SNPs for Dyslexia in an Indian sample. Behavior genetics, 41(1): 105-109. (IF=3.1, CI= 07)
9. Harini BP and NB Ramachandra (1999). Does evolution reduce the body size?: A study in four members of nasuta- albomicans complex of *Drosophila*. Genetica, 105: 1-6. (IF=2.358, CI=08)
10. Parisa Davoodi, P A Mahesh, Amrutha D Holla, G S Vijayakumar, B S Jayaraj, Chandrashekar (2012) and Nallur B Ramachandra S. Serum levels of Interleukin-13 and Interferon-gamma from adult patients with asthma in Mysore. Cytokine, 431-437 (IF=3.53, CI=Not yet.)

RAUT, SRIMANTA KUMAR (b 1947), Reader, Department of Zoology, Calcutta University, Kolkata - 700019

Member of the NASI: Yes

(YON 2010, Animal Sciences)

The nominee has contributed substantially in the field of economic zoology specially on economic malacology. His contribution on the giant African land snail pest is highly acclaimed by the international authorities as is evident from the citation index (45) of the chapter "*Achatina fulica* Bowdich and other Achatinidae as pests in tropical agriculture" (P.53-114) published in the book "Molluscs as crop pests" by CABI Publishing, CAB International, Wallingford, U.K. in 2002. The impact on the introduced snails, *A. fulica*, *Pomacea bridgesii* and *Pysa acuta* on the Indian biodiversity and the concerned ecosystem is well documented by the nominee's research publications in the reputed journals. Nominee's bioecological studies on the medically and economically important malacofauna of India have paved the foundation for the development of management policy for the interacting flora and fauna concerned. His contributions on the agricultural pests is praiseworthy as is evident from his participation in the international conferences either as INSA delegate or as UGC/ Calcutta University delegate or as an invitee delegate.

Proposer : Prof. Biswaranjan Maiti, **Seconder** : Prof. Rabindra Nath Chatterjee

Ten Best Publications:

1. Raut, SK. and Ghose KC. 1979. Viability of sperm in two land snails *Achatina fulica* and Veliger 21:485-487. (IF=0.606, CI=7)
2. Raut SK and Ghose KC. 1982. Viability of sperm in two aestivating land snails J. Moll. Stud. 48 : 84-86. (IF=1.25, CI=10)
3. Raut SK and Ghose KC. 1983. The role of non-crop plants in the protection of Malacological Review 16:95-96. (IF=0.606, CI=8)
4. Raut SK and Panigrahi A. 1988. Egg-nesting in the garden slug *Laevicaulis* Malacological Review 21: 101-107. (IF=0.606, CI=10)
5. Raut SK 1991. Population dynamics of the pestiferous snail. *Achatina* Malacological Review 24: 79-106. (IF=0.606, CI=7)
6. Saha TC and Raut SK 1992. Bioecology of the waterbug *Sphaerodema* Archiv fur Hydrobiol. 124 :239-253. (IF=1.41, CI=16)
7. Raut SK and Panigrahi A. 1994. *Thevetia peruviana* (Family: Apocynaceae) Mem. Inst. Oswaldo Cruz 89:247-250. (IF=0.866, CI=14)
8. Aditya G and Raut SK 2001. Food of the snail, *Pomacea bridgesii* introduced in India. Cur.Sci. 80 :919-921. (IF=0.78, CI=10)
9. Aditya G and Raut SK 2002. Predation potential of the waterbugs Mem. Inst. Oswaldo Cruz 97: 531-534. (IF=0.866, CI=12)
10. Aditya G, Bhattacharya S, Kundu N, Saha GK and Raut SK 2004 Predatory efficiency Bior. Tech 95 :169-172. (IF=4.453, CI=15)

SAXENA, PRABHU NARAIN (b 1955), PROFESSOR & HEAD, DEPARTMENT OF ZOOLOGY, DEAN FACULTY OF LIFE SCIENCE, DR BR AMBEDKAR UNIVERSITY, AGRA

Member of the NASI: Yes

(YON 2010, Animal Sciences)

1. Impact assessment of heavy metal toxicity (mercury, vanadium, arsenic and cobalt): the heavy metals (mercury, vanadium, arsenic cobalt and nickel) have unveiled haematobiochemical, hepatobiochemical and renal dysfunctioning by way of free radicals generations. They are responsible for inducing different types of anaemia adjudged on the basis of qualitative and quantitative alterations. These heavy metals profoundly affect biotransforming enzymes GST, GPx and GR. These alterations have been protected by ameliorative potential and modulating role of active ingredients (antioxidants, flavonoids, tri, sesquiterpenoids and phenolic derivatives) of certain plants viz. Panax, Curcuma, Eucalyptus etc.

2. Quantitative structure activity relationship has been evaluated in between type II pyrethroids with regard to experimental rat model *Rattus norvegicus*. Efficacies of pyrethroids have also been evaluated on the basis of histochemical, histoarchitectural, biochemical, haematobiochemical and haematological changes as electrical interactions are expected to play an important role in molecular activity. An effort was made to correlate electronic properties of molecules with biological activity of pyrethroids. Charges on atoms, molecular electrostatic potential, maps, highest occupies molecular orbital energy (E-HOMO and E-LUMO), homo-lumo gap, localization of homo and lumo, dipole movement, descriptors have been used to study SAR studies in wistar rats.

Proposer : PROF UC SRIVASTAVA, Seconder : PROF KRISHNA MISRA

Ten Best Publications:

1. P Bajpai, K Srivastava, S Shakya, PN Saxena, SM Bhattacharya (2006) Improvement efficacy of existing combination of antifilarial by inclusion of tetracycline in rodent model of Brugian filariasis.. Current Science, 92(5). (if=0.774, ci=4)
2. Jain, A., Rai, A.K., Saxena, P.N. Assessment of toxicity of some penta- and hexacoordinated organotin(IV) and tetracoordinated tin(II) complexes of heterocyclic β -diketones. Bioinorganic Chemistry and Applications 2006, art. no. 60140 (if=1.265, ci=8)
3. Nadda, G., Saxena, P.N., Srivastava, G. Effects of sub-lethal doses of beta-cyfluthrin on mutant *Drosophila melanogaster* (Diptera: Drosophilidae) Applied Entomology and Zoology 40 (2): 265-271 (if=0.699, ci=10)
4. P. Bajpai, S. Vedi, M. Owais, S.K. Sharma, P.N. Saxena and S. Mishra-Bhattacharya (2005) Use of liposomized tetracycline in elimination of *Wolbachia* endobacterium of human lymphatic filariid malayi in a rodent model. J. Drug. Targetting. 13(6):375-381 (if=2.771, ci=18)
5. Nadda, G., P.N. Saxena and G. Srivastava. Effects of beta-cyfluthrin on white and sepia mutants of *Drosophila melanogaster*. J. Environ. Biol., 26(2 suppl.): 363-367. (if=1.359, ci=7)
6. P.N. Saxena and S. Saxena. Structure activity relationship of some cyclopentadienyltitanium (IV) complexes of 1,3-dihydro-1,3-dioxo- α (substituted)-2H-isoindole-2-acetates. Applied Organometallic Chemistry. 5:65-67 (if=1.270, ci=12)
7. Saxena, P.N. and S. Saxena. Insecticidal activity of some penta and hexa coordinated heterocyclic B-diketone derivatives of diorganotin (V) against the store product pest *Rhizopertha*. Applied Organometallic Chemistry. 3 : 279-281. (if=1.270, ci=17)
8. P.N. Saxena and A.K. Saxena. Insecticidal potency of certain organosilicon compounds. Applied Organometallic Chemistry. 2:349-350 (if=1.270, ci=5)
9. Saxena, S., Saxena, P.N., Rai, A.K., Saxena, S.C. The structure of certain newly synthesized non-bridged and bridged cyclopentadienyl titanium complexes and their insecticidal activity. Toxicology 35 (3): 241-244 (if=2.836, ci=11)
10. Saxena, S.C., Saxena, P.N. Cytopathological and numerical changes in haemocytes of *Periplaneta americana* after treatment with malathion Bulletin of Environmental Contamination and Toxicology 34 (6): 842-849 (if=0.609, ci=10)

MEDICAL & FORENSIC SCIENCES
**(Basic and Clinical Medical Sciences, Pharmacology, Anthropology,
Psychology and Forensic Sciences, Human genetics, Reproduction
Biology, Neurosciences, Molecular Medicine)**

ADIGA, SATISH KUMAR (b 1967), Manipal University, Manipal

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Recently, concern has been expressed about the influence of sperm DNA integrity on the abnormal reproductive outcome. Although infertile men may father children with assisted conception, fertilization with DNA-damaged spermatozoa may increase the risk of genetic abnormalities in offspring (Adiga et al., 2010). For the first time, a study from nominee's laboratory has revealed that advanced age and poor quality ejaculates carry spermatozoa with increased DNA fragmentation (Varshini, et al., 2011). However, the DNA fragmentation in the spermatozoa can be effectively eliminated by split ejaculate approach (Kumar et al., 2011) or by supplementing the antioxidants such as vitamin E (Kalthur, et al., 2011). The results of these studies established that the genetic and epigenetic integrity of sperm DNA can be affected by various endogenous and exogenous factors (Adiga et al., 2011). The embryos derived from the DNA damaged sperm show unique damage response pathways (Adiga et al., 2007). However, recent developments in the area of metabolomics are expected to help IVF professionals in selecting healthy embryos (Pudakalakatti, et al., 2013) which have the potential to implant and benefit infertility patients. Considering the fact that in India, male factor infertility remains a significant problem contributing 50% of cases attending infertility clinics and its assessment still relies on the traditional semen analysis, which does not address integrity of the male genome the contributions of Prof. Adiga to assess the level of sperm DNA integrity on the embryonic response and risk associated with fertilizing the oocytes with DNA damaged sperm are of great significance.

Proposer : Prof. A. Jagannatha Rao, Seconded : Prof Polani B Seshagiri

Ten Best Publications:

1. Kumar D, Salian SR, Kalthur G, Uppangala S, Kumari S, Challapalli S, Chandraguthi SG, Hanumanthappa K, Jain J, Kumar P, Adiga SK. Semen abnormalities, sperm DNA damage and global hypermethylation in health workers occupationally exposed to ionizing radiation PLoS One. 2013 Jul 29;8(7):e69927 (if=3.7, ci=0)
2. Pudakalakatti SM, Uppangala S, D'Souza F, Kalthur G, Kumar P, Adiga SK, Atreya HS. NMR studies of preimplantation embryo metabolism in human assisted reproductive techniques: a new biomarker for assessment of embryo implantation potential. NMR Biomed. 2013, 26: 20-7. (if=3.5, ci=3)
3. Salian SR, Kalthur G, Uppangala S, Kumar P, Adiga SK. Frozen-thawed spermatozoa from oligozoospermic ejaculates are susceptible to in situ DNA fragmentation in polyvinylpyrrolidone-based sperm-immobilization medium. Fertil Steril. 2012 Aug., 98: 321-5. (if=4.01, ci=3)
4. Adiga SK, Ehmcke J, Schlatt S, Kliesch S, Westernströer B, Luetjens CM, Wistuba J, Gromoll J. Reduced expression of DNMT3B in the germ cells of patients with bilateral spermatogenic arrest does not lead to changes in the global methylation status. Mol Hum Reprod, 2011, April 11. PMID: 21482616 (if=4.5, ci=3)
5. Adiga SK, Upadhy D, Kalthur G, Rao S, Kumar P Transgenerational changes in somatic and germ line genetic integrity of first generation offspring derived from the DNA damaged sperm. Fertil Steril. 2010 May 15;93(8):2486-90. (if=4.01, ci=18)
6. Kalthur G, Adiga SK, Upadhy D, Rao S, Kumar P. Effect of cryopreservation on sperm DNA integrity in patients with teratospermia. Fertil Steril. 2008 Jun; 89(6):1723-7. (if=4.01, ci=35)
7. Adiga SK, Shimura T, Toyoshima T, Taga M, Inoue M, Niwa O. p21 provides stage specific DNA damage control to preimplantation embryos. Oncogene 2007 Sep 13;26(42):6141-9. (if=7.3, ci=17)
8. Adiga SK, Toyoshima T, Shimura T, Takeda J, Uematsu N, Niwa O. Delayed and stage specific phosphorylation of H2AX during preimplantation development of gamma-irradiated mouse embryos Reproduction, 2007, 133(2):415-22. (if=3.55, ci=25)
9. Shimura T, Toyoshima M, Adiga SK, Kunoh T, Inoue M, Niwa O. The role of P53 assisted ATM dependent phosphorylation of PCNA in the low dose specific S-checkpoint in mammalian cells Oncogene, 2006 Sep 28;25(44):5921-32 (if=7.3, ci=15)
10. Toyoshima M, Shimura T, Adiga SK, Taga M, Shiraishi K, Inoue M, Yuan ZM, Niwa O. Transcription independent suppression of DNA synthesis by p53 in sperm irradiated mouse zygotes 2005 Oncogene; 24: 3229-3235 (if=7.3, ci=9)

BASHYAM, MURALI DHARAN (b 1969), Staff Scientist V, Centre for DNA Fingerprinting and Diagnostics, Hyderabad

Member of the NASI: Yes

(YON 2014, Medical & Forensic Sciences)

The nominee's pioneering work (Molecular Carcinogenesis 2014, Colorectal cancer 2014, Curr CRC rep 2013) identified non-canonical tumorigenesis pathways in early-onset rectal cancer, the predominant CRC subtype in India. A related study revealed presence of mismatch repair (MMR) positive tumors in suspected Lynch Syndrome patients despite presence of MMR gene exonic re-arrangements. Both studies highlight the caution that is required for applying patient treatment and management regimes developed in the West on Indian CRC patients. Genome-wide DNA and RNA profiling, methylation analysis, functional assays and tissue microarray based studies have identified several novel pancreatic cancer genes (Brit J Cancer 2013, PNAS 2012, PLOS-One 2011, PLOS-G 2008, Neoplasia 2005). Distinct oncogenesis pathways that drive Esophageal squamous (ESCC, common in India) and adeno (common in the West) carcinoma were shown to be replicated in respective components of esophageal adenocarcinomas (Euro J Clin Invest 2013). Genomic analysis revealed major de-regulated pathways in ESCC not harboring p53 inactivation. The nominee has identified unique mutation profile for several genetic disorders in Indian patients (Mol Cell Biochem 2012, Brit J Dermatol 2012 and 2007, Exp Clin Cardiol 2010, Can J Cardiol 2007, J Hum Genet 2004). Nonsense mediated decay (Exp Rev Mol Diag 2009, Recent patents on DNA & Gene Sequences 2009) triggering PAH mutations and novel polypyrimidine tract and exonic splicing regulatory sequence perturbing acid ceramidase mutations were shown to cause Phenylketonuria and Farber lipogranulomatosis, respectively (J Cell Biochem 2013, Clin Genet 2013, Ind Pediatrics 2012, Mol Genet Metabol 2010, J Hum Genet 2006).

Proposer : Dr J Gowrishankar, **Second**er : Dr Ranjan Sen

Ten Best Publications:

1. Ratheesh R, V Kotapalli, R Adduri, S Gowrishankar, L Bashyam, A Chaudhary, M Vamsy, S Patnaik, M Srinivasulu, RA Sastry, S Rao, A Vasala, N Kalidindi, J Pollack, S Murthy and MD Bashyam 2014. Evidence for possible non-canonical pathway(s) driven early-onset colorectal cancer in India. *Mol Carcin*, 53:E181–E186 (*if*=4.3, *ci*=4)
2. MD Bashyam, AK Chaudhary, M Kiran, HA Nagarajaram, R RamaDevi, A Dalal, L Bashyam, D Suri, A Gupta, N Gupta, M Kabra, RD Puri, R RamaDevi, S Kapoor, S Danda. 2014. Splice, insertion-deletion and nonsense mutations that perturb the Phenylalanine hydroxylase transcript cause Phenylketonuria in India. *J Cellular Biochem*, 115:566-574 (*if*=3.1)
3. Khursheed M, Kolla JN, Kotapalli V, Gupta N, Gowrishankar S, Uppin SG, Sastry RA, Koganti S, Sundaram C, Pollack JR, Bashyam MD 2013. ARID1B, a member of the human SWI/SNF chromatin remodeling complex, exhibits tumour-suppressor activities in pancreatic cancer cell lines. *Br J Cancer*; 108:2056-2062. (*if*=5.1, *ci*=2)
4. MD Bashyam, AK Chaudhary, M Kiran, V Reddy, HA Nagarajaram, A Dalal, L Bashyam, D Suri, A Gupta, N Gupta, M Kabra, RD Puri, IC Verma, RRama Devi, S Kapoor, S Danda. 2013. Molecular analyses of novel ASAH1 mutations causing Farber lipogranulomatosis: analyses of exonic splicing enhancer inactivating mutation. *Clin Genet*; Nov 8. doi: 10.1111/cge.12316 (*if*=4.3)
5. Ramaswamy P, Viswakalyan K, Swarnalata G, MohanaVamsy C, Sujith P, Shantveer U, Subramanyeshwar R, NarasimhaRaju K, Sastry R, Challa S, Mukta S, Anjayneyulu V, and MD Bashyam. 2013. Distinct genetic aberrations in oesophageal adeno and squamous carcinoma. *Eur J Clin Invest*, 43: 1233–1239. (*if*=3.4)
6. MD Bashyam, AK Chaudhary, Manjari, HA Nagarajaram, A Radha Rama Devi, Leena B, EC Reddy, Ashwin D. 2012. Molecular genetic analysis of MSUD from India reveals mutations causing altered protein truncation affecting the C-termini of E1 α and E1 β . *Journal of Cellular Biochemistry*, 113:3122-32 (*if*=3.1, *ci*=3)
7. MD Bashyam, AK Chaudhary, EC Reddy, V Reddy, V Acharya, HA Nagarajaram, ARR Devi, L Bashyam, AB Dalal, N Gupta, M Kabra, M Agarwal, SR Phadke, R Tainwala, R Kumar, SV Hariharan. 2012. A founder Ectodysplasin A receptor (EDAR) mutation results in a high frequency of the autosomal recessive form of Hypohidrotic Ectodermal Dysplasia in India. *Br J Dermatol*, 166:819-829 (*if*=3.8, *ci*=7)
8. Kevin A. Kwei*, MD Bashyam*#, Jessica Kao, R Ratheesh, E C Reddy, Young H. Kim, Kelli Montgomery, Craig P. Giacomini, Yoon-La Choi, S Chatterjee, Collins A. Karikari, Keyan Salari, Pei Wang, Tina Hernandez-Boussard, G Swarnalata, Matt van de Rijn, Anirban Maitra, J R Pollack#. 2008. Genomic profiling identifies GATA6 as a candidate oncogene amplified in pancreaticobiliary cancer. *PLOS-Genet*, 4:e1000081 (*if*=8.5, *ci*=43)
9. Bashyam, MD 2002. Understanding cancer metastasis: An urgent need for using differential gene expression analysis. *Cancer*, 94:1821-1829 (*if*=5.2, *ci*=61)
10. Bashyam, MD, D Kaushal, SK Dasgupta and AK Tyagi. 1996. A study of the mycobacterial transcriptional apparatus: identification of novel features in promoter elements. *J. Bacteriol.* 178:4847-4853 (*if*=3.2, *ci*=143)

BASU, SANDIP (b 1971), Head, Nuclear Medicine Academic Programme Consultant Nuclear Medicine Physician and Scientific Officer-F Radiation Medicine Centre, Bhabha Atomic Research Centre, Tata Memorial Center Annexe, Jerbai wadia Road, Parel, Mumbai-400012, India. Dean-Academic (Health Sciences), BARC, Homi Bhabha National Institute

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Sandip Basu made distinguished contributions to the field of Nuclear Medicine by integrating functional radionuclide imaging and therapy for individualized patient management. His focus is on patient services, medical education and clinical research. Dr. Basu assumed responsibility of successful functioning of the India's first PET machine and devised several outstanding ways to advance routine and novel applications of unsealed radionuclide sources for the benefit of patients, at the Radiation Medicine Centre. He has been instrumental in initiation of several therapeutic services such as Peptide Receptor Radionuclide therapy with ¹⁷⁷Lu-DOTATATE for Neuroendocrine tumors and therapy for metastatic thyroid carcinoma or diagnostic services such as rhTSH primed I131 scan and FDG based detection of infection and inflammation. His vast clinical experience has been translated into enrichment of literature in oncology and molecular imaging that has enhanced the understanding of molecular basis of human pathophysiology. He has published 263 papers on comprehensive patient data (original communications), rare cases (Clinical Case Reports or Technical Notes), innovative hypotheses (Editorials or Letters) and impressive reviews in high impact factor peer reviewed indexed international journals and text book chapters. He has been involved in teaching, training and assessment of PG students in Nuclear Medicine. He has delivered about 66 invited lectures in national/international conferences in addition to 104 scientific abstracts in peer reviewed meetings. He has been a recipient of several awards, prominent among them being prestigious Shanti Swarup Bhatnagar Prize in Medical Sciences (2012) and DAE Scientific and Technical Excellence Award (2007).

Proposer : Prof Kanjaksha Ghosh, **Second**er : Dr. Shree Kumar Apte.

Ten Best Publications:

1. Basu S, Nair N., Awasare S., Tiwari BP, Asopa R, Nair C. 2004 Apr; "99mTc (V) DMSA Scintigraphy In Skeletal Metastases and Superscans Arising From Various Malignancies: Diagnosis, Treatment Monitoring and Therapeutic Implications." British Journal Radiology. 77(916):347-61. (*if=1.938, ci=14*)
2. Basu S., Nair N., Banavali S. (2007) Uptake characteristics of fluorodeoxyglucose (FDG) in deep fibromatosis and abdominal desmoids: Potential clinical role of FDG-PET in the management British Journal of Radiology, 80(957), pp. 750-756. (*if=1.938, ci=25*)
3. Basu S., Chryssikos T., Houseni M., Malay Scot D, Shah J, Zhuang H, Alavi A. 2007 Jun "Potential Role of FDG-PET in the Setting of Diabetic Neuro-Osteoarthropathy: Can it Differentiate Uncomplicated Charcot Neuroarthropathy from Osteomyelitis and Soft Tissue Infection?" Nucl Med Commun.;28(6):465-72. (*if=1.379, ci=71*)
4. Basu S, Zaidi H, Houseni M, Bural G, Udupa J, Acton P, Torigian D, Alavi A.. 2007 May Novel Quantitative Imaging Techniques for Assessing Regional and Global Function: Implications for Normal Variation, Aging, and Diseased States. Semin Nucl Med;37(3):223-39. (*if=4.571, ci=60*)
5. Basu S., Houseni M., Bural G, Chamroon W, Udupa J, Mishra S, Alavi A.. 2007 Nov-Dec. Magnetic Resonance Imaging Based Bone Marrow Segmentation for Quantitative Calculation of Pure Red Marrow Metabolism Using 2-Deoxy-2-[F-18]fluoro-D: -glucose- Positron Emission Tomography: a Novel Application with Significant Implications for Combined Structure-Function Approach. (*if=3.095, ci=17*)
6. Basu S., Mallath MK, Peshwe H, Asopa R, Vyawahare M. 2008 . FDG-PET and PET/CT in the clinical management of Gastrointestinal Stromal Tumour (GIST). Nucl Med Commun; 29(12): 1026-39. (*if=1.379, ci=32*)
7. Basu S., Chen W, Tchou J, Mavi A., Cermik T., Czerniecki B, Schnall M and A. Alavi. 2008 Comparison of Triple Negative and ER+/PR+/HER 2- Breast Carcinomas Utilizing quantitative FDG-PET imaging parameters: A Potentially Useful Method for Disease Characterization. (*if=5.201, ci=106*)
8. Basu S, T Chryssikos, S Moghadam-Kia, H Zhuang, D Torigian, A Alavi. 2009 Jan PET as a Diagnostic Tool in Infection: Present Role and Future Possibilities. Semin Nucl Med; 39(1):36-51. (*if=4.571, ci=126*)
9. Basu S, Zhuang H, Torigian D, Rosenbaum J, Chen W, Alavi A. 2009 March Functional Imaging of Inflammatory Diseases of Unknown Etiology using Nuclear Medicine Techniques. Semin Nucl Med; 39(2): 124-145 (*if=4.571, ci=93*)
10. Basu S. 2010 Nov Personalized versus Evidence Based Medicine with PET Based Imaging. Nature Reviews Clinical Oncology; 7(11): 665-8. (*if=15.031, ci=13*)

CHAKRABORTY, SOUMEN (b 1969), Scientist, Institute of Life Sciences, Nalco Square, Bhubaneswar-751023

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Since his recruitment in ILS, Dr. Chakraborty has established a productive research group in collaboration with the clinicians, working specifically on the post translational modification of the oncogenes and its effect on chronic myeloid leukemia (CML) disease progression. They reported for the first time that the proto-oncogene EVI1 is expressed in the initial phase of CML (Kuila et al., 2009) and is elevated with the progression of the disease. He has shown that EVI1 is periodically acetylated and deacetylated and this activity of EVI1 can divergently regulate various pathways by influencing Bcl-xL and SIRT1, which was reported by them for the first time as direct targets of EVI1 (Pradhan *et.al.*, 2011 and Pradhan et al., 2011). A set of EVI1 positive CML samples showed higher expression of Bcl-xL and SIRT1 with respect to EVI1 negative CML samples. They hypothesized that the deacetylated form of the protein protects the cells from apoptosis and thus can accumulate more mutations. Recently they observed the changes in the localization of EVI1 and SUMO1 when EVI1 positive cells were treated with arsenic trioxide (Singh et al., 2013). This finding may someday pave a way to understand the significance of arsenic trioxide (Trisenox) that in a clinical trial was used to treat patients with myelodysplastic syndrome showing high expression of EVI1. Thus post translational modification data obtained so far has initiated a new paradigm of targeting modification dependent mechanisms working alone or in combination, on EVI1, that abnormally deregulates several biochemical pathways.

Proposer : Dr. Samit Chattopadhyay, **Seconder** : Dr. Sharmila A. Bapat

Ten Best Publications:

1. Chakraborty S, Senyuk V, Sitailo S, Chi Y, Nucifora G. 2001. Interaction of EVI1 with cAMP-responsive element-binding protein-binding protein (CBP) and p300/CBP-associated factor (P/CAF) results in reversible acetylation of EVI1 and in co-localization in nuclear speckles. *Journal of Biological Chemistry*. 276(48):44936-43. (*if*=6.8, *ci*=68)
2. Chakraborty S, Sinha KK, Senyuk V, Nucifora G. 2003. SUV39H1 interacts with AML1 and abrogates AML1 transactivity. AML1 is methylated in vivo. (*if*=6.373, *ci*=63)
3. Kuila N, Sahoo DP, Kumari M, Biswas S, Patnaik RS, Pattnayak NC, Biswas G, Chakraborty S. 2009. EVI1, BAALC and AME: prevalence of the secondary mutations in chronic and accelerated phases of chronic myeloid leukemia patients from eastern India. *Leukemia Research* 33(4):594-6. (*if*=2.923, *ci*=3)
4. Kuila N, Dash N, Sahoo DP, Pattnayak NC, Biswas G, Chakraborty S. 2009. Presence of a new BCR-ABL kinase domain mutation, C330G in an imatinib naive patient with chronic myeloid leukemia: very low prevalence of BCR-ABL kinase domain mutations in patients with chronic myeloid leukemia from eastern India. *Leukemia Lymphoma*. 50(4):663-6. (*if*=2.580, *ci*=3)
5. Pradhan AK, Kuila N, Singh S, Chakraborty S. 2011. EVI1 up-regulates the stress responsive gene SIRT1 which triggers deacetylation and degradation of EVI1. *Biochim Biophys Acta- Gene Regulatory Mechanism*. 1809 (4-6):269-75. (*if*=4.405, *ci*=5)
6. Pradhan AK, Mohapatra AD, Nayak KB, Chakraborty S. 2011. Acetylation of the Proto-Oncogene EVI1 Abrogates Bcl-xL Promoter Binding and Induces Apoptosis. *PLOS ONE*. 6(9):e25370. (*if*=4.6, *ci*=6)
7. Agatheeswaran S, Singh S, Biswas S, Biswas G, Chandra Pattnayak N, Chakraborty S. 2013. BCR-ABL mediated repression of miR-223 results in the activation of MEF2C and PTBP2 in chronic myeloid leukemia. *Leukemia*. 27(7):1578-80. (*if*=10.164, *ci*=3)
8. Nayak KB, Kuila N, Mohapatra AD, Panda AK, Chakraborty S. 2013. EVI1 targets Δ Np63 and upregulates the cyclin dependent kinase inhibitor p21 independent of p53 to delay cell cycle progression and cell proliferation in colon cancer cells. *International Journal of Biochemistry and Cell Biol*. 45(8):1568-1576. (*if*=4.152)
9. Singh S, Pradhan AK, Chakraborty S. 2013. SUMO1 negatively regulates the transcriptional activity of EVI1 and significantly increases its co-localization with EVI1 after treatment with arsenic trioxide. *Biochim Biophys Acta - Molecular Cell Research* 2013 Jun 13;1833(10):2357-2368. (*if*=4.808)
10. Pradhan AK and Chakraborty S. 2013. EVI1 targets the cell adhesion molecule PECAM1 and up regulates its expression in chronic myeloid leukemia. *Leukemia Lymphoma*. [Epub ahead of print] (*if*=2.30)

CHAKRAVARTY, RUNU (b 1954), DEPUTY DIRECTOR, ICMR VIRUS UNIT, KOLKATA

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Widely prevalent in India, Hepatitis B Virus (HBV) causes chronic liver disease, cirrhosis and hepatocellular-carcinoma (HCC). By molecular characterization of S, preC/C, X and pol gene of HBV in eastern India she has established:

The recent introduction of HBV Genotype C (linked with disease severity and HCC), identified 4 subgenotypes of HBV/D (the predominant genotype in India) with differential mutation-pattern and liver injury; located new subgenotype D5 by whole genome sequencing; established mutation C1753 as significant predictor of cirrhosis (Emerg Infect Dis 2006;12:1990, J Med Virol 2006a; 78:1164, J Viral Hepat 2009;16:749) and underscored significance of HBV genotypes vis-à-vis hepatocarcinogenesis (Virology 2008;382:190, Gastroenterology 2009;133:727).

Reported the extrahepatic manifestation of HBV, compartmentalization of European sub-genotype HBV/Ae in the peripheral blood leukocytes (PBL) and independent evolution of HBV in PBL and liver (J Virol 2009;83:9983). Highly immunosuppressed HIV-coinfected patients have fewer HBV mutations in HBV/D2 with low CD4-count but mutations increase if CD4-count rises; while the reverse is true for HBV/A1. This is possibly linked to differential expression pattern of innate/adaptive immune response genes with varying CD4-count in HBV/D2 and HBV/A1 (Virology 2013;436:134).

Occult HBV infection's high prevalence among blood donors & family indicates need for donor-screening by anti-HBc-testing (J Med Virol 2006b;78:53, WJ Gastroenterol 2007;13:3730, Virology Journal 2010;7:204). She reported HBV to be the major co-infection among HIV infected, establishing HBeAg positivity as effective marker for starting anti-HBV treatment in resource-poor settings; also located influx of HBV/D2 from western to eastern India along with HIV (PLOS ONE 2013;436:134). Present work establishes positive correlation of microRNA-155 with TLR7 in HBV infection.

Proposer : Dr. Sekhar Chakrabarti, Seconder : Prof. Amit Ghosh

Ten Best Publications:

1. S Datta, A Banerjee, PK Chandra, A Chowdhury, R Chakravarty. Genotype, phylogenetic analysis, and transmission pattern of occult hepatitis B virus (HBV) infection in families of asymptomatic HBsAg carriers. Journal of Medical Virology 2006b 78: 53-59 (*if=2.82, ci=Cited by 49*)
2. Banerjee A, Kurvanob F, Datta S, Chandra PK, Tanaka Y, Mizokami M, Bhattacharya SK, Chakravarty R. Phylogenetic relatedness and genetic diversity of hepatitis B virus isolates from Eastern India. J Med Virol. 2006a ;78:1164-74. (*if=2.82, ci=69*)
3. Datta S, Banerjee A, Chandra PK, Mahapatra PK, Chakrabarti S, Chakravarty R. Drug trafficking routes and hepatitis B in injection drug users, Manipur, India. Emerg Infect Dis. 2006;12;1990-93. (*if=6.169, ci=27*)
4. Banerjee A, Chandra PK, Chakravarty R. Pin1-HBx Interaction: A Step Toward Understanding the Significance of Hepatitis B Virus Genotypes in Hepatocarcinogenesis. Gastroenterology. 2007 133: 727-728 (*if=12.835, ci=9*)
5. Bhattacharya P, Chandra PK, Datta S, Banerjee A, Chakravarty S, Rajendran K, Basu SK, Bhattacharya SK, Chakravarty R. Significant increase in HIV, HBV, HCV and syphilis infections among blood donors in West Bengal, Eastern India 2004-2005: exploratory screening reveals high frequency of occult HBV infection. World J Gastroenterol. 2007;13:3730-3. (*if=2.547, ci=82*)
6. Datta S, Banerjee A, Chandra PK, Biswas A, Panigrahi R, Mahapatra PK, Panda CK, Chakrabarti S, Bhattacharya SK, Chakravarty R. Analysis of hepatitis B virus X gene, genetic variability and its impact on pathogenesis: implications in Eastern Indian HBV carriers. Virology. 2008; 382: 190-8. (*if=3.367, ci=13*)
7. Chandra PK, Biswas A, Datta S, Banerjee A, Panigrahi R, Chakrabarti S, Dey BK, Chakravarty R. Subgenotypes of Hepatitis B Virus Genotype D (D1, D2, D3 and D5) in India: differential pattern of mutations, liver injury and occult HBV infection. J Viral Hepatitis 2009, 16, 749-756 (*if=3.082, ci=33*)
8. Datta S, Panigrahi R, Biswas A, Chandra PK, Banerjee A, Mahapatra PK, Panda CK, Chakrabarti S, Bhattacharya SK, Biswas K, Chakravarty R. Genetic characterization of Hepatitis B Virus in peripheral blood leukocytes: Evidence for selection and compartmentalization of viral variants with immune escape G145R mutation. Journal of Virology 2009; 83: 9983-9992 (*if=5.402, ci=18*)
9. Pal A ; Panigrahi R ; Biswas A; Datta S; Guha SK; Saha B; Banerjee A; Chakrabarti S ; Chakravarty R. Influence of HIV-associated immune suppression on molecular heterogeneity of Hepatitis B virus among HIV co-infected patients. Virology. 2013;436:134-42 (*if=3.367, ci=2*)
10. Saha D, Pal A, Biswas A, Panigrahi R, Sarkar N, et al. (2013) Characterization of Treatment-Naive HIV/HBV Co-Infected Patients Attending ART Clinic of a Tertiary Healthcare Centre in Eastern India. PLoS ONE 8(8): e73613 (*if=3.730, ci=3*)

CHAUDHURI, SWAPNA (b 1954), Professor, School of Tropical Medicine, Kolkata

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Chaudhuri's research team first evidenced the disease relevance of T11TS, which was isolated from sheep RBC and characterized in her lab. The molecule showed multimodal mechanistic activities for glioma abrogation in animal model. It showed intense immune potentiation both in the peripheral and intracranial systems; glioma specific cell apoptosis, while the normal cells were spared; inhibition of the glioma cell cycle while the intracranial immune cells showed survival and proliferation; lastly, it also retarded angiogenesis in the glioma microenvironment, thereby not only hindering glioma growth, but also preventing invasion and metastasis. Toxicological assessments with T11TS revealed that T11TS is totally non-toxic as shown by both acute and sub acute studies. T11TS acting in such multimodal fashion can be denoted as an ideal Anti-Cancer agent. T11TS also showed its efficacy on in vitro human glioma samples when tested on 4 different grades of glioma.

Studies with dogs with generalized demodicosis and also pyoderma showed faster and better recovery when treated with T11TS post antibiotic therapy compared to antibiotic therapy controls. Studies on arsenic-induced carcinogenesis in mouse models showed that T11TS was able to revert back the immune-suppressed carcinogenic status to normal levels. So, T11TS could act against a multispecies barrier.

Being inspired by the above studies, a collaborative effort has been initiated by a multinational Pharmaceutical company to bring T11TS from the Bench of the working Scientists to the Bedside of the suffering patients.

Proposer : Dr. Syamal Roy, Seconder : Dr. Sekhar Chakraborti

Ten Best Publications:

1. Chaudhuri Swapna, Chaudhuri, S., Barfoot, R., Denham, S. and Hall, J. G. The stimulation by dendritic cells of host-versus-graft reactivity in vivo. *Immunol Cell Biol*, 1993,71 (6) (*if*=3.925, *ci*=4)
2. Begum, Z., Sarkar, S., Mukherjee, J., Ghosh, A., Chaudhuri, S. and Chaudhuri Swapna. Evaluation of Anti-Tumor Property of Specific and Non-Specific BRM's in Experimental Glioma by Assessing the Microglial Cell Functional and Phenotypic Modulations. *Cancer Biol. Ther.*, 2003, 2(4): 356-363. (*if*=3.287, *ci*=12)
3. Begum, Z., Ghosh, A., Sarkar, S., Mukherjee, J., Mazumdar, M., Sarkar, P. and Chaudhuri Swapna. Documentation of immune profile of microglia through cell surface marker study in glioma model primed by a novel cell surface glycopeptide T11TS/SLFA-3 Glycoconj. *J.*, 2003, 20 (9): 515-523. (*if*=1.882, *ci*=23)
4. Mukherjee, J., Sarkar, S., Ghosh, A., Duttgupta, A. K., Chaudhuri, S., and Chaudhuri Swapna. Immunotherapeutic effects of T11TS/S-LFA3 against nitrosocompound mediated neural genotoxicity. *Toxicol. Lett.*, 2004, 150: 239-257. (*if*=3.666, *ci*=21)
5. Sarkar, S., Ghosh, A., Mukherjee, J., Chaudhuri, S., and Chaudhuri Swapna. CD2-SLFA3/T11TS interaction facilitates immune activation and glioma regression by apoptosis. *Cancer Biol. Ther.*, 2004, 3: 1121-1128. (*if*=3.287, *ci*=9)
6. Mukherjee, J., Ghosh, A., Sarkar, S., Mazumdar, M., Sarkar, P., Duttgupta, A. K. and Chaudhuri Swapna. T11TS/S-LFA3 induces apoptosis of the brain tumor cells: a new approach to characterise the apoptosis associated genetic changes by arbitrarily primed-PCR. *Cancer Lett*, 2007, 222: 23-38. (*if*=4.544, *ci*=7)
7. Bhattacharjee, M., Acharya, S., Ghosh, A., Sarkar, P., Chatterjee, S., Kumar, P. and Chaudhuri Swapna. Bax and Bid act in synergy to bring about T11TS-mediated glioma apoptosis via the release of mitochondrial cytochrome c and subsequent caspase activation. *Int. Immunol.*, 2008, 20 (12): 1489-1505 (*if*=3.135, *ci*=19)
8. Acharya, S., Chatterjee, S., Kumar, P., Bhattacharjee, M., Chaudhuri, S. and Chaudhuri Swapna. Induction of G1 arrest in glioma cells by T11TS is associated with upregulation of Cip1/Kip1 and concurrent downregulation of cyclin D (1 and 3). *Anticancer Drugs*, 2010, 21: 53-64. (*if*=2.232, *ci*=12)
9. Ghosh, A. and Chaudhuri Swapna. Microglial action in glioma: a boon turns bane. *Immunol. Lett.*, 2010, 131: 3-9. (*if*=2.337, *ci*=25)
10. Bhattacharya, D., Singh, M. K., Chaudhuri, S., Acharya, S., Basu, A. K. and Chaudhuri Swapna. T11TS impedes glioma angiogenesis by inhibiting VEGF signalling and pro-survival PI3K/Akt/eNOS pathway with concomitant upregulation of PTEN in brain endothelial cells. *J. Neurooncol.*, 2013, 113: 13-25. (*if*=3.115, *ci*=1)

CHOUDHURY, NABAJYOTI (b 1959), Additional Director & Head; Fortis Memorial Research Institute, Gurgaon

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Nabajyoti Choudhury is one of the prominent transfusion medicine specialists in India. After completing his post-graduation from PGIMER, Chandigarh, he was a founder faculty to start MD in Transfusion Medicine in 1990 at SGPGIMS, Lucknow for the first time in the country. He started DNB in Transfusion Medicine for the first time in India. He started four state of the blood banks in the country and taking to the highest level, i.e. SGPGI, Lucknow; Prathama Blood Centre, Ahmedbad; Tata Medical Centre, Kolkata and Blood Bank in Fortis hospital, Gurgaon.

He has 73 publications out of which, 58 are in indexed journals. He has also published 11 chapters in various text books and monographs. He was the founder Editor of Asian Journal of Transfusion Science which was the first journal in transfusion Medicine to receive PubMed accreditation in shortest possible time i.e. three years.

He was also the founder Chairperson of the Technical Committee of NABH who was instrumental in writing NABH Standard, initiating and implementing NABH (Blood Bank) accreditation program across India. He has got Fortis (Gurgaon) blood bank accredited by NABH within record possible time i.e. six months after becoming operational.

He is the Secretary General of Asian Association of Transfusion Medicine (AATM) which is transnational organization. He is a member of Expert Advisory Body of WHO-Geneva for South Asia. On behalf of United Nations, he has worked in multiple countries like Indonesia, Maldives, Timor-Leste, Netherlands etc. He is instrumental in developing linkage in developing blood transfusion services in South Asian countries through AATM.

It is strongly recommended that he should be considered as Fellow of NASI.

Proposer: Dr. Rakesh Kumar Gupta, **Seconder:** Prof. Rakesh Agarwal

Ten Best Publications:

1. CHOUDHURY N, Jolly JG, Mahajan RC, Dubey ML, Kalra A, Ganguly NK. 1988. Selection of blood donors in malaria endemic countries. *Lancet II*: 971-2. (*if=Very High*)
2. CHOUDHURY N, Jolly JG, Mahajan RC, Dubey ML, Kalra A, Ganguly NK. 1990. Post transfusion malaria in thalassaemia patients. *Blut* 61: 314-6 (*if=Very high*)
3. CHOUDHURY N, Ramesh V, Saraswat S, Naik S. 1995. Effectiveness of mandatory screening tests in Indian blood donors. *Indian J Med Res* 64:541-4. (*if=Medium*)
4. CHOUDHURY N, Singh P, Chandra H. 1995. AIDS awareness in North Indian Blood donors. *Transf Med* 5: 269-73 (*if=High*)
5. CHOUDHURY N, Saraswat S, Neveed M. 1998. Serological monitoring of thalassaemia major patients for transfusion associated viral infections. *Indian J Med Res* 107: 263-268 (*if=Medium*)
6. CHOUDHURY N, Ayagiri A, Ray VL. 2000. True HIV seroprevalence in Indian blood donors. *Transfusion Med.* 10: 1-4. (*if=High*)
7. CHOUDHURY N. Transfusion Medicine in year 2025: Facts or fantasy? 2007. *Asian J Transfusion Science.* 2 (1); 1-2. (*if=Low (indexed)*)
8. CHOUDHURY N. Can there be blood units of high and low quality? 2009. *Asian J Transfusion Science.* 3 (1); 1-2 (*if=Low (indexed)*)
9. CHOUDHURY N. Transfusion transmitted infections: how many more? 2010. *Asian J Transfusion Science.* 2010: 4 (2); 72-73 (*if=Low (indexed)*)
10. CHOUDHURY N, Tulsiani Sunita, Desai Priti, Shah Ripal, Mathur Ankit, Harimurthy V. 2011. Serial follow-up of repeat voluntary blood donors reactive for anti HCV ELISA. *Asian J Transfusion Science.* 5(1); 26-31 (*if=Low (indexed)*)

GANGENAHALLI, GURUDUTTA UGRAIAH (b 1960), Sr Scientist F, Head, Dept. of Stem Cell & Gene Therapy Research, Assoc Director, INMAS,DRDO, Delhi

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr.Gurudutta pioneered the molecular biology work in clinically relevant human stem-cell response research (hSC-RR) in India. His work on the identification of hBCL-2 active-site is well recognized. This assisted the generation of hBCL-2 molecule with increased shelf-life and cell survival and design of anti-cancer molecules. The elucidation of negative-control of human Stem Cell Factor receptor (human c-Kit tyrosine-kinase) by SHP1 and signal cluster on its activation helped the development of a molecule inducing proliferation of hSCs. The mapping of hSC transcription-factor (hPU.1) binding to GATA-1 (Erythroid-factor) causing negative regulation, assisted the development of a molecule promoting hSC graft to myeloid-lineage. Similarly, his work also contributed to elucidation of signaling domain in hCD34-antigen (a hSC marker) and in hCXCR4 that enhances stem-cell trans-endothelial migration. His efforts to decipher Osterix, APC, Lithium/Wnt mechanisms in osteogenesis, established usefulness of Lithium in clinical osteogenic therapy. The identification of hypo-immune response gene-clusters in hMSCs has helped to manipulate their clinical potential. The microencapsulation technology developed by him passively targets hSCs to BM in pre-clinical models that has a great potential in clinical application. The in-vivo SC tracking by NMR (7-9Tesla) is another innovative development to his credit. He has contributed extensively in routine clinical diagnostic radio-pharmaceuticals services including human-Low Density Lipoprotein (hLDL)-receptor probe development having a clinical potential for inflammation & atherosclerotic lesion imaging. His work on establishing conditions for hMSCs cultivation in abundance is extensively cited.

Proposer : Dr.Vijendra K Kashyap,, **Second**er : Professor Jitendra P Khurana

Ten Best Publications:

1. GURUDUTTA Gangenahalli*, Yogesh Kr Verma, Vimal Kishor Singh, Pallavi Gupta, H.G. Raj, R.K. Sharma, Ramesh Chandra. 2005. Structural conservation of residues in BH1 and BH2 domains of Bcl-2 family proteins. FEBS Letters. 579(17), 3503-3507. (*if=3.61, ci=18*)
2. G.U. GURUDUTTA*, Vimal Kishor Singh, Yogesh Verma, Pallavi Gupta, Ramesh Chandra, Shweta Gulati, and Pratibha Mehta Luthra. 2005. Three dimensional structure Prediction and Interaction of CD34 with Crk-L SH3 Domain. Stem cells & Development (Mary Ann Liebert, USA), 14, 469-476, (*if=4.67, ci=9*)
3. G.U. GURUDUTTA*, Shilpa Sharma, Farhat Afrin, Pallavi Gupta, Yogesh Kumar Verma, Vimal Kishor Singh, R.P.Tripathi. 2007. Mesenchymal stem cells: molecular targets for tissue engineering. Neeraj Kumar Satija, Stem Cells & Development (Mary Ann Liebert, USA), 16, 1-17. (*if=4.67, ci=142*)
4. G.U.GURUDUTTA*, A.K.Babbar, Soumya Pati, R.K.Sharma. 2001. Evaluation of potential tracer ability of ^{99m}Tc-labelled acetylated LDL for scintigraphy of LDL scavenger receptor sites of macrophageal origin. Nuclear Medicine and Biology (Elsevier, USA). 3, 235-241. (*if=3.01, ci=8*)
5. Yogesh Kumar verma, Pawan Kumar, Raghav, H G Raj, GURUDUTTA U Gangenahalli*. Enhanced hetero-dimerization of Bax by Bcl-2 mutants improves irradiated hematopoietic cell survival. 2013. Apoptosis (Springer, USA). 18, 212–225. (*if=4.788, ci=3*)
6. Neeraj Kumar Satija, Farhat Afrin, R P Tripathi, GURUDUTTA Gangenahalli*. 2013. High-throughput transcriptome profiling of bone marrow GS3βKinase inhibition as their priming target to stimulate the differentiation towards osteoblastic row derived human Mesenchymal stem cells reveal lineage. PLoS1 (USA), 8, 1-12. (*if=4.8, ci=2*)
7. Siddharth Pandey, GURUDUTTA Gangenahalli*, Farhat Afrin et al. 2013. Human T-Cell line (Jurkat cell) Encapsulation by Nano-organized Polyelectrolytes and their Response Assessment in vitro and in vivo. Journal of Nanoparticle Research (Springer). 15:1793 (*if=3.29, ci=2*)
8. Pawan Kumar Raghav, GURUDUTTA Gangenahalli* et al. Screening of Pro-apoptotic Peptides for Bcl-2 Knockdown: Implications in Cancer Diagnosis and Treatment. 2012. International Journal of Biological Macromolecules. (*if=2.5, ci=2*)
9. Menka Sharma, Farhat Afrin, R P Tripathi, GURUDUTTA Gangenahalli*. 2013, Regulated expression of CXCR4 constitutive active mutants' revealed up-modulated chemotaxis and positive loop of genes crucial for CXCR4 mediated homing and engraftment of hematopoietic stem cells. 9.1.19-27. (*if=4.5, ci=2*)
10. Pawan Kumar Raghav, Yogesh Kumar Verma, GURUDUTTA Gangenahalli* et al. 2012. Journal of Molecular Modelling (Springer, USA). 18, 5, 1885-1906. (*if=1.8, ci=7*)

GARG, PRAMOD KUMAR (b 1963), Professor of Gastroenterology, Sub-Dean (Research), All India Institute of Medical Sciences, New Delhi

Member of the NASI: Yes

(YON 2014, Medical & Forensic Sciences)

Dr. Pramod Garg's research interests have been in pancreatic diseases for >15 years. His work has contributed to some fundamental change in understanding of pancreatitis. In acute pancreatitis, his original work helped understand the pathophysiology (Clin Gastroenterol Hepatol 2004), decipher the etiology in Indian context (Clin Gastroenterol Hepatol 2006), define new disease entity (Am J Gastroenterol 20007), and develop a nonsurgical treatment for severe pancreatitis which has now been included in the current recommendation as the standard of care (Clin Gastroenterol Hepatol 2010, Gastroenterology 2012). As an attestation, an editorial mentioned "Garg and colleagues have (again) challenged the fully accepted surgical DOGMA based on their incredible experience with acute pancreatitis over the last 13 years" (Sarr MG, Clin Gastroenterol Hepatol 2010;8:1000-1). In chronic pancreatitis, his seminal work has re-defined the disease in India (Pancreas 2007; JOP 2008), identified new genetic mutations (Gut 2010), developed newer therapy (Gastroenterology 2009) that is being recommended by international societies' guidelines and his work on GWAS is likely to identify newer genetic polymorphisms. International recognition came in as Associate editor of journal 'Pancreatology' and Council member of International Association of Pancreatology. Through a new initiative 'Pancreas India', he is training young faculty and PhDs in pancreatic science. He has helped establish a state-of-the-art facility for treating pancreatic diseases and an animal experimental facility for pancreatic research at AIIMS in collaboration with national and international institutions. Summing up, his efforts have been to develop and establish the emerging subspecialty of 'Pancreatology' in India.

Proposer : Prof. Balram Bhargava, **Seconder** : Prof. Nikhil Tandon

Ten Best Publications:

1. Mouli VP, Sreenivas V, Garg PK . Efficacy of Conservative Treatment, without Necrosectomy, for Infected Pancreatic Necrosis – A Systematic Review and Meta-Analysis. Gastroenterology 2013;144:333-340. (*if*=12.82, *ci*=6)
2. Midha S, Khajuria R, Shastri S, Kabra M, Garg PK . Idiopathic Chronic Pancreatitis in India: Phenotypic Characterization and Strong Genetic Susceptibility due to SPINK1 and CFTR Gene Mutations. Gut 2010;59:800-807. (*if*=10.73, *ci*=36)
3. Bhardwaj P, Garg PK, Maulik SK et al. A randomized controlled trial of antioxidant supplementation for pain relief in patients with chronic pancreatitis. Gastroenterology 2009;136:149-159. (*if*=12.82, *ci*=109)
4. Sharma, M, Banerjee D, Garg PK . Characterization of Newer subgroups of fulminant and subfulminant pancreatitis associated with a high early mortality. Am J Gastroenterol 2007;102:2688-2695. (*if*=7.55, *ci*=33)
5. Garg PK, Madan K, Pande GK, et al. Association of extent and infection of pancreatic necrosis with organ failure and death in acute necrotizing pancreatitis. Clin Gastroenterol Hepatol. 2005;3:159-66. (*if*=6.64, *ci*=82)
6. Garg PK, Tandon RK, Madan M. Is Biliary microlithiasis a significant cause of idiopathic recurrent acute pancreatitis? A long-term follow-up study. Clin Gastroenterol Hepatol 2007;5:75-79. (*if*=6.64, *ci*=32)
7. Singh S, Midha S, Singh N, Joshi YK, Garg PK . Dietary counseling versus dietary supplements for malnutrition in chronic pancreatitis: a randomized controlled trial. Clin Gastroenterol Hepatol. 2008;6:353-9. (*if*=6.64, *ci*=29)
8. Garg PK, Tandon RK. Survey on chronic pancreatitis in the Asia-Pacific region. J Gastroenterol Hepatol 2004;19:998-1004. (*if*=3.32, *ci*=96)
9. Tandon RK, Sato N, Garg PK. Chronic pancreatitis: Asia-Pacific consensus report. J Gastroenterol Hepatol 2002;17: 508-18. (*if*=3.32, *ci*=86)
10. Garg PK, Khajuria R, Kabra M, Shastri S. Association of SPINK1 Gene Mutation and CFTR Gene Polymorphisms in Patients with Pancreas Divisum Presenting with Idiopathic Pancreatitis. J Clin Gastroenterol 2009;43:848-52. (*if*=3.20, *ci*=20)

GARG, RAVINDRA KUMAR (b 1960), Professor and Head, Department of Neurology, King George Medical University, Uttar Pradesh Lucknow-India

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

In last 25 years, Dr RK Garg has published more than 320 publications. His areas of interest include CNS infections like CNS tuberculosis, neurocysticercosis, SSPE and leprosy. Neurocysticercosis is the most common parasitic disease of the CNS. Solitary cysticercus granuloma is a common cause of focal seizures. Controversy exists regarding the efficacy of various modalities of treatment. In follow-up studies he confirmed that the most important feature of these solitary enhancing lesions is spontaneous disappearance, within weeks or months. Some lesions "heal" by becoming calcified. These patients require only antiepileptic drugs, and this medication may be withdrawn safely after the lesion has resolved. In two open-label studies and in one placebo controlled study he suggested the effectiveness of oral corticosteroids for controlling seizures and disabling headache in patients with solitary cysticercus granuloma. In one study, he observed that oral corticosteroids were helpful in early resolution of the lesion. He observed that infective pathologies were the most common etiology for multiple enhancing lesions of the brain. Tuberculosis was the commonest infective pathology, followed by neurocysticercosis. He highlighted the fact that, in India, often it is difficult to differentiate between tuberculoma and a cysticercal granuloma. He suggested diagnostic criteria for this differentiation. Another important area he is presently working is tuberculous meningitis. He is trying to know the pathogenesis, predictors and prognostic impact of several major complications, like vision loss, stroke, tuberculomas and arachnoiditis, of tuberculous meningitis.

Proposer : Prof Rashmi Kumar, **Secunder** : Prof Rakesh Kumar Gupta

Ten Best Publications:

1. Garg RK. Posterior leukoencephalopathy syndrome. Postgrad Med J 2001;77(903):24-8. (*if=1.608, ci=249*)
2. Garg RK. Tuberculosis of the central nervous system. Postgrad Med J 1999;75(881):133-40. (*if=1.608, ci=194*)
3. Garg RK. Acute disseminated encephalomyelitis. Postgrad Med J 2003;79(927):11-7. (*if=1.608, ci=184*)
4. Garg RK. Subacute sclerosing panencephalitis. Postgrad Med J 2002;78(916):63-70. (*if=1.608, ci=163*)
5. Garg RK, Potluri N, Kar AM, Singh MK, Shukla R, Agrawal A, Verma R. Short course of prednisolone in patients with solitary cysticercus granuloma: a double blind placebo controlled study. J Infect 2006;53(1):65-9. (*if=4.073, ci=28*)
6. Garg RK, Karak B, Mohan Kar A. Neuroimaging abnormalities in Indian patients with uncontrolled partial seizures. Seizure 1998 Dec;7(6):497-500. (*if=2.004, ci=17*)
7. Sinha MK, Garg RK, Anuradha HK, Agarwal A, Singh MK, Verma R, Shukla R. Vision impairment in tuberculous meningitis: predictors and prognosis. J Neurol Sci 2010;290(1-2):27-32. (*if=2.243, ci=16*)
8. Garg RK, Desai P, Kar M, Kar AM. Multiple ring enhancing brain lesions on computed tomography: an Indian perspective. J Neurol Sci 2008 Mar 15;266(1-2):92-6. (*if=2.243, ci=9*)
9. Raut T, Garg RK, Jain A, Verma R, Singh MK, Malhotra HS, Kohli N, Parihar A. Hydrocephalus in tuberculous meningitis: Incidence, its predictive factors and impact on the prognosis. J Infect 2013;66:330-7. (*if=4.073, ci=6*)
10. Singh B, Garg RK, Singh MK, Verma R, Malhotra HS, Jain A, Singh R, Kohli N, Phadke RV, Shukla R, Parihar A. Computed tomography angiography in patients with tuberculous meningitis. J Infect 2012;64:565-72. (*if=4.073, ci=5*)

GIRI, ASHOK KUMAR (b. 1952) Emeritus Scientist, Indian Institute of Chemical Biology, Kolkata

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Giri's major work on arsenic exposed population has opened up an entirely new vista on arsenic susceptibility, toxicity and carcinogenicity. The major contributions can be described as follows:

- A. Dr. Giri has established the minimum threshold dose of arsenic in rice to induce genetic damage in humans (Publ. no. 1)
- B. Dr. Giri and his group have been able to identify that the no skin lesions individuals in arsenic exposed population are also at risk of having genetic damage and cancer (Publ. No. 10)
- C. For the first time he has demonstrated that arsenic induced immunological impairment in the arsenic exposed population in West Bengal (Publ. No. 2)
- D. Dr. Giri has identified that the peripheral blood lymphocytes is the most sensitive and suitable cell type to detect arsenic-induced genetic damage in human (Publ. No. 3).
- E. Dr. Giri has identified the significant genetic variants that may be responsible for arsenic susceptibility by genetic and genomic approaches (Publ. No. 4,6,8,9)
- F. The most significant finding by Dr. Giri lies in the fact that he has been able to demonstrate that DNA repair deficiency is a prime contender for arsenic susceptibility and carcinogenicity (Publ. No. 5)
- G. In addition to his arsenic research Dr Giri has elucidated the mechanism of Anticancerous action of black tea polyphenols (Publ. No. 7)

Proposer : Prof. Samir Bhattacharya **Secunder** : Dr. Pijush K. Das

Ten Best Publications:

1. Banerjee M, Banerjee N, Bhattacharjee P, Mondal D, Lythgoe PR, Martínez M, Pan J, Polya DA, and Giri AK. (2013) High arsenic in rice is associated with elevated genotoxic effects in humans, *Scientific Report*. 3 : 2195. doi: 10.1038/srep02195. (if= 2.93 Ci= 1)
2. Banerjee, N., Banerjee, M., Ganguly, S., Bandopadhyay, S., Das, J.K., Bandopadhyay, A., Chatterjee, M. and Giri, A. K. (2008) Arsenic induced mitochondrial instability leading to programmed cell death in the arsenic exposed individuals. *Toxicology*, 246: 101-111. (if= 4.02 Ci= 40)
3. Ghosh, P., Basu, A., Singh, K. K. and Giri, A. K. (2008) Evaluation of Cell Types for Assessment of Cytogenetic Damage In Arsenic Exposed Population, *Molecular Cancer*, 28: 45-49. (if= 5.13 Ci= 23)
4. De Chaudhuri, S., Ghosh, P., Sarma, N., Majumdar, P., Sau T.J., Basu, S., Roychoudhury, S., Ray, K. and Giri, A.K. (2008) Genetic Variants Associated with Arsenic Susceptibility: Study of Purine Nucleoside Phosphorylase, Arsenic (+3) Methyl Transferase and Glutathione S-Transferase Omega Genes. *Environmental Health Perspective*, 116: 501-505 (if= 7.26 Ci= 47)
5. Banerjee, M., Sarma, N., Biswas, R., Roy, J., Mukherjee A. and Giri, A. K. (2008) DNA repair deficiency leads to susceptibility to develop arsenic-induced premalignant skin lesions. *Int J Cancer*, 123 (2): 283-287. (if= 6.19 Ci= 23)
6. De Chaudhuri, S., Kundu, M., Banerjee, M., Das, J.K., Majumdar, P., Basu, S., Roychoudhury, S., Singh, K. K. and Giri, A. K. (2008) Arsenic-induced health effects and genetic damage in keratotic individuals: involvement of p53 arginine variant and chromosomal aberrations in arsenic susceptibility. *Reviews in Mutation Res*, 659: 118-125. (if= 6.43 Ci= 18)
7. Halder, B., Bhattacharya, U., Mukhopadhyay, S. and Giri A. K. (2008) Molecular mechanism of black tea polyphenols induced apoptosis in human skin cancer cells: involvement of Bax translocation and mitochondria mediated death cascade. *Carcinogenesis*, 29: 129-138. (if= 5.64 Ci= 28)
8. Ghosh, P., Basu, A., Mahata J., Basu, S., Sengupta M., Das J. K., Mukherjee, A., Sarkar, A. K., Mondal L. K., Ray K. and Giri, A. K. (2006) Cytogenetic damage and genetic variants in the individuals susceptible to arsenic induced cancer through drinking water. *Intl. J. Cancer* 118(10): 2470-2478. (if= 6.19 Ci= 72)
9. Banerjee, M., Sarkar, J., Das, J. K. Mukherjee, A., Sarkar, A. K., Mondal, L. K. and Giri, A. K. (2007) Polymorphism in the ERCC2 codon 751 is associated with arsenic-induced premalignant hyperkeratosis and significant chromosomal aberrations. *Carcinogenesis*, 28: 672-676. (if= 5.64 Ci= 37)
10. Mahata, J., Basu, A., Ghoshal, S., Sarkar, J. N., Roy, A. K., Poddar, G., Nandy, A. K., Banarjee, A., Ray, K., Natarajan, A. T., Nilsson, R., Giri, A.K. (2003) Chromosomal aberrations and sister chromatid exchanges in individuals exposed to arsenic through drinking water in West Bengal, India. *Mutation Res.*, 534: 133-143 (if= 2.22 Ci= 128)

JAMIL, KAISER (b 1941), DEAN, School of Life Sciences, Jawaharlal Nehru Institute of Advanced Studies, (JNIAS), and Director- centre for Biotechnology and Bioinformatics, (JNIAS), Hyderabad

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Kaiser Jamil has contributed significantly in the area of cancer biology and Bioinformatics and impact on QOL/ affecting human health using and developing various Biomarker assays. Her recent research combines unusual versatility in adopting different areas like Molecular Biology, Bioinformatics and Drug-Gene Interactions for demonstrating the effect of some xenobiotics and metal ion pollutants that cause various malignancies in at least 2% of the population. Her work on SNPs in drug metabolizing genes showed how DNA damage leads to disease progression. Her work on the polymorphisms of drug metabolizing genes and their significance in determining the chemo regimen for therapeutic applications has made a significant impact in the scientific world as molecular diagnosis. Her group has succeeded in developing Models using bioinformatic tools for evaluating these polymorphisms for drug targeting as evidenced in her most recent publications on EGFR, MTHFR, ALAD, and PON1. Her work in the area of Acute Lymphocytic Leukemia was acclaimed as the best paper and their invention was filed as a patent along with her group where they use a statistical approach CHAID to have a holistic approach to evaluate the problem of childhood leukemia. She has published over 250 papers in peer reviewed journals, and presented her work in international conferences. Presently she is involved guiding PhD students in Cancer biology and bioinformatics projects developing drug-ligand binding studies and is collaborating with various Institutes. She is on the editorial board of 4 prestigious journals of Omics and Canadian Journal of solid tumors and reviewer of several journals.

Proposer : Prof. Kasturi Datta, **Second**er : Prof. SUDHA Bhattacharya -

Ten Best Publications:

1. Kakarala KK, Jamil K.(2014)Sequence-structure based phylogeny of GPCR Class A Rhodopsin receptors. Mol Phylogenet Evol. 2014 Feb 3. pii: S1055-7903(14)00035-9. doi: 10.1016/j.ympev.2014.01.022. [Epub ahead of print] Impact Factor-4.107 PMID:24503482 [PubMed - as supplied by publisher] (*if*=4.107)
2. Jayaraman A, Jamil K (2014) Drug Targets for Cell Cycle Dysregulators in Leukemogenesis: In Silico Docking Studies. PLoS ONE 9(1): e86310. doi:10.1371/ journal.pone.0086310; Impact Factor-3.730 (*if*=3.730)
3. Ch. Kalyan Kumar and Kaiser Jamil,(2013) Insilco Assessment of PPAR γ VAL 290 MET mutant structure and molecular docking with Thiazolidinedione of type-2 diabetes. Journal of Advanced Bioinformatics Applications and Research; Vol 4, Issue3, 2013, pp60-66. Impact Factor-3.00 (*if*=3.00)
4. Mushtaq Ahmed,D. Jayasimha Rayalu, Kaiser Jamil (2012) Molecular docking studies targeting cyclooxygenase-2 (COX2) involved in cancer. International journal of Pharmaceutical sciences and healthcare Vol-4 (2); pp76- 85. Available online: <http://www.rspublications.com/ijphc/index.html>; ISSN 2249 -5738. Impact Factor:2.21 (*if*=2.21)
5. Mohan Reddy N, Kalyana Kumar CH, Kaiser Jamil (2012) Association of Adiponectin Gene Functional Polymorphisms (+45T/G and 276G/T) with Obese Breast Cancer. J. Molecular Biomarkers and Diagnosis. 3-6, :138. <http://dx.doi.org/10.4172/2155-9929.1000138>Impact Factor:2.04 (*if*=2.04)
6. Mohan Reddy N, Kalyana Kumar CH, Kaiser Jamil (2012) Association of Adiponectin Gene Functional Polymorphisms (+45T/G and 276G/T) with Obese Breast Cancer. J. Molecular Biomarkers and Diagnosis. 3-6, :138. <http://dx.doi.org/10.4172/2155-9929.1000138>Impact Factor:2.04 (*if*=2.38)
7. Abjal Pasha Shaik; kaiser Jamil; Prabhavathy Das (2009); CYP1A1 polymorphisms and risk of prostate cancer: a meta-analysis. Urology journal 2009;6(2):78-86. Impact Factor:3.914 (*if*=3.914)
8. Abjal Pasha Shaik and Kaiser Jamil (2009) Individual susceptibility and genotoxicity in workers exposed to hazardous materials like lead. Journal of Hazardous Materials 168,(2-3); 918-24. Impact factor; 4.679 (*if*=4.679)
9. Kaiser Jamil and Haranatha Reddy (2007) : Can Polymorphisms in genes relate to overall survival in leukemias ? Leukemia and Lymphoma 2007, ,48, 6; 1070 –1071.Impact factor:2.58 (*if*=2.58)
10. Haranatha Reddy, & Kaiser Jamil, (2006) Polymorphisms in the MTHFR gene and their possible association with susceptibility to childhood acute lymphocytic leukemia (ALL) in Indian population: Leukemia and Lymphoma, 47(7) 1333 -1339. Impact factor:2.58(*if*=2.58)

JULKA, PRAMOD KUMAR (b 1950), DEAN (ACADEMICS) AND PROFESSOR, ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

With over three decades of research in cancer and major breakthroughs in the treatment procedures and protocols, Dr. P.K. Julka indisputably stands as a pioneer oncologist in India. He has performed India's first Peripheral blood stem cell transplant following high dose chemotherapy in Metastatic Breast Cancer with the aim to improve the overall survival that has made a significant scientific contribution to the clinical practice of oncology in India (Limca Book of Records). He has developed several investigator initiated research protocols in order to find newer indications for the existing drugs as well as newer therapies for the treatment of various cancers. His seminal contributions include: establishing the role of gemcitabine and carboplatin chemotherapy in the treatment of gallbladder cancer where no other standard therapy existed; prediction of response with sequential gemcitabine based combinations in patients with operable breast cancer using molecular profiling with Agilent human microarrays covering over 17,000 genes; establishing the role of tamoxifen for 10 years instead of 5 years in women with ER positive breast cancer; establishing the role of adjuvant Trastuzumab in HER-2 positive breast cancer; postoperative treatment of glioblastoma multiforme with radiation therapy plus concomitant and adjuvant temozolomide etc. His work has benefited eminent researchers across the globe and has been instrumental in changing the clinical practice worldwide. He is also the author of the first book from India on 'Developing A World Class Clinical Trial Site' that provides a step by step guide to the clinicians for becoming a successful clinical researcher.

Proposer : Prof. N. R. JAGANNATHAN, **Seconder** : PROF. T. P. SINGH

Ten Best Publications:

1. Butts C, Socinski MA, Mitchell PL, Thatcher N, Havel L, Krzakowski M, Nawrocki S, Ciuleanu TE, Bosquée L, Trigo JM, Spira A, Tremblay L, Nyman J, Ramlau R, Wickart-Johansson G, Ellis P, Gladkov O, Pereira JR, Eberhardt WE, Helwig C, Schröder A, Shepherd FA; START trial team. 2014 Tecemotide (L-BLP25) versus placebo after chemoradiotherapy for stage III non-small-cell lung cancer (START): a randomised, double-blind, phase 3 trial. *Lancet Oncol.* 15 (1):59-68. (*if*=25.117, *ci*=no citation as yet)
2. Davies C, Pan H, Godwin J, Gray R, Arriagada R, Raina V, Abraham M, Medeiros Alencar VH, Badran A, Bonfill X, Bradbury J, Clarke M, Collins R, Davis SR, Delmestri A, Forbes JF, Haddad P, Hou MF, Inbar M, Khaled H, Kielanowska J, Kwan WH, Mathew BS, Mittra I, Müller B, Nicolucci A, Peralta O, Pernas F, Petruzelka L, Pienkowski T, Radhika R, Rajan B, Rubach MT, Tort S, Urrútia G, Valentini M, Wang Y, Peto R; Adjuvant Tamoxifen: Longer Against Shorter (ATLAS) Collaborative Group. 2013 Long-term effects of continuing adjuvant tamoxifen to 10 years versus stopping at 5 years after diagnosis of oestrogen receptor-positive breast cancer: ATLAS, a randomised trial. *Lancet.* 381(9869):805-16. Erratum in: *Lancet.* 2013 Mar 9; 381(9869):804. (*if*=39.060, *ci*=16)
3. Julka PK, Chacko RT, Nag S, Parshad R, Nair A, Koppiker CB, Xue FC, Barraclough H, Dhindsa N, Seth A, Majumdar A, Puri T. 2013 A phase 2 study of sequential neoadjuvant chemotherapy with gemcitabine and doxorubicin followed by gemcitabine and cisplatin in patients with large or locally advanced operable breast cancer: results from long-term follow-up. *Breast Cancer.* 20(4):357-62. (*if*=1.330, *ci*=no citation as yet)
4. Slamon D, Eiermann W, Robert N, Pienkowski T, Martin M, Press M, Mackey J, Glaspy J, Chan A, Pawlicki M, Pinter T, Valero V, Liu MC, Sauter G, von Minckwitz G, Visco F, Bee V, Buyse M, Bendahmane B, Tabah-Fisch I, Lindsay MA, Riva A, Crown J; Breast Cancer International Research Group. 2011 Adjuvant trastuzumab in HER2-positive breast cancer. *N Engl J Med.* 365(14):1273-83. (*if*=51.658, *ci*=66)
5. Gregoire V, Hamoir M, Chen C, Kane M, Kawecki A, Julka PK, Wang HM, Prasad S, D'Cruz AK, Radosevic-Jelic L, Kumar RR, Korzeniowski S, Fijuth J, Machiels JP, Sellers MV, Tchakov I, Raben D. 2011 Gefitinib plus cisplatin and radiotherapy in previously untreated head and neck squamous cell carcinoma: A phase II, randomized, double-blind, placebo-controlled study. *Radiother Oncol.* 100(1):62-9. (*if*=4.520, *ci*=3)
6. Digumarti R, Wang Y, Raman G, Doval DC, Advani SH, Julka PK, Parikh PM, Patil S, Nag S, Madhavan J, Bapna A, Ranade AA, Varadhachary A, Malik R. 2011 A randomized, double-blind, placebo-controlled, phase II study of oral talactoferrin in combination with carboplatin and paclitaxel in previously untreated locally advanced or metastatic non-small cell lung cancer. *J Thorac Oncol.* 6(6):1098-103. (*if*=4.473, *ci*=no citation as yet)
7. Bang YJ, Van Cutsem E, Feyereislova A, Chung HC, Shen L, Sawaki A, Lordick F, Ohtsu A, Omuro Y, Satoh T, Aprile G, Kulikov E, Hill J, Lehle M, Rüschoff J, Kang YK; ToGA Trial Investigators. 2010

Trastuzumab in combination with chemotherapy versus chemotherapy alone for treatment of HER2-positive advanced gastric or gastro-oesophageal junction cancer (ToGA): a phase 3, open-label, randomized controlled trial. *Lancet*. 376(9742):687-97. (*if=39.060, ci=224*)

8. Julka PK, Chacko RT, Nag S, Parshad R, Nair A, Oh DS, Hu Z, Koppiker CB, Nair S, Dawar R, Dhindsa N, Miller ID, Ma D, Lin B, Awasthy B, Perou CM. 2008 A phase II study of sequential neoadjuvant gemcitabine plus doxorubicin followed by gemcitabine plus cisplatin in patients with operable breast cancer: prediction of response using molecular profiling. *Br J of Can*. 98: 1327–1335. (*if=5.082, ci=6*)

9. Julka PK, Doval DC, Gupta S, Rath GK. 2008 Response assessment in solid tumors: a comparison of WHO, SWOG and RECIST guidelines. *Br J of Radiol*. 81: 444-449. (*if=1.22, ci=4*)

10. Jagannathan NR, Kumar M, Seenu V, Coshic O, Dwivedi SN, Julka PK, Srivastava A, Rath GK. 2001 Evaluation of total choline from in vivo volume localized proton MR spectroscopy and its response to neoadjuvant chemotherapy in locally advanced breast cancer. *Br J Cancer*. 84(8): 1016-1022. (*if=5.082, ci=35*)

KAUR, GURCHARAN (b 1958), Professor, Guru Nanak Dev University, Amritsar

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Prof. Gurcharan Kaur has far-reaching contributions in 'Neurosciences' in the area of (i) Dietary Restriction (DR) and healthy brain ageing, and (ii) Natural products for neuroprotection. Lifelong calorie restriction/DR although in practice for millennia as a powerful tool for healthy aging, yet only her experimental studies in rats have scientifically validated benefits of late onset short term intermittent fasting dietary restriction regimen. Robust, novel experimental designs focusing neurobehavior and molecular mechanisms warranted greater clinical applications of this lifestyle intervention in patients since such practices prevented cognitive functions loss, and improved motor co-ordination by preventing the underlying age-associated oxidative and synaptic plasticity molecular damages (9, 13, 17, 18, 21, 26, 35, 38)#. Her further studies provided novel insights into the structural and functional basis of neuron-glia interactions in ageing brain, where great diversity of stimuli are received by astrocytes and neurons under varying physiological and pathological conditions. These contributions have established a direct role of brain plasticity marker, PSA-NCAM as facilitator of neuron-glia communication processes (4, 8, 14, 19, 23, 27, 28, 37) #.

Furthermore, Gurcharan's laboratory presented first ever evidences that water extracts of *W. somnifera* and *T. cordifolia* have potential neuro-differentiation and neuroprotection activities, which is an attractive alternative therapeutic approach for treatment of neurodegenerative diseases. Her inventive approach provided valid proof of concept that brain cancers could be treated with low dose-combo-phytotherapies that aided neuro-differentiation, but not neuronal apoptosis, which often complicates in vivo toxicity mechanisms (2, 3, 6, 11, 15) #.

#Refer to the serial no. of publications in the list under column # 9.

Proposer : Dr. KP Mohanakumar, **Second**er : Prof. PK Seth

Ten Best Publications:

1. Singh R., Lakhnarpal D., Kumar S., Sharma S., Kataria H., Kaur M and Kaur G (2011) Late onset intermittent fasting dietary restriction as a potential intervention to retard age associated brain function impairments in male rats. *AGE*, 34(4): 917-33. (*if*=4.08, *ci*= 11)
2. Kumar S., Parkash J., Kataria H and Kaur G (2012) Enzymatic removal of polysialic acid from neural cell adhesion molecule interrupts gonadotropin releasing hormone (GnRH) neuron-glia remodeling. *Mol Cell Endocrinol.* 348 (1): 95-103. (*if*=4.04, *ci*= 2)
3. Kataria H., Wadhwa R., Kaul S.C and Kaur G (2012) Water extract from the leaves of *Withania somnifera* protect RA differentiated C6 and IMR-32 cells against glutamate-induced excitotoxicity. *PLoS One.* 7(5):e37080. (*if*=3.73, *ci*= 7)
4. Kataria H., Shah N., Kaul S.C., Wadhwa R and Kaur G (2011) Water extract of *Ashwagandha* leaves reduces proliferation and migration, and induces differentiation in glioma cells. *eCAM*, 2011:267614. doi: 10.1093/ecam/nep188. (*if*= 4.77, *ci*= 4)
5. Kaur M., Sharma S and Kaur G (2008) Age-related impairments in neuronal plasticity markers and astrocytic GFAP and their reversal by late-onset short term dietary restriction. *Biogerontology*, 9(6): 441-454. (*if*=3.19, *ci*= 13)
6. Singh J and Kaur G (2007) Transcriptional regulation of PSA-NCAM expression by NMDA receptor activation in retinoic acid-differentiated SH-SY5Y Neuroblastoma cultures. *Brain Res.* 1154: 8-21. (*if*= 2.90, *ci*= 24)
7. Parkash J and Kaur G (2005) Neuronal-glia plasticity in gonadotropin-releasing hormone release in adult female rats: role of the polysialylated form of the neural cell adhesion molecule. *J Endocrinol.* 186(2): 397-409. (*if*= 4.06, *ci*= 36)
8. Sharma S and Kaur G (2005) Neuroprotective potential of dietary restriction against kainate-induced excitotoxicity in adult male Wistar rats. *Brain Res Bull.* 67(6): 482-491. (*if*= 2.74, *ci*= 45)
9. Sandhu S.K and Kaur G (2003) Mitochondrial electron transport chain complexes in aging rat brain and lymphocytes. *Biogerontology*, 4(1): 19-29. (*if*= 3.19, *ci*= 25)
10. Sandhu S.K and Kaur G (2002) Alterations in oxidative stress scavenger system in aging rat brain and lymphocytes. *Biogerontology*, 3(3): 161-173. (*if*= 3.19, *ci*= 90)

KHULLAR, MADHU (b 1953), Professor, PGIMER, Chandigarh

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr Khullar has major research interest and contributions in molecular genetics and functional genomics of primary cardiomyopathies, diabetic cardiomyopathy, essential hypertension, coronary artery disease (CAD), diabetic nephropathy and head and neck cancer. Her group has identified novel mutations in several sarcomeric genes in patients with idiopathic cardiomyopathies and reported a wide heterogeneity in genotype-phenotype association in these diseases. They showed that certain modifier genes may contribute to these varied phenotypes. Further their results indicate that at molecular level, these cardiomyopathies (HCM, DCM and RCM) may be similar. She has also shown that MTHFR genotypes and haplotypes are associated with increased risk for essential hypertension and diabetic nephropathy. Her group has also shown that several genetic variants of HMGCR, CETP, APOAI, ABCB1, CYP3A4, CYP7A1 genes are associated with lipid lowering response to Atorvastatin therapy in CAD patients and that a cumulative presence of pro atherogenic genetic variants increased the risk for CAD. Her group has also shown that genetic variants in RAS, inflammatory cytokine and oxidative stress pathways are associated with increased risk for diabetic nephropathy in patients with type 2 diabetes. Her group is currently studying the role of microRNAs in dilated and diabetic cardiomyopathies and the results of these studies have been presented at various International meetings and communicated for publication. Her current research projects include next generation sequencing as diagnostic tool for idiopathic cardiomyopathies, functional genomics of idiopathic cardiomyopathies, role of microRNAs in diabetic Cardiomyopathy and role of transcriptional factors in pathophysiology of cardiomyopathies.

Proposer : Prof C C Kartha, **Secunder** : Prof. Y K Gupta

Ten Best Publications:

1. Kh R, Khullar M, Kashyap M, Pandhi P and Uppal R (2000). Effect of Oral magnesium supplementation on blood pressure, platelet aggregation and calcium handling in DOCA induced hypertension in rats. *J. Hypertension* 18 (7): 919-926 (*if*=3.8, *ci*=46)
2. Kumar R, Bandyopadhyay S, Aggarwal AK and Khullar M (2004). Relation between birthweight and blood pressure among 7–8 year old rural children in India. *Int. J Epidemiology* 33 (1): 87-91 (*if*=6.98, *ci*=11)
3. Kashyap MK, Yadav V, Sherawat BS, Jain S, Kumari S, Khullar M, Sharma PC, Nath R (2005). Different antioxidants status, total antioxidant power and free radicals in essential hypertension. *Mol Cell Biochem* 277(1-2):89-99. (*if*=2.3, *ci*=72)
4. Verma S, Singh S, Bhalla AK, Khullar M (2006). Study of subcutaneous fat in children with juvenile dermatomyositis. *Arthritis and Rheumatism* 55(4):564-8. (*if*=7.47, *ci*=21)
5. Markan S, Sachdeva M, Sehrawat BS, Kumari S, Jain S, Khullar M (2007). MTHFR 677 CT/MTHFR 1298 CC genotypes are associated with increased risk of hypertension in Indians. *Mol Cell Biochem* 302(1-2): 125-131 (*if*=2.3, *ci*=45)
6. Poduri A, Kaur J, Thakur JS, Kumari S, Jain S and Khullar M (2008). Effect of ACE inhibitors and β -blockers on homocysteine levels in essential hypertension. *Journal of Human Hypertension* 22(4):289–294. (*if*=2.8, *ci*=18)
7. Dhandapany PS, Sadayappan S, Xue Y, Powell GT, Rani DS, Nallari P, Rai TS, Khullar M, Soares P, Bahl A, Tharkan JM, Vaideeswar P, Rathinavel A, Narasimhan C, Ayapati DR, Ayub Q, Mehdi SQ, Oppenheimer S, Richards MB, Price AL, Patterson N, Reich D, Singh L, Tyler-Smith C & Thangaraj K (2009). A common MYBPC3 (cardiac myosin binding protein C) variant associated with cardiomyopathies in South Asia. *Nature Genetics* 41(2), 187 – 191. (*if*=35.2, *ci*=113)
8. Ahluwalia TS, Khullar M, Ahuja M, Kohli HS, Bhansali A, Mohan V, Venkatesan R, Rai TS, Sud K, Singal PK (2009). Common variants of inflammatory cytokine genes are associated with risk of nephropathy in type 2 diabetes among Asian Indians. *PLoS ONE* 4(4): e5168. (*if*=3.7, *ci*=37)
9. Ahluwalia TS, Ahuja M, Rai TS, Kohli HS, Bhansali A, Sud K, Khullar M (2009). ACE Variants Interact with the RAS Pathway to Confer Risk and Protection against Type 2 Diabetic Nephropathy. *DNA Cell Biol.* 28(3):141-50. (*if*=2.3, *ci*=37)
10. Dhandapany PS, Razzaque MA, Muthusami U, Kunnoth S, Edwards JJ, Riess I, Sheng J, Hooda B, Mulero-Navarro S, Periyasamy G, Yokota T, Furutani M, Nishizawa T, Nakanishi T, Robbins J, Hajjar RJ, Lebeche D, Tartaglia M, Bahl A, Khullar M, Rathinavel A, Sadler CK, Matsuoka R, Thangaraj K, Gelb BD (2014). RAF1 mutations cause dilated cardiomyopathy *Nature Genetics* (*if*=35.2, *ci*=accepted)

KUMAR, ASHOK (b 1960), Professor & Head, Department of Pediatrics, Institute of Medical Sciences, Banaras Hindu University, Varanasi

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Prof Ashok Kumar has made significant contributions towards understanding maternal-fetal iron homeostasis in maternal iron deficiency anemia. Until recently it was believed that fetus behaves as a complete parasite as far as its iron needs are concerned, and is capable of extracting iron from maternal circulation efficiently regardless of maternal iron levels. His work has shown that extraction of iron by fetus is a function of iron levels available in maternal circulation and fetal iron status and fetal growth are adversely affected in severe maternal iron deficiency anemia. Further, they have also shown that anemic women have insufficient iron present in their breast milk. Thus the offspring of an anemic mother is exposed to inadequate iron not only in-utero but also after birth. In addition to hemoglobin synthesis, iron is required for myelination of developing brain. Iron deficiency during this critical period of life may have long-term adverse effects on cognitive development. Another area where he has made significant contribution is his work on oxidative injury in perinatal asphyxia and anti-oxidant role of bilirubin in neonates. Recently his work on the genetics of neonatal jaundice has improved our understanding of this complex disorder. His work has shown that many cases of idiopathic hyperbilirubinemia in neonates are in fact due to the presence of polymorphisms of UGT1A1 and Heme oxygenase-1 genes.

Proposer : Prof Shyam Sundar, **Seconded** : Prof Arvind Mohan Kayastha

Ten Best Publications:

1. Singla PN, Tyagi M, Shankar R, Dash D, Kumar A. 1996. Fetal iron status in maternal anemia. *Acta Paediatrica* 85: 1327-1330 (*if=1.947, ci=83*)
2. Singla PN, Tyagi M, Kumar A, Dash D, Shankar R. 1997 Fetal growth in maternal anemia. *Journal of Tropical Pediatrics* 43:89-92 (*if=1.006, ci=88*)
3. Kumar A, Pant P, Basu S, Rao GRK, Khanna HD. 2007. Oxidative stress in neonatal hyperbilirubinemia. *Journal of Tropical Pediatrics* 53:69-71 (*if=1.006, ci=27*)
4. Kumar A, Mittal R, Khanna HD, Basu S. 2008. Free radical injury and blood brain barrier permeability in hypoxic ischemic encephalopathy. *Pediatrics* 122: e722-e727 (*if=5.119, ci=43*)
5. Kumar A, Ramakrishna SVK, Basu S, Rao GRK. 2008. Oxidative stress in perinatal asphyxia. *Pediatric Neurology* 38: 181-185 (*if=1.416, ci=20*)
6. Kumar A, Rai A.K. Basu S., Dash D, Singh J.S. 2008. Cord blood and breast milk iron status in maternal anemia. *Pediatrics* 121: e673-677 (*if=5.119, ci=54*)
7. Singh VV, Chauhan SK, Rai R, Kumar A, Singh SM, Rai G. 2013. Decreased pattern recognition receptor signaling, interferon-signature, and bactericidal/permeability-increasing protein gene expression in cord blood of term low birth weight human newborns. *PLoS ONE* 8: e62845 (*if=3.370, ci=1*)
8. Sukla KK, Tiwari PK, Kumar A, Raman R. 2013. Low birth weight (LBW) and neonatal hyperbilirubinemia (NNH) in an Indian cohort: Association of homocysteine, its metabolic pathway genes and micronutrients as risk factors. *PLoS ONE* 8:e 71587 (*if=3.370, ci=1*)
9. Tiwari PK, Sethi A, Basu S, Raman R, Kumar A. 2013. Heme oxygenase-1 gene variants and hyperbilirubinemia risk in north Indian newborns. *European Journal of Pediatrics* 172(12):1627-32 (*if=1.901, ci=0*)
10. Tiwari PK, Bhutada A, Agarwal R, Basu S, Raman R, Kumar A. 2014. UGT1A1 gene variants and clinical risk factors modulate hyperbilirubinemia risk in newborns. *Journal of Perinatology* 34(2):120-4 (*if=2.248, ci=0*)

MEHROTRA, RAVI (b 1956), Director, Institute of Cytology and Preventive Oncology, Noida

Member of the NASI: Yes

(YON 2014, Medical & Forensic Sciences)

Dr. Mehrotra's work has focused on diagnostic and molecular changes in oral potentially malignant and malignant disorders, which are very pertinent and widespread health issues in India. He has published extensively on various diagnostic techniques in oral lesions. Given the exceptionally high use of tobacco, gutka and paan masala in this country, appropriate and easily available alternate sources of medical diagnostics are the need of the hour vis-à-vis complicated and expensive means available in more developed societies. He is one of the few investigators in the world researching the various changes at the cytological and molecular level and the prevalence of Human Papilloma viruses in oral lesions. As a Cytopathologist, he is considered one of the best in the country and diagnostically difficult cases are referred to him. His greatest contribution has been towards the development of superspeciality of Cytopathology in India. In his capacity as Director of ICPO he has the distinction of starting the first Population based cancer registry in Uttar Pradesh, the long-awaited school of cytopathology as well as the first pilot project on Cancer screening technologies in North India. It is his dream to ensure country-wide implementation of screening for oral, breast and cervical cancers. He is also responsible for starting 'Health promotion Clinic' at ICPO, Noida in February 2014 which mainly focuses on screening and early diagnosis of three major cancers namely, oral, breast and cervix in population of Noida and nearby places.

Proposer : Prof. Chitra Sarkar, Secunder : Dr V.M.Katoch

Ten Best Publications:

1. Sinha R, Hussain S, Mehrotra R, Kumar RS, Kumar K, Pande P, Doval DC, Basir SF, Bhradwaj M. (2013) Kras Gene Mutation and RASSF1A, FHIT and MGMT Gene Promoter Hypermethylation: Indicators of Tumor Staging and Metastasis in Adenocarcinomatous Sporadic Colorectal Cancer in Indian Population. PLoS ONE 8(4):e60142 (*if=3.37, ci=9*)
2. Sharan RN, Mehrotra R, Chaudhary Y, Asotra K. (2012) Association of Betel Nut with Carcinogenesis: Revisit with a Clinical Perspective. PLoS ONE ;7(8): e42759 (*if=3.37, ci=8*)
3. Mehrotra R, DK Gupta. (2011) Exciting new advances in oral cancer diagnosis: avenues to early detection Head & Neck Oncology 3:33 (*if=3.39, ci=25*)
4. Mehrotra R, Mishra S, Singh M, Singh M. (2011) The efficacy of oral brush biopsy with computer-assisted analysis in identifying precancerous and cancerous lesions. Head Neck Oncol 3: 39 (*if=3.39, ci=14*)
5. Mehrotra R, Ibrahim R, Eckardt A, Driemel O, Singh M. (2011) Novel strategies in therapy of head and neck cancer. Curr Cancer Drug Targets 11;365-78 (*if=4.77, ci=9*)
6. AK Chaudhary, M Singh, AC Bharti, K Asotra, S Sundaram, Mehrotra R. (2010) Genetic polymorphisms of matrix metalloproteinases and their inhibitors in potentially malignant and malignant lesions of the head and neck. J Biomed Sci. 15;17(1):10 (*if=2.09, ci=31*)
7. Chaudhary AK, Singh M, Sundaram S, Mehrotra R (2009) Role of human papillomavirus and its detection in potentially malignant and malignant head and neck lesions: updated review. Head & Neck Oncology ;1:22 (*if=3.39, ci=54*)
8. Mehrotra R, Hullmann M, Smeets R, Reichert TE, Driemel O. (2009) Oral cytology revisited. J Oral Pathol Med. Feb;38(2):161-6. (*if=2.05, ci=48*)
9. S Pandya, A Chaudhary, M Singh, M Singh, Mehrotra R (2009) Correlation of histopathological diagnosis with habits and clinical findings in oral submucous fibrosis. Head & Neck Oncology May 2;1:10. (*if=3.39, ci=19*)
10. Mehrotra R, Gupta A, Singh M, Ibrahim R. (2006) Application of cytology in diagnosing premalignant or malignant oral lesions. Mol Cancer 5:1 (*if=3.78, ci=129*)

MISRA, SANJEEV (b 1965), Director & CEO, All India Institute of Medical Sciences, Jodhpur.

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Prof. Sanjeev Misra has a brilliant Academic career winning 18 awards including the Prestigious Hewett Medal for standing first in MBBS in KGMC and best student award in MCh (Oncology) from Bangalore University. Prof. Misra has contributed extensively in basic studies, clinical trials, new assessment regimens in malignancies of gallbladder and other common sites like penis, breast and oral cavity. His basic studies have delineated role of polymorphism of adrenergic, estrogen, progesterone receptors, over-expression of p53, liver x-receptor and over half a dozen genetic variants. He participated in Phase II studies with gemcitabine and cisplatin and in intra-hepatic arterial administration of drugs in gallbladder cancer. His publication on Carcinoma gallbladder in Lancet Oncology is one of the top 100 publications from India as published by Indian Journal of Surgery. For his work on Oral cancer he was invited to write a chapter on it in Recent Advances of Surgery published by Royal Society of Medicine, London. His work has been extensively quoted including Nature Reviews Cancer. He was an investigator in several global studies on tamoxifen in breast cancer including the ATLAS Study from UK, and comparative study with Idoxifene. His contributions have been internationally recognized for which he has been honored with 'ad eudem' Fellowship of Royal College of Surgeons of England and Glasgow, Visiting Professorship to Kings College, London, Johns Hopkins, Mayo Clinic and University of Pittsburgh, USA. His contributions to patient care include organization of a paperless hospital at AIIMS, Jodhpur, probably the first in the country.

Proposer : Dr. B.N. Dhawan, Seconder : Dr. P.K. Seth

Ten Best Publications:

1. S Misra, A Chaturvedi, NC Misra, ID Sharma. Carcinoma of the gallbladder. Lancet Oncology 4: 167-176, 2003. (*if=25.12, ci=367*)
2. S Misra, A Chaturvedi, NC Misra. Penile carcinoma: a challenge for the developing world'. Lancet Oncology 5: 240-247, 2004. (*if=25.12, ci=158*)
3. S Misra, A Chaturvedi, MM Goel, AN Srivastava, R Mehrotra, ID Sharma, NC Misra. Overexpression of p53 protein in gallbladder carcinoma in North India. European Journal of Surgical Oncology 26: 164-167, 2000. (*if=2.708, ci=36*)
4. Misra S, Chaturvedi A, Misra N C. Gallbladder Cancer. Current Treatment Options in Gastroenterology 9: 95 – 106, 2006. (*if=Not known, ci=27*)
5. A Wakhlu, S Misra, RK Tandon, AK Wakhlu. Sacrococcygeal teratoma. Pediatr Surg Int 18 : 384- 387, 2002. (*if=1.216, ci=40*)
6. Misra S, Chaturvedi A, Misra NC. Management of gingivobuccal complex cancer. Ann R Coll Surg Engl 2008; 90: 546–553. (*if=1.329, ci=9*)
7. DC Doval, CR Rao, KS Sabitha, M Vijayakumar, S Misra, K Mani, PP Bapsy, SV Kumaraswamy. Malignant melanomas of the Oral Cavity. Report of fourteen cases from a Regional Cancer Centre. European Journal of Surgical Oncology 22:245-249, 1996. (*if=2.614, ci=30*)
8. DC Doval, RV Kumar, KS Sabitha, S Misra, M Vijayakumar, P Hedge, PP Bapsy, K Mani, AM Shenoy, SV Kumaraswamy. Osteosarcoma of the Jaw Bones. British Journal of Oral and Maxillofacial Surgery 35: 357-362, 1997. (*if=2.717, ci=59*)
9. Ranjana Singh, RK Singh, AA Mahdi, S Misra, SP Rai, D Singh, G Cornelissen, F Halberg. Studies on circadian periodicity of urinary corticosteroids in carcinoma of the breast. In Vivo 12: 69-74, 1998 (*if=1.219, ci=13*)
10. Chaudhary A, Wakhlu A, Mittal N, Misra S, Mehrotra D, Wakhlu AK. Melanotic Neuroectodermal Tumor of Infancy: 2 Decades of Clinical Experience With 18 Patients, Journal Oral and Maxillofacial Surgery 2009; 67(1): 47-51. (*if=1.333, ci=13*)

MUKHOPADHYAY, SATINATH (b 1958), Professor, Department of Endocrinology, Institute of Post Graduate Medical Education & Research(IPGMER) and SSKM Hospital,Kolkata

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Professor Satinath Mukhopadhyay, has more than 20 years experience in patient care, teaching and translational research in the field of endocrinology, metabolism and diabetes. In addition to training post doc students in Endocrinology for their DM course, he also mentors PhD students working in the field of molecular endocrinology. He has so far guided four students to their PhD as a co supervisor and is currently supervising the work of around 12 research fellows. He has more than 80 original publications, more than 20 of them being in high impact journals like Nature Medicine, Journal of Biological Chemistry, Biochemical Journal, Metabolism, Lancet, Cellular Physiology and Biochemistry, Diabetes Research and Clinical Practice, Journal of Diabetes, Thyroid, etc. He has made significant contributions in the areas of lipid induced insulin resistance, Vitamin D deficiency in diabetes, Mitochondrial dysfunction in diabetes, thyroid disorders and ovarian cancer. He is actively involved in some of the major global clinical trials as a Principal Investigator (PI). Prof. Mukhopadhyay is a member of the American Endocrine Society, American Diabetes Association, International Osteoporosis foundation, European Association for the study of Diabetes, European society of endocrinology, European Neuroendocrine Association. He is in charge of the 'Diabetic Foot Clinic' at SSKM Hospital. Dr. Mukhopadhyay chairs the 'committee on human ethics' at CSIR-IICB, Kolkata. I have known Prof. Mukhopadhyay for the last several years as a medical scientist who is deeply involved in translational research. I strongly recommend his application for fellowship of the National Academy Sciences (India).

Proposer : Dr. Hemanta K. Majumder, Seconder : Dr. Pijush Kanti Das

Ten Best Publications:

1. Jani RH, Pai V, Jha P, Jariwala G, Mukhopadhyay S, Bhansali A, Joshi S. 2014 Feb, A multicenter, prospective, randomized, double-blind study to evaluate the safety and efficacy of Saroglitazar 2 and 4 mg compared with placebo in type 2 diabetes mellitus patients having hypertriglyceridemia not controlled with atorvastatin therapy (PRESS VI). *Diabetes technology & Therapeutics*. (*if*=2.205)
2. Basu M, Mukhopadhyay S, Chatterjee U, Roy SS. 2014 Jan, FGF16 promotes invasive behavior of SKOV-3 ovarian cancer cells through activation of mitogen-activated protein kinase (MAPK) signaling pathway. *Journal of Biological Chemistry* (*if*=4.651)
3. Dutta D, Mondal SA, Choudhuri S, Maisnam I, Hasanoor Reza AH, Bhattacharya B, Chowdhury S, Mukhopadhyay S. 2014 Jan 6. Vitamin-D supplementation in prediabetes reduced progression to type 2 diabetes and was associated with decreased insulin resistance and systemic inflammation: An open label randomized prospective study from Eastern India. *Diabetes Research and Clinical Practice*. (*if*=2.741)
4. Meher D, Dutta D, Ghosh S, Mukhopadhyay P, Chowdhury S, Mukhopadhyay S. 2014 Jan 6. Effect of a mixed meal on plasma lipids, insulin resistance and systemic inflammation in non-obese Indian adults with normal glucose tolerance and treatment naïve type-2 diabetes. *Diabetes Research and Clinical Practice*. (*if*=2.741)
5. Chatterjee P, Seal S, Mukherjee S, Kundu R, Mukherjee S, Ray S, Mukhopadhyay S, Majumdar SS, Bhattacharya S. 2013 Sep 27. Adipocyte fetuin-A contributes to macrophage migration into adipose tissue and polarization of macrophages. *Journal of Biological Chemistry* (*if*=4.651, *ci*=2)
6. Dutta D, Choudhuri S, Mondal SA, Maisnam I, Reza AH, Ghosh S, Chowdhury S, Bhattacharya B, Mukhopadhyay S. 2013 Mar. Tumor necrosis factor alpha -238G/A (rs 361525) gene polymorphism predicts progression to type-2 diabetes in an Eastern Indian population with prediabetes. *Diabetes Research and Clinical Practice*. (*if*=2.741, *ci*=1)
7. Pal D, Dasgupta S, Kundu R, Maitra S, Das G, Mukhopadhyay S, Ray S, Majumdar SS, Bhattacharya S. 2012 Aug. Fetuin-A acts as an endogenous ligand of TLR4 to promote lipid-induced insulin resistance. *Nature Medicine* (*if*=22.864, *ci*=91)
8. Chattopadhyay M, Guhathakurta I, Behera P, Ranjan KR, Khanna M, Mukhopadhyay S, Chakrabarti S. 2011 Dec. Mitochondrial bioenergetics is not impaired in nonobese subjects with type 2 diabetes mellitus. *Metabolism : Clinical and Experimental*. (*if*=3.096, *ci*=5)
9. Dasgupta S, Bhattacharya S, Biswas A, Majumdar SS, Mukhopadhyay S, Ray S, Bhattacharya S. 2010 Aug. NF-kappaB mediates lipid-induced fetuin-A expression in hepatocytes that impairs adipocyte function effecting insulin resistance. *Biochem J*. (*if*=4.654, *ci*=38)
10. Choudhuri S, Dutta D, Chowdhury IH, Mitra B, Sen A, Mandal LK, Mukhopadhyay S, Bhattacharya B. 2013 Jun. Association of hyperglycemia mediated increased advanced glycation and erythrocyte antioxidant enzyme activity in different stages of diabetic retinopathy. *Diabetes Research and Clinical Practice*. (*if*= 2.741)

MUKHOPADHYAYA, RABINDRANATH, (b. 1951) Scientist-H (Ex); ACTREC, Tata Memorial Center, Navi Mumbai

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. R. Mukhopadhyaya has made extremely notable contributions in AIDS research in India. He was the first to propagate Human Immunodeficiency Virus (HIV) in India, reporting the only Mother to Child transmission profile of HIV prior to introduction of ant-retroviral therapy. He then developed the first indigenous sero-diagnosis test kit for AIDS (Western blot), which was the first successful commercialization of a DBT funded program in the late nineties. For this achievement he won three awards - Vasvik award in Biological Sciences & Technology (1998), All India Biotech Association award (2000-2001) and 'Science in Society' inaugural year award of the Indian National Science Congress, Chandigarh (2004). Subsequently, the first genomic characterization of an HIV-2 isolate from India was done by him. Using this isolate he then developed an indigenous gene transfer vector with multiple platforms. Use of this vector system has greatly helped many investigators in proving their hypotheses by specific target gene down-regulation in mice model, leading to the establishment of physiological relevance of their data besides publications in several high impact journals. Being in plasmid form, the vector components can be grown by a user and thus have a perpetual source of gene transfer system, avoiding the need for buying similar commercially available systems from vendors at a hefty cost; a startup company now plans to commercialize the vector. His laboratory also propagated the only Indian HHV-6 isolate reported so far. His contributions in AIDS research and Medical biotechnology in India has been truly outstanding.

Proposer : Prof. Amit Ghosh, **Seconder** : Prof.. Hemanta K. Majumder

Ten Best Publications:

1. Dhamne H, Chande AG and *Mukhopadhyaya R.* (2014) Lentiviral vector platform for improved erythropoietin expression concomitant with shRNA mediated host cell elastase down regulation. *Plasmid*,71:1-7. (if=1.27)
2. Goel P, Tailor P, Chande AG, Basu A, *Mukhopadhyaya R.* (2013) An infectious HHV-6B isolate from a healthy adult with chromosomally integrated virus and a reporter based relative viral titer assay. *Virus Research*,173:280-5. (if=2.74)
3. Chande AG, Raina S, Dhamne H, Kamat RH and *Mukhopadhyaya R.* (2013) Multiple platforms of a HIV-2 derived lentiviral vector for expanded utility. *Plasmid*,69:90-95. (if=1.27)
4. **Chande AG, Baba M, *Mukhopadhyaya R.* (2012) A single step assay for rapid evaluation of inhibitors targeting HIV-1 Tat mediated LTR transactivation. *AIDS Res Human Retroviruses*, 28:902-6. (if=2.7)**
5. Rub A, Dey R, Jadhav M, Kamat R, Chakkaramakkil S, Majumdar S, *Mukhopadhyaya R* & Saha B. (2009) Cholesterol depletion associated with Leishmania major infection alters macrophage CD40 'signalosome' composition and effector function. *Nature Immunology*, 10:273-280.(if=26.2)
6. Patel MC, Patkar KK, Basu A, Mohandas KM, & *Mukhopadhyaya R.* (2009) Production of immunogenic human papillomavirus-16 major capsid protein derived virus like particles. *Indian J Med Res*,130:213-218. (if=2.06)
7. Santhosh CV, Tamhane MC, Mukhopadhyaya Rita, *Mukhopadhyaya R.* (2008) Full length genome characterization of an HIV-2 isolate from India. *AIDS Res Human Retroviruses*, 24:1315-1317.(if=2.7)
8. Santhosh CV, Tamhane MC, Kamat RH, Patel VV and *Mukhopadhyaya R.* (2008) A lentiviral vector with novel multiple cloning sites: Stable transgene expression in vitro and in vivo. *Biochem Biophys Res Commun*,371:546-550. (if=2.4)
9. Tailor PB, Saikia TK, Advani SH and *Mukhopadhyaya R.* (2004) Activation of HHV-6 in lymphoproliferative disorders: A polymerase chain reaction-based study. *Ann N Y Acad Sci*,1022:282-285. (if=4.36)
10. *Mukhopadhyaya R*, Advani S H and Gangal S G. (1987) In vitro functional abilities of mononuclear cells from spleens in Hodgkin's disease. *Br. J Cancer*,56:800-802. (if=5.08)

PALURU, VIJAYACHARI (b 1962), Director (Scientist-G), Regional Medical Research Centre (ICMR), Port Blair

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. P Vijayachari, Director, Regional Medical Research Centre (RMRC, ICMR), Port Blair is a microbiologist and molecular biologist. He has developed the scientific activities in the field of Leptospirosis, Diarrheal Diseases, Chikungunya, Dengue, Lymphatic filariasis, Tuberculosis, Child health, Tribal Health and Nutrition at the RMRC. He has established a state of art *Leptospira* reference laboratory and *Leptospira* repository, which is now supported by the WHO. He had isolated and identified a new serovar of new serogroup of *Leptospira*, first time in the world. He made efforts to eliminate endemic diseases such as leptospirosis, filariasis, tuberculosis, malaria among the tribal and in settler populations in Andaman Islands. Major achievements in chikungunya include identification of acute flaccid paralysis resembling Guillean Barre Syndrome as clinical deviation and CHIKV induced chronic arthritis is a destructive in nature mediated through immunological injury. He was instrumental in the development and evaluation of a recombinant IgM ELISA and latex agglutination test for the diagnosis of leptospirosis. He had also developed and successfully utilized a novel method by adopting bio-fertilizers for the control of leptospirosis among the farmers who are highly vulnerable. Health and nutritional studies were conducted among various indigenous tribal population to find out factors responsible for under nutrition, micronutrient deficiency, food insecurity among the children. He has made efforts to collect and compile the tribal communities' knowledge of the use of medicinal plants. He is working on the DNA plasmids that can be used as vaccines for leptospirosis and Chikungunya.

Proposer : Dr. Thandavarayan Ramamurthy, **Seconder** : Dr. Amit Ghosh

Ten Best Publications:

1. Shriram, A.N., Krishnamoorthy, K., Arun Sivan., Saha, B.P., Kumaraswami, V., Vijayachari, P., 2014. Impact of MDA and the prospects of elimination of the lone focus of diurnally sub periodic lymphatic filariasis in Nicobar Islands, India. *Acta Tropica*. 113: 93-97. (*if*=2.787, *ci*=Nil)
2. Chaitanya, I.K., Muruganandam, N., Sundaram S. G., Kawalekar, O., Sugunan, A.P., Manimunda, S.P., Ghosal, S.R., Muthumani, K., Vijayachari, P., 2011. Role of proinflammatory Cytokines and Chemokines in chronic arthropathy in chikungunya virus infection. *Viral immunol* 24, 265-271. (*if*=1.78, *ci*=12)
3. Roy, S., Bhattacharya, D., Thanasekaran, K., Ghosh, A.R., Manimunda, S.P., Bharadwaj, A.P., Singhania, M., Sugunan, A.P., Vijayachari, P., 2010. Emergence of fluoroquinolone resistance in *Shigella* isolated from Andaman & Nicobar Islands, India. *Indian J Med Res* 131, 720-722. (*if*=2.061, *ci*=7)
4. Muthumani, K., Lankaraman, K.M., Laddy, D.J., Sundaram, S.G., Chung, C.W., Sako, E., Wu, L., Khan, A., Sardesai, N., Kim, J.J., Vijayachari, P., Weiner, D.B., 2008. Immunogenicity of novel consensus-based DNA vaccines against Chikungunya virus. *Vaccine* 26, 5128-5134. (*if*=3.492, *ci*=82)
5. Vijayachari, P., Sugunan, A.P., Shriram, A.N., 2008. Leptospirosis: an emerging global public health problem. *J Biosci* 33, 557-569. (*if*=1.8, *ci*=133)
6. Manimunda, S.P., Singh, S.S., Sugunan, A.P., Singh, O., Roy, S., Shriram, A.N., Bharadwaj, A.P., Shah, W.A., Vijayachari, P., 2007. Chikungunya fever, Andaman and Nicobar Islands, India. *Emerg Infect Dis* 13, 1259-1260. (*if*=5.99, *ci*=20)
7. Vijayachari, P., Ahmed, N., Sugunan, A.P., Ghousunnissa, S., Rao, K.R., Hasnain, S.E., Sehgal, S.C., 2004. Use of fluorescent amplified fragment length polymorphism for molecular epidemiology of leptospirosis in India. *J Clin Microbiol* 42, 3575-3580. (*if*=4.068, *ci*=32)
8. Vijayachari, P., Hartskeerl, R.A., Sharma, S., Natarajaseenivasan, K., Roy, S., Terpstra, W.J., Sehgal, S.C., 2004. A unique strain of *Leptospira* isolated from a patient with pulmonary haemorrhages in the Andaman Islands: a proposal of serovar portblairi of serogroup Sehgalii. *Epidemiol Infect* 132, 663-673. (*if*=2.867, *ci*=14)
9. Vijayachari, P., Sehgal, S.C., Goris, M.G., Terpstra, W.J., Hartskeerl, R.A., 2003. *Leptospira interrogans* serovar Valbuzzi: a cause of severe pulmonary haemorrhages in the Andaman Islands. *J Med Microbiol* 52, 913-918. (*if*=2.297, *ci*=32)
10. Vijayachari, P., Sugunan, A.P., Sehgal, S.C., 2002. Evaluation of Lepto Dri Dot as a rapid test for the diagnosis of leptospirosis. *Epidemiol Infect* 129, 617-621. (*if*=2.867, *ci*=35)

PARMAR, DEVENDRA (b 1961), Chief Scientist, CSIR-Indian Institute of Toxicology Research (IITR), Lucknow

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Devendra Parmar has made significant contributions in the area of i) extrahepatic metabolism, with particular reference to the expression of drug metabolizing cytochrome P450s (CYPs) in brain, and ii) identification and validation of biomarkers. His studies have demonstrated the role of gene-environment interactions and association of SNPs in drug metabolizing enzymes (DMEs) with tobacco induced head & neck and lung cancer. He has developed non-invasive methods that use monitoring of CYPs in freshly prepared blood lymphocytes to assess the effects of exposure to toxicants. Studies in rodent model have demonstrated similarities in the regulation of blood lymphocyte CYPs with the tissue enzymes and that these assays has the potential to be developed as a bed side tool to monitor the effects of the drugs. Further, by integrating expression profiles of blood lymphocyte CYPs with the genotyping data, he showed that DMEs could be used as a biomarker to monitor the environment induced diseases and chemotherapeutic response. Dr. Parmar has also demonstrated that the distribution and regulation of CYPs in brain is cell-specific. His studies have demonstrated the role of CYPs in neurobehavioral toxicity of environmental chemicals and their possible association with physiological process within the brain. He also showed perhaps for the first time that prenatal exposure to pesticides imprints the expression of CYPs in brain and liver in offsprings leading to deleterious effects in the adulthood. His efforts have further resulted in international collaborations with leading institutions in US (NIEHS) and Germany (GSF, IFADO).

Proposer : Dr. K.C. Gupta, Seconder : Prof. Y.K. Gupta

Ten Best Publications:

1. Parmar, D., Srivastava, S.P., Srivastava, S.P and Seth, P.K. (1985). Hepatic mixed function oxidases and cytochrome P 450 contents in rat pups exposed to di(2 ethylhexyl)phthalate (DEHP) through mother's milk. *Drug Metabolism & Disposition* 13, 368-370. (*if=3.361, ci=24*)
2. Parmar, D and Burka, L.T. (1991). Metabolism and disposition of cyclohexanoneoxime (CHOX) in male F 344 rats. *Drug Metabolism & Disposition* 9, 1101-1107. (*if=3.361, ci=20*)
3. Dey, A., Dhawan, A., Seth, P.K. and Parmar, D. (2005). Evidence for cytochrome P450 2E1 catalytic activity and expression in rat blood lymphocytes. *Life Sciences* 77, 1082-1093 (*if=2.555, ci=17*)
4. Kapoor, N., Pant, A.B., Dhawan, A., Dwivedi, U.N., Seth, P.K., Gupta, Y K and Parmar, D. (2006). Expression of cytochrome P4502E1 in cultured rat brain cells. *Life Sciences* 79, 1514-1522 (*if=2.555, ci=20*)
5. Johri, A., Dhawan, A., Singh, R.L. and Parmar, D. (2006). Effect of prenatal exposure of deltamethrin on the ontogeny of xenobiotic metabolizing cytochrome P450s in the brain and liver of offsprings. *Toxicol. Appl. Pharmacol.* 214, 279-289. (*if=3.975, ci=19*)
6. Singh M., Shah, P Singh, A.P., Rawali, M., Mathur, M., Pant, M.C. and Parmar, D. (2008). Effect of polymorphic GST genes on susceptibility to oral cancer. *Mutation Research. Fundamental and Molecular Mutagenesis* 638, 184-194 (*if=3.902, ci=54*)
7. Shah, P., Singh, A.P., Madhu, S., Mathur, N., Buters, J.T.M., Pant, M.C and Parmar, D. (2008) Interaction of cytochrome P4501A1 genotypes with other risk factors and susceptibility to lung cancer. *Mutation Research. Fundamental and Molecular Mutagenesis* 639, 1-10 (*if=3.902, ci=44*)
8. Yadav, S.S., Ruwali, M., Shah, P.P., Mathur, N., Singh, R.L., Pant, M.C and Parmar, D (2008). Association of poor metabolizers of cytochrome P450 2C19 with Head and Neck cancer and poor treatment response. *Mutation Research. Fundamental and Molecular Mechanisms of Mutagenesis* 644, 31-37. (*if=3.902, ci=20*)
9. Shah, P.P., Kumar Saurabh, Pant, M.C., Mathur, N and Parmar, D. (2009). Evidence for increased cytochrome P4501A1 expression in blood lymphocytes of lung cancer patients. *Mutation Research. Fundamental and Molecular Mechanisms of Mutagenesis* 670, 74-78(*if=3.902, ci=29*)
10. K. Saurabh, Sharma, A., Yadav, S and Parmar, D. (2010). Polycyclic aromatic hydrocarbon metabolizing cytochrome P450s in freshly prepared uncultured peripheral rat blood lymphocytes. *Biochem. Pharmacol.* 79, 1182-88 (*if=4.576, ci=15*)

PAUL, VINOD KUMAR (b 1955), Professor and Head, Department of Pediatrics, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Vinod Paul's contribution to biomedical research in newborn and child health is exceptional and far-reaching. He developed a low cost lung surfactant for premature newborns to treat hyaline membrane disease which is their major cause of mortality. The drug is being manufactured by a leading Indian pharmaceutical firm. Its significant cost advantage compared to similar products from Europe / US makes this preparation accessible to lakhs of needy neonates not only in India, but also in other low resource countries worldwide. He established India's National Neonatal-Perinatal Database Network (NNPD Network) (covered over 150 000 births at 18 centres in 2004-05). (www.newbornwhocc.org/nnpd.htm). This unique newborn health research network in the entire developing world is an unmatched resource for future clinical research. Dr. Paul elucidated the association of maternal genital tract infections due to *Ureaplasma urealyticum*, *Mycoplasma hominis* and *Chlamydia trachomatis* with low birth weight and prematurity and showed that antenatal antimicrobial treatment with erythromycin does not avert prematurity. The WHO inter-country studies by Dr Paul as a core researcher, particularly the Young Infant Study (2000-05) and the Low Birth Weight Feeding studies (2007-09), formed the basis of global recommendations. He has authored over 300 scientific publications, including 15 in *The Lancet*, the world's most prestigious medical journal (Impact factor 39). Total citations 5480; h-index 29; i10-index 101. Dr Paul is a recipient of the highest award of the ICMR, namely, the Dr B. R. Ambedkar Centenary Award for Excellence in Biomedical Research (2009).

Proposer : Prof Jaya S Tyagi, Secondar : Prof N K Mehra

Ten Best Publications:

1. Paul VK, Sachdev HPS, Mavalankar D, Ramachandran, P, Sankar J, Bhandari N, Sreenivas V, Sundararaman T, Govil D, Osrin D, Kirkwood B. Reproductive health, and child health and nutrition in India: meeting the challenge. *Lancet* 2011; DOI:10.1016/S0140-6736 (10) 61492-4. (*if=39.06, ci=91 citations*)
2. Million Death Study Collaborators, Bassani DG, Kumar R, Awasthi S, Morris SK, Paul VK, Shet A, Ram U, Gaffey MF, Black RE, Jha P. Causes of neonatal and child mortality in India: a nationally representative mortality survey. *Lancet* 2010 ; 376(9755):1853-60. (*if=39.06, ci=121 citations*)
3. The Young Infants Clinical Signs Study group (Paul VK). Clinical signs that predict severe illness in children under age 2 months: a multicentre study. *Lancet* 2008; 371; 135-45. (*if=39.06, ci=41 citations*)
4. Hill J, Beriwal S, Chopra I, Paul VK, Kapil A, Singh T, et al. Loop-mediated isothermal amplification assay for detection of common strains of *Escherichia coli*. *Journal of Clinical Microbiology* 2008; 46: 2800-4. (*if=4.07, ci=78 citations*)
5. Martinez J, Paul VK, Bhutta ZA, Koblinsky M, Soucat A, Walker N, Bahl R, Fogstadt H, Costello A; Lancet Neonatal Survival Steering Team. Neonatal survival: a call for action. *Lancet* 2005; 365: 1189-1197. (*if=39.06, ci=225 citations*)
6. Knippenberg R, Lawn JE, Darmstadt GL, Begkoyian G, Fogstad H, Walelign N, Paul VK; Lancet Neonatal Survival Steering Team. Systematic scaling up of neonatal care in countries. *Lancet* 2005; 365: 1087-1098. (*if=39.06, ci=224 citations*)
7. Bang AT, Bang RA, Reddy MH, Baitule SB, Deshmukh MD, Paul VK, de C Marshal TF. Simple criteria to identify sepsis or pneumonia in neonates in the community needing treatment or referral. *Pediatric Infectious Disease Journal* 2005; 24: 335-341. (*if=3.57, ci=46 citations*)
8. Ramanathan K, Paul VK, Deorari AK, Taneja U, George G. Kangaroo mother care in very low birth weight infants. *Indian Journal of Pediatrics* 2001; 68 :1019-1023 (*if=0.72, ci=91 citations*)
9. Paul VK, Gupta U, Singh M, Nag VL, Takkar D, Bhan MK. Genital mycoplasma colonisation among pregnant women and its association with low birth weight. *International Journal of Gynecology and Obstetrics* 1998 ; 63 : 109-114 (*if=1.94, ci=24 citations*)
10. Maheshwari R, Kumar H, Paul VK, Singh M, Deorari AK, Tiwari HK. Incidence and risk factors of retinopathy of prematurity in a tertiary care newborn unit in New Delhi. *National Medical Journal of India* 1996;9 : 211-214. (*if=0.91, ci=57 citations*)

RAY, ARUNABHA (b 1952), Professor and Head, Dept. of Pharmacology, Vallabhbhai Patel Chest Institute, University of Delhi

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

I have known Prof. Arunabha Ray for the last 25 years and have followed his research very closely. Prof. Ray is a researcher of the highest caliber and has made some significant contributions in the area of `stress pharmacology`. Using a novel approach, he has integrated concepts of neuropharmacology and immunopharmacology to explain biological responses to emotional and environmental stressors and their impact on pathophysiological states. His pioneering research on the pharmacology of brain-gut interactions during stress ulceration was widely acclaimed and his subsequent studies on neuro-immune interactions opened up new dimensions for understanding stress mechanisms for which he received international recognition. In his recent research, he identified Nitric Oxide (NO) as an endogenous anti-stress molecule by using acute and chronic stress models and proposed NO mediated signaling pathways for stress induced angiogenesis and immunomodulation as well as stress adaptation. He also showed that gender differences in stress susceptibility and adaptation were regulated by NO and suggested possible interactions of NO with cellular/molecular markers during stress. His research led to significant publications in Brain Research, Physiology and Behavior, Neuroscience Letters, European J Pharmacology, Behavioral Brain Research, etc. His research has been recognized at the international level and led to several awards, honors and fellowships. As a result, he is now internationally recognized as one of the leading exponents in the field of stress research. As further evidence for his scientific acumen, he collaborated with other laboratories, regularly organized scientific meetings attracting global experts and delivered guest lectures in reputed international universities/conferences.

Proposer : Prof. S.D. Seth, **Second**er : Prof. Rup Lal

Ten Best Publications:

1. Ray, A., Henke, P.G. and Sullivan, R.M. 1987. The central amygdala and immobilization stress induced gastric pathology in rats: neurotensin and dopamine. Brain Res. 409 : 398-402. (*if*=2.89, *ci*=62)
2. Ray, A., Henke P.G. and Sullivan, R.M. 1988. Central dopamine systems and gastric stress pathology in rats. Physiol. Behav.42: 359-364 (*if*=3.34, *ci*=37)
3. Ray, A., Henke, P.G. and Sullivan, R.M. 1988. Opiate mechanisms in the central amygdala and gastric stress pathology in rats. Brain Res., 442: 195-198 (*if*=2.89, *ci*=45)
4. Ray, A., Henke P.G. and Sullivan, R.M. 1990. Effects of Intra-amygdalar thyrotropin releasing hormone and its antagonism by atropine and benzodiazepines during stress ulcer formation in rats. Pharmacol.Biochem.Behav.36: 597-601 (*if*=2.60, *ci*=24)
5. Ray, A., Mediratta, P.K. and Sen, P. 1992. Modulation by naltrexone of stress induced changes in humoral immune responsiveness and gastric mucosal integrity in rats. Physiol. Behav.51 : 293-296 (*if*=3.34, *ci*=16)
6. Koner, B.C., Banerjee, B.D. and Ray, A. 1997. Stress - induced modulation of gammaglutamyltranspeptidase (GGT) activity in the lymphoid system: Modulation by drugs. Indian J. Exp. Biol.35 : 222-224 (*if*=1.19, *ci*=21)
7. Gulati K, Ray A, Masood A, Vijayan VK. 2006. Involvement of nitric oxide (NO) in the regulation of stress susceptibility and adaptation in rats. Indian J Exp Biol, 44:, 816-820 (*if*=1.19, *ci*=20)
8. Chakraborty A, Gulati K, Banerji BD, Ray A. 2007. Possible involvement of free radicals in the differential neurobehavioral responses to stress in male and female rats. Behav Brain Res. 179 : 321-325 (*if*=3.39, *ci*=47)
9. Gulati K, Chakraborty A, Ray A. 2007. Modulation of stress induced neurobehavioral changes and brain oxidative injury by nitric oxide (NO) mimetics in rats. Behav Brain Res, 183: 226-230 226-230, 2007 (*if*=3.39, *ci*=21)
10. Chakraborty A, Gulati K, Ray A. 2008. Age related changes in stress-induced neurobehavioral effects in rats modulation by antioxidants and nitrenergic agents. Behav Brain Res 194: 86-91 (*if*=3.39, *ci*=23)

SENGUPTA, SHANTANU (b 1967), Principal Scientist, CSIR-Institute of Genomics and Integrative Biology, New Delhi

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Shantanu Sengupta has integrated genetic, epigenetic, biochemical & proteomic approaches to establish relevance of markers in cardiovascular disease. His work has significantly impacted both basic and applied aspects of cardiovascular biology. He pioneered the view that Coronary Artery Disease (CAD) is associated with hypermethylation, discovered genetic polymorphisms and novel plasma markers for CAD in Indian scenario (DNA Cell Biol,2008;Gene,2013,2014; Biomarkers, 2010,2012;Clin.Genet,2007,2011;PLoS Genetics,2009; J.Hum Gene,t2005). His work has provided new insights into understanding the role of thiol amino acids, homocysteine and cysteine and Vitamin B12 with CAD (Circulation:Cardiovascular Genetics, 2009; Clin Chem Lab Med,2009). Vitamin B12 deficiency in India is more acute due to vegetarian diet that results in elevated levels of these amino acids. His studies on mechanisms of homocysteine induced toxicity are fundamental in understanding its role in human biochemistry (BBRC2000;J.Biol.Chem,2001a,2001b,2003,2011; ATVB,2002;BiochemJ,2006; Proteins,2008; Talanta,2010; Biochemistry,2011;Amino acids,2013). His recent studies on the impact of nutrition on epigenetics also has both basic and applied value since it helps in understanding the role of maternal nutrition in the health of the next generation. This work has for the first time shown that deficiency of vitamin B12 could lead to dyslipidemia which might explain the high incidence of CAD in India (J. Nutr. Biochem.2013;J. Prot.2013). Information emanating from his work with Indian patients, has lead to better understanding of the potential of dietary intervention like vitamin B12 supplementation. His work has thus established an interesting link between nutritional status, epigenetic modification, role of small thiol amino acids and their correlation to Cardiovascular Diseases.

Proposer : Dr. PARTHA PRATIM MAJUMDER, Secondar : Prof. ASIS DATTA

Ten Best Publications:

1. Shantanu Sengupta, H. Chen, T. Togawa, P. M. DiBello, A. K. Majors, M. E. Ketterer and D. W. Jacobsen. 2001, Albumin thiolate anion is an intermediate in the formation of albumin-S-S-homocysteine. J Biol Chem., 276, 30111-30117 (*if*=4.65, *ci*=120)
2. Shantanu Sengupta, C. Wehbe, A. K. Majors, M. E. Ketterer, P. M. Dibello and D. W. Jacobsen. 2001 Relative roles of serum albumin and ceruloplasmin in the formation of homocysteine, homocysteine-cysteine mixed disulfide and cystine in plasma., J Biol Chem., 276, 46896-46904 (*if*=4.65, *ci*=104)
3. Jitender Kumar, Swapan K. Das, Priyanka Sharma, Ganesan Karthikeyan, Lakshmy Ramakrishnan and Shantanu Sengupta. 2005, Homocysteine levels are associated with MTHFR A1298C polymorphism in Indian population. J. Hum. Genet. 50, 655-663 (*if*=2.37, *ci*=63)
4. Arun Kumar, Lijo John, M Alam, Ankit Gupta, Gayatri Sharma, Beena Pillai, Shantanu Sengupta 2006, Homocysteine and cysteine mediated growth defect is not associated with induction of oxidative stress response genes in yeast. Biochem. J., 396, 61-69. (*if*=4.65, *ci*=32)
5. Jitender Kumar, Raja Rao Sunkisala, Ganesan karthikeyan, Shantanu Sengupta. 2007, Common genetic variant upstream of INSIG2 gene is not associated with obesity in Indian population. Clinical Genetics., 71,415-418 (*if*=3.94, *ci*=46)
6. Priyanka Sharma, Jitender Kumar, Gaurav Garg, Arun Kumar, Ashok Patowary, Ganesan Karthikeyan, Lakshmy Ramakrishnan, Vani Brahmachari, Shantanu Sengupta. 2008, Detection of altered global DNA methylation in coronary artery disease patients. DNA and Cell Biology, 27, 357-365 (*if*=2.34, *ci*=59)
7. Jitender Kumar, Gaurav Garg, Arun Kumar, Elayanambi Sundaramoorthy, Krishna Rao Sanapala, Saurabh Ghosh, Ganesan Karthikeyan, Lakshmy Ramakrishnan, Indian Genome Variation Consortium; Shantanu Sengupta. 2009, Single nucleotide polymorphisms in homocysteine metabolism pathway genes: Association of CHDH A119C and MTHFR C677T with hyperhomocysteinemia Circulation:Cardiovascular Genetics., 2, 599-606. (*if*=6.73, *ci*=19)
8. Kumar A, John L, Maity S, Manchanda M, Sharma A, Saini N, Chakraborty K,Sengupta S. 2011, Converging evidence of mitochondrial dysfunction in a yeast model of homocysteine metabolism imbalance. J Biol Chem.,286, 21779-95 (*if*=4.65, *ci*=4)
9. Satish Sati, Vinay Singh Tanwar, K Anand Kumar, Ashok Patowary, Vaibhav Jain, Sourav Ghosh, Shadab Ahmad, Meghna Singh, S Umakar Reddy, Giriraj Ratan Chandak, Manchala Raghunath, Sridhar Sivasubbu, Kausik Chakraborty, Vinod Scaria, Shantanu Sengupta. 2012, High resolution methylome map of rat indicates role of intragenic DNA methylation in identification of coding region. PLoS one, 7(2): e31621 (*if*=3.73, *ci*=24)
10. Satish Sati, Sourav Ghosh, Vaibhav Jain, Vinod Scaria, Shantanu Sengupta. 2012, Genome-wide analysis reveals distinct patterns of epigenetic features in long non-coding RNA loci. Nucleic Acid Res., 40, 10018-10031 (*if*=8.28, *ci*=14)

SHUKLA, SANGEETA (b 1961), Vice Chancellor, Jiwaji University, Gwalior

Member of the NASI: Yes

(YON 2014, Medical & Forensic Sciences)

Professor Sangeeta Shukla, of Jiwaji University, Gwalior has wide experience of research in the field of Reproductive Biology, Biochemical Pharmacology and Environmental Toxicology. She had earned D.Sc. degree and has been awarded fellowship from Welcome Trust and selected for Indo-French Government Fellowship to continue her Ph.D. work in France. She has published about 90 research papers in SCI journals of wide readership and international repute, which acquired cumulative Impact Factor of 105+. She has also edited book and contributed chapters in books. She has delivered many keynote lectures in several national and international conferences. In recognition of her efforts, she held international positions as Vice President for Asian Continent of International Centers for Trace Element Study for UNESCO, France including Coordinator of Research Satellite Center the only functional centre in India, Council Member of International Society for Trace Element Research in Humans 'ISTERH, 2007-2013. She had organized international conference and national workshops. She completed ten Major Research Projects funded by national funding agencies, including Young Scientist Project of DST, DRDE, ICMR, UGC, CCRUM New Delhi and MPCOST, Bhopal and developed good scientific human resource by supervising more than 17 Ph.D. theses and many dissertations of M.Phil and M.Sc. students. Her students have established themselves in scientific and academic institutions in India and abroad. One Indian patent has also been filed by her in 2009. She has been awarded Gold Medal by STOX, India, UNESCO-ROSTSCA, ISCA and MP Young Scientist awards and also one time UGC BSR grant of Rs 7 lakh for academic excellence. Prof. Shukla is also member of NAAC, UPE of UGC, New Delhi, Coordinator, Electron Microscope Facility.

Proposer : PROF. VANI BRAHMACHARI, Seconded : Dr. Kiran Katoch

Ten Best Publications:

1. Chandan BK, Saxena AK, Shukla S, Sharma N, Gupta DK, Suri KA, Suri J, Bhadauria M and Singh B: Hepatoprotective potential of Aloe barbadensis Mill. against CCl₄ induced hepatotoxicity. Journal of Ethnopharmacology 111, 560-566. 2007 (*if=3.72, ci=75*)
2. Jadon A, Bhadauria M and Shukla S: Protective effect of Terminalia bellerica Roxb. and gallic acid against carbon tetrachloride induced damage in albino rats. Journal of Ethnopharmacology 109, 214-218. 2007 (*if=3.72, ci=60*)
3. Shukla S, Mathur R and Prakash AO: Antifertility profile of aqueous extract of Moringa oleifera Lam. Roots. Journal of Ethnopharmacology 22, 51-62. 1988 (*if=3.72, ci=48*)
4. Bhadauria M, Nirala SK and Shukla S: Propolis protects CYP2E1 enzymatic activities and oxidative stress induced by carbon tetrachloride. Molecular and Cellular Biochemistry 302, 215-224, 2007 (*if=2.168, ci=41*)
5. Bhadauria M, Nirala S K and Shukla S: Multiple treatment of propolis extract ameliorates carbon tetrachloride induced liver injury in rats. Food and Chemical Toxicology 46: 2703-12. 2008 (*if=2.999, ci=37*)
6. Chandan BK, Saxena AK, Shukla S, Sharma N, Gupta DK, Singh K, Suri J, Bhadauria M, Qazi GN: Hepatoprotective activity of Woodfordia fruticosa Kurz flowers against CCl₄ induced hepatotoxicity. Journal of Ethnopharmacology 119: 218-224, 2008 (*if=3.72, ci=26*)
7. Sharma N and Shukla S: Hepatoprotective potential of aqueous extract of Butea monosperma against CCl₄ induced damage in rats. Experimental and Toxicologic Pathology 63, 671-676 2011 (*if=2.781, ci=24*)
8. Sharma P, Johri S and Shukla S: Beryllium induced toxicity and its prevention by treatment with chelating agents. Journal of Applied Toxicology 20, 313-318. 2000 (*if=2.478, ci=23*)
9. Shukla S, Bhadauria M and Jadon A: Effect of propolis extract on acute carbon tetrachloride induced hepatotoxicity. Indian Journal of Experimental Biology 42, 993-997. 2004 (*if=1.293, ci=21*)
10. Sharma P, Shah A and Shukla S: Protective effect of Tiron against beryllium induced maternal and fetal toxicity in rats. Arch Toxicology 76(8) 442-448. 2002 (*if=4.67, ci=18*)

SINGH, MAHENDRA PRATAP (b 1970), Principal Scientist & Head of Division, Toxicogenomics & Predictive Toxicology, CSIR-Indian Institute of Toxicology Research, Lucknow

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Singh used 'omics' in combination with classical tools to identify the signature fingerprints of pesticides-induced Parkinsonism to elucidate its molecular mechanism. He established the role of mitochondrial dysfunction, microglial activation and energy metabolism in pesticides-induced Parkinsonism. He reported the expression of glutathione-S-transferase A4-4 and cytochrome P-450d22 genes in mouse brain and established their roles in PD (Patel et al., 2006; Singh et al., 2009; Srivastava et al., 2012). Moreover, neuroprotective mechanisms of nicotine, caffeine, melatonin, resveratrol and silymarin against pesticides-induced PD were also deciphered by him (Singh et al., 2008 and 2009; Singhal et al., 2011; Srivastava et al., 2012; Tiwari et al., 2013). He identified some proteins from blood and cerebrospinal fluid of PD patients that possess tremendous potential to be used as biomarker(s) (Sinha et al., 2007 and 2009).

He reported that prolonged exposure to cypermethrin, one of the most widely used pesticides, induces Parkinsonism and deciphered its underlying mechanism (Singh et al., 2011 and 2012; Tiwari et al., 2012). Cypermethrin model offers many advantages over the classical models. It is environmentally relevant and reproduces PD features after prolonged exposure similar to sporadic PD. Cypermethrin induces striatal dopamine depletion and behavioral deficits, as a result of slow and progressive neurodegeneration that further mimics sporadic PD (Singh et al., 2011 and 2012; Tiwari et al., 2012). He also contributed towards assessing the breast cancer risk (Singh et al., 2007; 2008 and 2011) and understanding drugs-induced hepatotoxicity amelioration by naturally occurring agents (Upadhyay et al., 2007 and 2008).

Proposer : Prof. Lalji Singh, **Seconder** : Dr. Mukul Das

Ten Best Publications:

1. Dixit A, Srivastava G, Verma D, Mishra M, Singh PK, Prakash O, Singh MP* (2013). Minocycline, levodopa and MnTMPyP induced changes in the mitochondrial proteome profile of MPTP and maneb and paraquat mice models of Parkinson's disease. *Biochim. Biophys. Acta: Mol. Basis Dis.* 1832(8): 1227-1240. (*if=4.910, ci=4*)
2. Tiwari MN, Agarwal S, Bhatnagar P, Singhal NK, Tiwari SK, Kumar P, Chauhan LK, Patel DK, Chaturvedi RK, Singh MP*, Gupta KC (2013). Nicotine-encapsulated poly(lactic-co-glycolic) acid nanoparticles improve neuroprotective efficacy against MPTP-induced Parkinsonism. *Free Radic. Biol. Med.* 65: 704-718. (*if=5.271, ci=1*)
3. Srivastava G, Dixit A, Yadav S, Patel DK, Prakash O, Singh MP* (2012). Resveratrol potentiates cytochrome P450d22-mediated neuroprotection in maneb- and paraquat-induced Parkinsonism in the mouse. *Free Radic. Biol. Med.* 52(8): 1294-1306. (*if=5.271, ci=10*)
4. Singh AK, Tiwari MN, Upadhyay G, Patel DK, Singh D, Prakash O, Singh MP* (2012). Long term exposure to cypermethrin induces nigrostriatal dopaminergic neurodegeneration in adult rats: postnatal exposure enhances the susceptibility during adulthood. *Neurobiol. Aging* 33(2): 404-415. (*if=6.166, ci=20*)
5. Singh AK, Tiwari MN, Dixit A, Upadhyay G, Patel DK, Singh D, Prakash O, Singh MP* (2011). Nigrostriatal proteomics of cypermethrin-induced dopaminergic neurodegeneration: microglial activation-dependent and -independent regulations. *Toxicol. Sci.* 122(2): 526-538. (*if=4.328, ci=13*)
6. Singhal NK, Srivastava G, Patel DK, Jain SK, Singh MP* (2011). Melatonin or silymarin reduces maneb- and paraquat-induced Parkinson's disease phenotype in the mouse. *J. Pineal Res.* 50(2): 97-109. (*if=7.304, ci=41*)
7. Sinha A, Srivastava N, Singh S, Singh AK, Bhushan S, Shukla R, Singh MP* (2009). Identification of differentially displayed proteins in cerebrospinal fluid of Parkinson's disease patients: a proteomic approach. *Clin. Chim. Acta* 400(1-2): 14-20. (*if=2.850, ci=27*)
8. Singh V, Rastogi N, Sinha A, Kumar A, Mathur N, Singh MP* (2007). A study on the association of cytochrome-P450 1A1 polymorphism and breast cancer risk in north Indian women. *Breast Cancer Res. Treat.* 101(1): 73-81. (*if=4.469, ci=25*)
9. Patel S, Singh V, Kumar A, Gupta YK, Singh MP* (2006). Status of antioxidant defense system and expression of toxicant responsive genes in striatum of maneb- and paraquat-induced Parkinson's disease phenotype in mouse: mechanism of neurodegeneration. *Brain Res.* 1081(1): 9-18. (*if=2.879, ci=58*)
10. Sethi S, Singh MP, Dikshit M (1999). Nitric oxide-mediated augmentation of polymorphonuclear free radical generation after hypoxia-reoxygenation. *Blood* 93(1): 333-340. (*if=9.060, ci=48*)

SINGH, SURENDER (b 1963), Additional Professor, Department of Pharmacology, All India Institute of Medical Sciences, New Delhi-110029

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Surender Singh, PhD (1998), MAMS (2009) has been faculty of pharmacology for the last twenty years of which nine year in All India Institute of Medical Sciences, New Delhi. Dr. Singh has an excellent track record in academic institutions of high repute. He has to his credit four books, scientific series and he has over 60 scientific papers in indexed journals with cumulative impact factor of 74.937 and total citation of 1574.

He has made significant contributions in the field of pharmacotherapy of inflammatory disorders using cytokine profiling and respective characterization for establishing the disease modifying agent in the treatment of rheumatoid arthritis.

He is recipient of prestigious National ICMR award for biomedical research for his research contribution in the field of "Pharmacotherapy of inflammatory disorders using cytokine profiling and respective characterization in animal models of arthritis". He has made significant contributions in the field of pharmacotherapy of inflammatory disorders using cytokine profiling and respective characterization for establishing the disease modifying agent in the treatment of rheumatoid arthritis.

He has developed the inflammation lab in the department and a certified GLP Inspector of NGCMA, Department of Science & Technology, Govt. of India. He has guided 23 PhD/MD/MSc students. He is a member of several academic and scientific advisory committees. He was instrumental in establishing AIIMS collaboration with Japan Society for Promotion of Science (JSPS), Japan.

In view of his contribution in discipline of pharmacology, I strongly recommended for the fellowship of The National Academy of Sciences, India (NASI).

Proposer : Prof. Y. K. GUPTA, **Secunder** : Prof. N. R. JAGANNATHAN

Ten Best Publications:

1. Surender Singh, DK Majumdar and HMS Rehan (1996). Evaluation of anti inflammatory potential of fixed oil *Ocimum sanctum* Linn (Holy Basil) and its possible mechanism of action. *Journal of Ethnopharmacology*, 54: 19-26 (*if*=2.755, *ci*=99)
2. Surender Singh and DK Majumdar (1997). Evaluation of antiinflammatory activity of fatty acids of *Ocimum sanctum* fixed oil. *Indian Journal of Experimental Biology*, 35: 380-383 (*if*=1.195, *ci*=80)
3. Surender Singh and DK Majumdar (1999). Evaluation of gastric antiulcer activity of fixed oil of *Ocimum sanctum* (Holy Basil) *Journal of Ethnopharmacology*, 65:13-19. (*if*=2.755, *ci*=87)
4. MA Jafri, M Jalis Subhani, Kalim Javed and Surender Singh (2000) Hepatoprotective activity of leaves of *Cassia Occidentalis* against paracetamol and ethyl alcohol intoxication in rats. *Journal of Ethnopharmacology* - 66:355-361 (*if*=2.755, *ci*=90)
5. MA Jafri, M Aslam, Kalim Javed and Surender Singh (2000) Effect of *Punica granatum* Linn (flowers) on blood glucose levels in normal and alloxan induced diabetic rats. *Journal of Ethnopharmacology* - 70:309-314 (*if*=2.755, *ci*=122)
6. PK Mediratta, KK Sharma and Surender Singh (2002) Evaluation of Immunomodulatory potential of *Ocimum sanctum* seed oil and its possible mechanism of action. *Journal of Ethnopharmacology*, 80:15-20 (*if*=2.755, *ci*=97)
7. Surender Singh, Manjusha Malhotra and DK Majumdar (2005) Antibacterial activity of *Ocimum sanctum* L. fixed oil. *Indian Journal of Experimental Biology*, 43: 835-837 (*if*=1.195, *ci*=49)
8. Shweta Gupta, Pramod K Mediratta, Surender Singh, KKSharma and Rimi Shukla (2006). Antidiabetic, antihypercholesterolemic and antioxidant effect of *Ocimum sanctum* (Linn) seed oil. *Indian Journal of Experimental Biology*, 44:300-304 (*if*=1.195, *ci*=50)
9. IG Rathish, Kalim Javed, Shamim Ahmad, Sameena Bano, MS Alam, KK Pillai, Surender Singh & Vivek Bagchi (2009). Synthesis and anti-inflammatory activity of some new 1, 3, 5 trisubstituted pyrazolines bearing benzene sulfonamide. *Bioorganic & Medicinal Chemistry Letters*, 19: 255-258 (*if*=2.338, *ci*=61)
10. Sameena Bano, Kalim Javed, Shamim Ahmad, I.G.Rathish, Surender Singh & M.S.Alam (2011). Synthesis and biological evaluation of some new 2-pyrazolines bearing benzene sulfonamide moiety as anti-inflammatory and anticancer agents. *European Journal of Medicinal Chemistry*, 46(12):5763-5768 (*if*=3.499, *ci*=16)

TRIPATHI, ARVIND (b 1958), Professor & Head, Prosthodontics, Dean, Postgraduate Studies & Research, Saraswati Dental College & Hospital, Lucknow

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr. Arvind Tripathi, embarked on a career in teaching Prosthodontics in December 1985 with an appointment at the Faculty of Dental Sciences King George's Medical College, Lucknow. He was a WHO fellow in Maxillofacial Prosthetics at USA and Canada in 1998, He has also been an American Cancer Society fellow in Maxillofacial Prosthetics in 2001-02.

He started a training program in Maxillofacial prosthetics and offered adjunct services to patients of Surgical Oncology, Plastic surgery Pulmonary medicine and ENT. for post surgical rehabilitation.

Dr. Tripathi joined Saraswati Dental College & Hospital, Lucknow in December 2008 as Dean PG studies and Research and was able to instill the spirit of Dental research in the Institution. He developed a diversified Postgraduate curriculum in his Department of Prosthodontics, introducing three new additional sub-specialities—Maxillofacial prosthetics, Cleftlip & palate prosthetics, Dental Sleep Medicine and Geriatric oral health. This is the first such successful effort in India, and students trained by Dr. Tripathi are proficient in treating a wider variety of Prosthodontic patients.

At the same time this effort has elevated the value of Prosthodontics as an adjunct to Surgical oncology, Plastic Surgery, Pulmonary Medicine and Otorhinolaryngology. Dr. Tripathi is also currently pursuing a PhD. programme in Dental Sleep Medicine.

In appreciation of his unique effort to diversify Postgraduate academic instruction, which is the first of its kind in India and providing free treatment to such patients, I propose his nomination for the Fellowship of NASI.

Proposer : Dr. Nitya anand Ph.D, Padma shri, **Seconder** : Prof. Soniya Nityanand MD, Ph.D

Ten Best Publications:

1. Tripathi Arvind, Kar Sushil K, and SinghSaumyendraV.: A novel technique for making impressions in Maxillectomy patients with Trismus: Int'l J. Pros. Dent2013;4(1):36-39. 4. (*if=unknown, ci=nil*)
2. Singh Ronauk, Tripathi Arvind, Dhiman R K, Kumar Dinesh. Intrapulpal thermal changes during direct provisionalization using various autopolymerizing resins: Ex-vivo study. Medical Journal Armed Forces India xxx (2013)1-8. 2. (*if=unknown, ci=nil*)
3. Parlani Swapnil, Tripathi Arvind, Singh, Saumyendra V.: Increasing the prosthodontic awareness of an aging Indian rural population. Indian J. of Dental Research, Vol-22(3), Nov 2011 (Citation 1) (*if=unknown, ci=1*)
4. Tripathi Arvind, Kar Sushil K, and SinghSaumyendraV.: A novel technique for making impressions in Maxillectomy patients with Trismus: Int'l J. Pros. Dent2013;4(1):36-39. 4. (*if=unknown, ci=nil*)
5. Singh Ronouk, Tripathi Arvind, Singh Saumyendra V., & Bhatnagar Atul: A Study on the Practical Applicability of the Rule of Golden Rectangle in Dental Aesthetics. Eur.J. Prosthodont. Rest. Dent. Vol 19, No. 2, pp 85-89, 2011 (Citation 1) 9. (*if=unknown, ci=1*)
6. Tripathi, Arvind, Pandey, Saumya, Singh, Saumyendra V., Sharma, Naresh Kumar, and Singh, Ronouk: Bisphosphonate therapy for malignancies and metastases: impact on jawbones and prosthodontic concerns Journ.of Prosth.Vol.20 603-611,2011. (Citations 3)(*if=0.681, ci=3*)
7. Goel Ashima, Tripathi Arvind, Pooran Chand, Singh Saumyendra Vikram, Pant M.0 and Nagar Amit : A study on the use of positioning stents in lingual carcinoma patients subjected to radiotherapy Accepted for publication Int. Journ. Prosth Vo123;450-4525ep2010 (Citations 1) 11. (*if=1.625, ci=1*)
8. Arya Deeksha, Tripathi A, Singh SV, Surya Kant, Mishra A and Nagar A: A study to evaluate Post Treatment cephalometric changes in subject having Oral Sleep Apnea Vol 103:170-177 Journ. Prosth.Dent. Mar.2010. (Citations 7) 12. (*if=2.104, ci=7*)
9. Singh SV, Tripathi A. An overview of osteoporosis for the practising prosthodontist. Gerodontology 2010; 27(4): 308-14 (Citations 2)(*if=1.826, ci=2*)
10. Singh, Balendra Pratap, Tripathi Arvind, SinghMan Mohan, Makker Annu and Singh Saumyendra Vikram:: Evaluation of Bone Mineral Density and Testosterone level on Tooth Loss. Indian J. Stomatol 2013;4(1):9-13 3. (*if=unknown, ci=unknown*)

VUTHALURU, SEENU (b 1962), PROFESSOR, DEPARTMENT OF SURGICAL DISCIPLINES, ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI

Member of the NASI: No

(YON 2014, Medical & Forensic Sciences)

Dr Vuthaluru Seenu has been working in the Department of Surgical Disciplines, All India Institute of Medical Sciences, New Delhi, India since 1990. As a faculty member, he has guided many medical graduates to conduct research & publish in peer reviewed journals. AIIMS attracts externs from different Asian and westerner countries & he, as part of AIIMS endeavour has given them exposure to common tropical surgical diseases. AIIMS also gets trained surgeons from Armed Forces & rural hospitals as observers. He has been actively involved in training them in breast, laparoscopic surgery & renal transplantation. His research focus is on applying newer advances of treatment to patients in local settings. His area of interest in research is breast cancer. He is the first Indian investigator to perform & publish data on sentinel node biopsy in breast and other cancers in the country. Our group is recognised for our work pertaining to locally advanced breast cancer and evaluation of sentinel node using Magnetic Resonance Spectroscopy which has been published in peer reviewed journals. Dr Seenu has published pioneering work on sentinel node biopsy for eye lid cancers in peer reviewed journals. He is a member of many national & international scientific academies & fellow of American College of Surgeons (FACS), international union against cancer (FUICC), International College of Surgeons (FICS) & WHO. He is a recipient of many national and international awards for his work in the field of breast cancer & has delivered prestigious orations.

Proposer : Prof. NR JAGANNATHAN, **Second**er : Prof. TP SINGH

Ten Best Publications:

1. Kapur BML, Misra MC, Seenu V, Goel AK. 1998 Pancreatogastrostomy for reconstruction of pancreatic stump after pancreaticoduodenectomy for ampullary carcinoma Am J Surg. 176:274-78. (*if=2.7, ci=41*)
2. Jagannathan NR, Kumar M, Seenu V et al. 2001 Evaluation of total choline from in-vivo volume localized proton MR spectroscopy and its response to neoadjuvant chemotherapy in locally advanced breast cancer. Br J cancer. 84: 1016-22. (*if=5.08, ci=230*)
3. Seenu V, Pavan Kumar MN, Uma S, Datta Gupta S, Jagannathan NR, Mehta SN. 2005 Potential of magnetic resonance spectroscopy to detect metastasis in axillary lymph nodes in breast cancer. Mag Res Spectroscopy. 23: 1005-10. (*if=2.06, ci=27*)
4. A Kumar, R Kumar, V. Seenu. 2009. The role of 18F FDG Pet/CT in evaluation of early response to neoadjuvant chemotherapy in patients with locally advanced breast cancer. Eur Rad; 19;147-1357. (*if=1.6, ci=71*)
5. Seenu V, Habal N, Giuliano 1999. A. Sentinel node and breast cancer: A new paradigm. Nat Med J India. 1999; 12: 253-57 (*if=0.91, ci=6*)
6. Seenu V, Pal H, Chattopadhyay TK. Quality of life after total esophagectomy for esophageal cancer. Trop Gastroenterol. 2001; 22: 7-13. (*if=0.8, ci=153*)
7. NK Shukla, A Goel, V. Seenu 1994. Endoscopically guided placement of nasogastric tube in patients with esophageal carcinoma with absolute dysphagia. J Surg Oncol 56(4) 217-220 (*if=2.64, ci=15*)
8. V. Seenu, A Hafiz. 2005. Routine antibiotic prophylaxis is not necessary for no scalpel vasectomy Int Urol Nephrol 37; 763-765 (*if=1.33, ci=9*)
9. Seenu V, Shridhar D, Bal CS, Parshad R, Kumar A. Laparoscopic cholecystectomy: Cystic duct occlusion with titanium clips or ligature 2005: A prospective randomized study. Trop Gastroentero 25: 180-83. (*if=0.8, ci=9*)
10. S Vuthaluru, Pushkar N, G Lokadarshi et al. 2013 Sentinel lymph node biopsy in malignant eyelid tumor: Hybrid SPECT/CT and dual dye technique. 156 (1) 43-49. (*if=4.29*)

BISWAS, JYOTIRMAY (b 1954), Director of Uveitis and Ocular Pathology Department, Vision Research Foundation, Sankara Nethralaya, Chennai

Member of the NASI: No.

(YON 2013, Medical & Forensic Sciences)

I personally know Dr. Jyotirmay Biswas from the formative period of his life and have seen how diligently he rose to present pinnacle of academic excellence in ophthalmic pathology. In fact, at present Dr. Biswas is the only acclaimed pathologist specializing in uveal tract disease. He has made seminal contribution in understanding the aetiopathogenesis of many infection of the eye disorders like HIV associated retinopathy, parasitic infection of the eye. He is an excellent teacher as borne out by may CME's he has taken part of and as testimony to his teaching skills, Medical Council of India has endowed him with Hari Om Ashram Award. He has given may orations and established himself as a leading ophthalmologist of his time in the country. I have no hesitation in the recommending him for the fellowship of this august institution.

Proposer : Prof. Kanjaksha Ghosh, Seconder : Dr. Dipika Sur

Ten Best Publications:

1. Biswas J, Rao NA and Irvine RR: 'Diagnosis and management of ocular infections in Acquired Immunodeficiency Syndrome' – Indian Journal of Ophthalmology, 36(4)151-155, 1988. (if=2.812, ci=6)
2. Biswas J, Gopal L, sharma T and Badrinath S: Intraocular Gnathostoma spinigerum – Clinicopathological study of Two cases with review of Literature' – Retina – 14:438 – 444, 1994. (if=2.812, ci=36)
3. Biswas J, Madhavan HN, Gopal L and Badrinath SS: Intraocular tuberculosis. Retina 15:461 – 468, 1995. (if=3.16, ci=84)
4. Biswas J, Badrinath SS: Ocular morbidity in patients with active systemic tuberculosis. International Ophthalmology, 19:298,1996(if=4.223, ci=54)
5. Biswas J Narain S, Das D, Ganesh SK: Pattern of uveitis in a referral uveitis clinic in India. International Ophthalmology. International Ophthalmology 20:223-228, 1996. (if=0.89, ci=78)
6. Biswas J, Madhavan HN, George AE, Kumarasamy N, Solomon S, Ocular lesions associated with HIV infection in India: A series of 100 consecutive patients evaluated at a referral center. Am J Ophthalmol Vol. 129, No. 1, 9- 15, 2000. (if=4.223, ci=93)
7. Madhavan HN, Therese KL, Gunisha P, Jayanthi U, Biswas J, Polymerase chain reaction for detection of mycobacterium tuberculosis in epiretinal membrane in Eales' disease. IOVS, Vol.41, No.3, 882-825, March 2000. (if=3.597, ci=98)
8. Biswas J, Krishnakumar S, Gopal L, Bhende MP: Leiomyoma of the ciliary body extending to the anterior chamber – clinicopathological and ultrasound biomicroscopic correlation. Survey of Ophthalmology. 44:336-342,2000. (if=3.174, ci=29)
9. Biswas J, Mani B, Shanmugam MP, Patwardhan D, Kumar K S, Badrinath SS, Retinoblastoma in Adults – Report of 3 Cases and Review Of Literature. Survey of Ophthalmology. Vol. 44, No. 5, 409 – 414, April 2000. (if=3.174, ci=25)
10. Biswas J, Sharma T, Gopal L, Madhavan HN, Sulochana KN, Ramakrishna S. Eales' disease – An update. Survey of Ophthalmology, 2002:47(3): 197-214. (if=3.174, ci=126)

CHAUDHURI, KEYA (b 1952), Chief Scientist, CSIR-Indian Institute of Chemical Biology, Kolkata

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Dr. Chaudhuri's outstanding contributions on molecular pathogenesis of *Vibrio cholerae* have strongly influenced understanding of the disease cholera and developing public health tool against it. Her laboratory was the first to take the challenge of studying *V.cholerae* in-vivo; her-group first showed how to isolate pure *V.cholerae* from rabbit ileal loop. Through differential gene-expression studies, her group demonstrated that due to upregulation of peptidoglycan biosynthetic enzymes in-vivo, *V.cholerae* acquires a more rigid surface-structure, providing a more complete picture of requirement of infection. She discovered a block of genes around *icmF*, gene responsible for cell surface organization, which has a long lasting impact as it turned out to encode a specialized secretory pathway to dispense specific effector proteins in the host probing towards understanding of how cholera vaccines should be designed. Her investigation on *V.cholerae*-innate immune system interaction contributes to the understanding of the molecular basis of reactivity and facilitates construction of improved non-reactogenic vaccine against cholera. Very recently her laboratory has discovered a novel mechanism of transportation of cholera toxin via outer membrane vesicles into the host, which is an unexpected and potentially important discovery for cholera research and therapy and will help design novel interventions to block the progression of the disease. Besides *V.cholerae* pathogenesis, she has also contributed in other areas of medical sciences such as oral precancer and cancer and arsenic toxicity remediation. She is the coauthor of several invited review articles and two books published by Springer-Verlag, Germany. She is a fellow of the National Academy of Medical Sciences (NAMS), India.

Proposer : Prof. S.N. Chatterjee, **Seconder** : Prof. Parimal C. Sen

Ten Best Publications:

1. Chatterjee D and Chaudhuri K. (2013). *Vibrio cholerae* O395 outer membrane vesicles modulate intestinal epithelial cells in a NOD1 dependent manner and induces dendritic cell-mediated Th2/Th17 responses. *Journal of Biological Chemistry* 288(6):4299-309. (IF=4.8, CI=NA)
2. Dutta A, Katarkar A, Chaudhuri K (2013) In-Silico structural and functional characterization of a *V. cholerae* O395 hypothetical protein containing a PDZ1 and an uncommon protease domain. *PLoS ONE* 8(2): e56725 (IF=4.092, CI=NA)
3. Bhowmick S, Chatterjee D and Chaudhuri K. (2012). Human epithelial cells stimulated with *Vibrio cholerae* produce thymic stromal lymphopoietin and promote dendritic cell-mediated inflammatory Th2 response. (2012). *International Journal of Biochemistry & Cell Biology* 44: 1779-1790. (IF=4.634, CI=2)
4. Chatterjee D and Chaudhuri K.(2011). Association of cholera toxin with *Vibrio cholerae* outer membrane vesicles which are internalized by human intestinal epithelial cells. *FEBS Letters* 585:1357-1362. (IF=3.601, CI=5)
5. Bandyopadhyaya A and Chaudhuri K. (2009). Differential modulation of NF- κ B mediated proinflammatory response in human intestinal epithelial cells by cheY homologues of *Vibrio cholerae*. *Innate Immunity* 15(3):131-142 (IF=4.0, CI=2)
6. Bandyopadhyaya A, Sarkar M and Chaudhuri K. (2007). Human intestinal epithelial cell cytokine mRNA responses mediated by NF- κ B are modulated by the motility and adhesion process of *Vibrio cholerae*. *International Journal of Biochemistry and Cell Biology* 39:1863-76 (IF=4.634, CI=2)
7. Das S and Chaudhuri K. Identification of a unique IAHP (IcmF Associated Homologous Proteins) cluster in *Vibrio cholerae* and other proteobacteria through in silico analysis. (2003). *In Silico Biology* 3(3) 287-300 (IF=NA, CI=89)
8. Das S, Chakraborty A, Banerjee R and Chaudhuri K. (2002). Involvement of in vivo induced *icmF* gene of *Vibrio cholerae* in motility, adherence to intestinal epithelial cells and conjugation frequency. *Biochemical and Biophysical Research Communications* 295:922-928 (IF=2.421, CI=37)
9. Chakraborty A, Das S, Majumdar S, Mukhopadhyay K, Roychoudhury S, Chaudhuri K. (2000). Use of RNA arbitrarily primed PCR fingerprinting to identify *Vibrio cholerae* genes differentially expressed in host following infection. *Infection and Immunity* 68:3878-3887 (IF=4.156, CI=31)
10. Porins of *Vibrio cholerae*: Purification and characterisation of OmpU. (1996). Chakrabarti SR, Chaudhuri K, Sen K and Das J. *Journal of Bacteriology* 178:524-530 (IF=3.826, CI=82)

CHHIBBER, SANJAY (b 1955), Professor, Panjab University, Chandigarh

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Current research focus is on infectious diseases, drug resistance, phage therapy, nanoparticles, biofilms, quorum sensing mechanisms, phytochemicals and vaccines. The research in my laboratory on the isolation, characterization and use of bacteriophages as antibacterial agents to combat respiratory and wound infections in normal and diabetic experimental animals has yielded encouraging results. Applying technological advances in the entrapment of bacteriophages in liposomes, a system has been developed that is superior and more convenient. The liposome entrapped phage particles allow their prolonged availability in vivo, avoid neutralization by specific antibodies and allow their entry into phagocytes to kill intracellular bacteria that are otherwise protected from immunological onslaught. Using this approach we were also able to eradicate the bacterial biofilms as unilayered liposomes could make their entry into the deeper layers. Since majority of chronic infections are biofilm mediated hence, this approach will find an application in their treatment. Gingerone, a phytochemical was also found to interfere in the biofilm formation by inhibiting quorum sensing, a cell density dependent signalling pathway that regulates biofilm formation by coordinating gene expression in a bacterial population. Work is in progress to develop this molecule as an anti-infective drug, a novel concept in the development of newer antibacterial agents. Synergy between these agents and antibiotics in tackling biofilms and infections was observed in our laboratory. Currently the focus is on developing and evaluating the impact of newer conjugate vaccine based on acyl homoserine lactone molecules to prevent urinary tract and wound infections. All the studies were made on nosocomial pathogens, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and methicillin resistant *Staphylococcus aureus*.

Proposer : Prof R.K.Kohli, **Seconder** : Prof Arun Grover

Ten Best Publications:

1. Co-Therapy Using Lytic Bacteriophage and Linezolid: Effective Treatment in Eliminating Methicillin Resistant *Staphylococcus aureus* (MRSA) from Diabetic Food Infection [S Chhibber, T Kaur, S Kaur; PLOS one] (*if*=4.24, *ci*=4)
2. Therapeutic potential of bacteriophage in treating *Klebsiella pneumoniae* B5055-mediated lobar pneumonia in mice [S Chhibber, S Kaur, S Kumari; Journal of Medical Microbiology 57 (12), 1508-1513] (*if*=2.29, *ci*=45)
3. Macrophage inflammatory protein-2, neutrophil recruitment and bacterial persistence in an experimental mouse model of urinary tract infection [R Mittal, S Chhibber, S Sharma, K Harjai; Microbes and infection 6 (14), 1326-1332] (*if*=2.8, *ci*=28)
4. Contribution of quorum-sensing systems to virulence of *Pseudomonas aeruginosa* in an experimental pyelonephritis model [R Mittal, S Sharma, S Chhibber, K Harjai; J. Microbiol Immunol. Infect. Diseases. 39; 302-309, 2006] (*if*=2.89, *ci*=26)
5. Inactivation of *Escherichia coli* and coliform bacteria in traditional brass and earthenware water storage vessels [P Tandon, S Chhibber, HR Reed; Antonie van Leeuwenhoek 88 (1), 35-48] (*if*=1.63, *ci*=22)
6. Contribution of Tamm – Horsfall protein to virulence of *Pseudomonas aeruginosa* in urinary tract infection [K Harjai, R Mittal, S Chhibber, S Sharma; Microbes and infection 7 (1), 132-137] (*if*=2.7, *ci*=21)
7. Polysaccharide-iron—regulated cell surface protein conjugate vaccine: its role in protection against *Klebsiella pneumoniae*-induced lobar pneumonia [S Chhibber, J Bajaj, Vaccine 13 (2), 179-184] (*if*=3.77, *ci*=18)
8. Structural changes induced by a lytic bacteriophage make ciprofloxacin effective against older biofilm of *Klebsiella pneumoniae* [V Verma, K Harjai, S Chhibber; Biofouling 26 (6), 729-737] (*if*=4.41, *ci*=26)
9. Restricting ciprofloxacin-induced resistant variant formation in biofilm of *Klebsiella pneumoniae* B5055 by complementary bacteriophage treatment [V Verma, K Harjai, S Chhibber; Journal of Antimicrobial Chemotherapy 64 (6), 1212-1218] (*if*=4.35, *ci*=24)
10. Quorum sensing is necessary for the virulence of *Pseudomonas aeruginosa* during urinary tract infection [R Kumar, S Chhibber, K Harjai; Kidney International 76 (3), 286-292] (*if*=6.41, *ci*=18)

GHOSH, SANKAR KUMAR (b 1963), Professor and Dean, Assam University, Silchar

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Prof. Ghosh is actively engaged in biotechnology research from his Ph.D days in the Department of Biochemistry at Bose Institute and is continuing his scientific pursuit in the emerging areas using four letters (A, T, G, C) of life since last 23 years. His expertise was also acclaimed in the field of cancer genomics and immunology at Cleveland Clinic Foundation, US and DNA barcoding. Presently, he is pursuing and co-coordinating different upfront fields of research with seven distinguished projects in Cancer Biology with AIIMS, ILS and Cancer Hospitals of NE India, use of Nano-particles on Cancer, anti-cancer property of butterfly, Metagenomics (with JNU) and DNA barcoding of Northeast Bio-resources and Coordinating the UGC-SAP programme in the Department of Biotechnology. He developed one of the best Molecular Biology and Genomics laboratories in the Northeast India and trained more than 300 faculties/scholars from his laboratory. He published good number of publications, and few are in the pipeline and guiding three DBT-Post docs and National Associateship and 20 PhD students in remotest Northeast area of India. Under his leadership, developed PCR based diagnosis in healthcare and more than 1000 DNA barcode sequences from NE India are submitted in global databases. He published two books on 'DNA barcoding' [first of its kind throughout the world] and 'Molecular biology' for post graduate studies. He is also serving as Dean, Medical and Pharmaceutical Science as well as Coordinator of Assam University Research Wing at Assam University, Silchar.

Proposer : Dr. Pijush K Das, Seconder : Dr. Hemanta Kumar Majumder

Ten Best Publications:

1. Mitochondrial DNA copy number and risk of oral cancer: a report from Northeast India [corresponding author]-2013 PLOS ONE (*IF=4.41, CI=1*)
2. Association of Mitochondrial D-Loop Mutations with GSTM1 and GSTT1 Polymorphisms in Oral Carcinoma: A Case Control Study from Northeast India [corresponding author]-2013 Oral Oncology (*IF=2.867, CI=1*)
3. Quick diagnosis of female genital tuberculosis using multiplex fast polymerase chain reaction in Southern Assam, India. International Journal of Gynecology and Obstetrics. [Corresponding author]-2012 (*IF=2.045, CI=4*)
4. Accumulation of mutations over the complete mitochondrial genome in tobacco-related oral cancer from northeast India. Mitochondrial DNA. (*IF=1.488, CI=0*)
5. Elevated Levels of Select Gangliosides in T Cells from Renal Cell Carcinoma Patients Is Associated with T Cell Dysfunction. Journal of Immunology [2009] (*IF=5.788, CI=9*)
6. TNF-alpha induction of GM2 expression on Renal Cell Carcinomas promotes T cell dysfunction [2007] Journal of Immunology (*IF=5.788, CI=13*)
7. The Species dilemma of Northeast Indian Mahseer (Actinopterygii: Cyprinidae): DNA barcoding in clarifying the riddle [corresponding author]-2013; PLOS ONE (*IF=4.41, CI=0*)
8. DNA Barcoding to Assess Diversity of Freshwater Catfishes [corresponding author]- 2012: PLOS ONE: (*IF=4.41, CI=1*)
9. Compositional Correlations in Canine Genome reflects similarity with human genome- 2006: JBMB (*IF=2.02, CI=6*)
10. Epigenetic, Genetic and Environmental Interactions in Esophageal Squamous Cell Carcinoma from Northeast India [corresponding author]-2013 PLOS ONE (*IF=4.41, CI=0*)

KANNABIRAN, CHITRA (b 1960), Scientist, L.V. Prasad Eye Institute, Hyderabad

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Dr Chitra Kannabiran is an outstanding molecular geneticist with special focus during the last 20 years on the genetic aspects of hereditary eye diseases. This is a widely neglected area in India, a country which contributes to over 15% of hereditary eye diseases across the world, and a country where intra-community and consanguineous marriages are widely practised. She has devoted her full attention to studying the genetic basis of several types of inherited blinding diseases such as congenital cataract, corneal dystrophies and retinal dystrophies. To this end, she has worked for much of her career in active and intensive collaboration with clinical ophthalmologists at L.V. Prasad Eye Institute, Hyderabad, where she is the seniormost basic research scientist. Some of her notable contributions are- 1) identification of a novel splice mutation in the human beta A1/A3-crystallin gene, leading to deletion of 2 exons with dense congenital cataracts in the affected family; 2) mutation in a gap junction protein gene (connexin) in lens, leading to congenital autosomal recessive cataract; she has further studied the functional loss in the activity of the membrane-associated connexin protein in the lens fiber cells; 3) her genetic analysis of a rare form of corneal dystrophy is noteworthy; 4) Her latest paper in Nature genetics on the association between the gene for NMNAT1 (involved in biosynthesis of NAD) with a childhood-onset retinal disease termed Leber Congenital Amaurosis. These have led her to plan with collaborating clinicians to try and initiate gene therapy for certain retinal disorders.

Proposer : Prof. D. Balasubramanian, **Seconder** : Prof. R.V. Sonti

Ten Best Publications:

1. Marni J. Falk, Qi Zhang, Eiko Nakamaru-Ogiso, Chitra Kannabiran, Zoe Fonseca-Kelly, Christina Chakarova, et al. NMNAT1 Mutations Cause Leber Congenital Amaurosis. Nature Genet (published online July 2012) doi:10.1038/ng.2361. (IF=30)
2. Kannabiran C, Singh HP, Jalali S. Mapping of locus for autosomal dominant retinitis pigmentosa on chromosome 6q23. Hum Genet. 2012; 131:717-723. (IF=6.0)
3. Singh HP, Jalali S, Narayanan R, Kannabiran C. Genetic analysis of Indian families with autosomal recessive retinitis pigmentosa by homozygosity screening. Invest Ophthalmol Vis Sci. 2009;50 (9):4065-71. Epub 2009 Apr 1. (IF=3.6, CI=9)
4. Ponnamp SP, Ramesha K, Tejwani S, Matalia J, Kannabiran C. A missense mutation in LIM2 causes autosomal recessive congenital cataract. Mol Vis. 2008 Jun 23;14:1204-8. PubMed PMID: 18596884 (IF=2.7, CI=17)
5. Ponnamp SP, Ramesha K, Tejwani S, Ramamurthy B, Kannabiran C. Mutation of the gap junction protein alpha 8 (GJA8) gene causes autosomal recessive cataract. J Med Genet. 2007 Jul;44(7):e85. (IF=7.0, CI=36)
6. Friedman JS, Chang B, Kannabiran C, Chakarova C, Singh HP, Jalali S, et al. Premature truncation of a novel protein, RD3, exhibiting subnuclear localization is associated with retinal degeneration. Am J Hum Genet. 2006 Dec;79(6):1059-70. (IF=10.0, CI=43)
7. Jiao X, Sultana A, Garg P, Ramamurthy B, Vemuganti GK, Gangopadhyay N, Hejtmancik JF, Kannabiran C. Autosomal recessive corneal endothelial dystrophy (CHED2) is associated with mutations in SLC4A11. J Med Genet. 2007 Jan;44(1):64-8. (IF=7.0, CI=39)
8. Kannabiran C, Klintworth GK. TGFBI gene mutations in corneal dystrophies. Hum Mutat. 2006 Jul;27(7):615-25. (IF=6.0, CI=74)
9. Kannabiran C, Rogan PK, Olmos L, Basti S, Rao GN, Kaiser-Kupfer M, Hejtmancik JF. Autosomal dominant zonular cataract with sutural opacities is associated with a splice mutation in the betaA3/A1-crystallin gene. Mol Vis. 1998 Oct 23; 4:21. (IF=2.7, CI=107)
10. Singh HP, Jalali S, Hejtmancik JF, Kannabiran C. Homozygous null mutations in the ABCA4 gene in two families with autosomal recessive retinal dystrophy. Am J Ophthalmol. 2006 (IF=3.0, CI=5)

KHANNA, VINAY KUMAR (b 1963), Principal Scientist, CSIR - Indian Institute of Toxicology Research, Lucknow

Member of the NASI: Yes

(YON 2013, Medical & Forensic Sciences)

Contributions of Dr. Vinay K.Khanna are summarized in following three major areas, (i) Delineation of cellular and molecular mechanisms of neurotoxicity of environmental chemicals using in vitro/in vivo models – Vinay demonstrated that peri-natal protein malnutrition is an important predisposing factor in the neurotoxicity of plastic monomers.1,5,9,10 Exposure to monocrotophos and lambda-cyhalothrin, extensively used pesticides and arsenic, a metalloid resulted in long lasting neurobehavioral alterations in developing rats.63,64,65,72,77 Recently, he developed a novel analytical method to analyse 3-PBA, principal metabolite of lambda-cyhalothrin.76 Studies on neurotropism of Japanese Encephalitis Virus helped in understanding its etiology.26,44,46,47 In vitro models including stem cells developed are useful to delineate mechanism(s) of neurotoxicity of chemicals. 36,38,50,53,54,55,59,61,66,68,69,75,81

(ii) Develop peripheral markers for neurotoxicological, neuropsychiatric and ocular disorders – He showed that blood platelets can serve as peripheral marker for selected neurotoxicological,4,18,R2,R3,R4 neuropsychiatric4,17,23,42,43,R2,R3,R4 and ocular disorders.14,16,21,24,28,45,52,57,62,71,74,80,R6 Translating experimental findings to clinical research, assay of platelet DA-D2 receptors in Parkinson's cases was helpful in distinguishing responders and non-responders to L-DOPA, used in treatment of Parkinsonism.4,R2,R3,R4 Enhanced platelet MAO-B activity in Parkinson's cases43 and polymorphism in environmental responsive genes that may modify the risk to Parkinson's disease was shown.34,51 (iii) Mechanism of neuroprotection in chemical induced neurotoxicity and screening of psychoactive potential of natural extracts - Neuroprotective efficacy of curcumin and other natural extracts was demonstrated using appropriate model of chemical induced neurodegeneration and ischemia.19,20,22,27,30,35,37,38,48,49,58,60,70,82 A high throughput neurotransmitter receptor screen developed by him for rapid screening of psychoactive potential of natural/synthetic extracts led to identification of new bio-actives which have been patented.

Proposer : Prof. Prahlad K. Seth, Lucknow, **Seconder** : Prof. Bhola N. Dhawan, Lucknow

Ten Best Publications:

1. Vinay K. Khanna, R. Husain and Prahlad K. Seth. Effect of protein malnutrition on the neurobehavioral toxicity of styrene in young rats. *Journal of Applied Toxicology* 13: 351 (1994). (*if*=2.31, *ci*=20)
2. P.K. Shukla, Vinay K. Khanna, M.Y. Khan and R.C. Srimal. Protective effect of curcumin against lead neurotoxicity in rat. *Human and Experimental Toxicology* 22: 653-658 (2003). (*if*=1.57, *ci*=84)
3. P.K. Shukla, V.K. Khanna, M. M. Ali, M. Y. Khan and R.C. Srimal. Anti-ischemic effect of curcumin in rat brain. *Neurochemical Research* 33: 1036 – 1043 (2008). (*if*=2.43, *ci*=86)
4. Madhu Singh, A.J. Khan, P.P. Shah, R. Shukla, V.K. Khanna and D. Parmar. Polymorphism in environmental responsive genes and association with Parkinson's Disease. *Molecular and Cellular Biochemistry* 312: 131 – 138 (2008). (*if*=2.19, *ci*=47)
5. R.S. Yadav, M.L. Sankhwar, R.K. Shukla, R. Chandra, A.B. Pant, F. Islam, V.K. Khanna, Attenuation of arsenic neurotoxicity by curcumin in rats. *Toxicol Appl Pharmacol.* 240(3): 367-376 (2009). (*if*=4.116, *ci*=41)
6. M.P. Kashyap, A.K. Singh, M.A. Siddiqui, V. Kumar, V.K. Tripathi, V.K. Khanna, S. Yadav, S.K. Jain, A.B. Pant. Caspase cascade regulated mitochondria mediated apoptosis in monocrotophos exposed PC12 cells. *Chem Res Toxicol.* 23(11):1663-1672 (2010). (*if*=4.01, *ci*=32)
7. R.S. Yadav, L.P. Chandravanshi, R.K. Shukla, M.L. Sankhwar, R.W. Ansari, P.K. Shukla, A.B. Pant, V.K. Khanna. Neuroprotective efficacy of curcumin in arsenic induced cholinergic dysfunctions in rats. *NeuroToxicology.* 32:760 -768 (2011). (*if*=3.082, *ci*=17)
8. M.P. Kashyap, A.K. Singh, V. Kumar, V.K. Tripathi, R.K. Srivastava, M. Agrawal, V.K. Khanna, S. Yadav, S.K. Jain and A.B. Pant. Monocrotophos induced apoptosis in PC12 cells: role of xenobiotic metabolizing cytochrome P450s. *PLoS One* 6(3): e17757. doi:10.1371/journal.pone.0017757; 1-11 (2011). (*if*=4.24, *ci*=20)
9. R.W. Ansari, R.K. Shukla, R.S. Yadav, K. Seth, A.B. Pant, D. Singh, A.K. Agrawal, F. Islam, V.K. Khanna. Cholinergic Dysfunctions and Enhanced Oxidative Stress in the Neurobehavioral Toxicity of Lambda-Cyhalothrin in Developing Rats. *Neurotox Res.* 22: 292 – 309 (2012). (*if*=3.09, *ci*=6)
10. L. P. Chandravanshi, R. S. Yadav, R. K. Shukla, A. Singh, S. Sultana, A. B. Pant, D. Parmar and Vinay K. Khanna. Reversibility of changes in brain cholinergic receptors and acetylcholinesterase activity in rats following early life arsenic exposure. *International J. Developmental Neuroscience* 34: 60-75 (2014), doi: 10.1016/j.ijdevneu.2014.01.007. (*if*=2.536)

MANDAL, NRIPENDRANATH (b 1959), Associate Professor, Bose Institute, Kolkata

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Internal imbalance of Reactive Oxygen Species (ROS) induce various degenerative diseases like cancer and Coronary Heart Disease (CHD). Early prediction and safer drug development will alleviate these diseased conditions, while avoiding the detrimental side effects of conventional therapies with synthetic drugs. Research in Medical Biotechnology found twenty nine medicinal plants/algae/lichen for potent antioxidative and free radical scavenging efficacies and twelve are possible sources of safe and orally-administrable drug to release iron in iron-overload-induced hepatotoxic condition. Moreover, among these, nine have shown in vitro anticancer effects in various cancer cell lines by inducing apoptosis and/or regulation of cell cycle, while being nontoxic to normal cells. For the first time, five natural compounds have been purified from bark of *Spondias pinnata*, among which one has been characterized to be a novel compound. Case control study of CHD, through multivariate analysis, has shown that ratio of different apolipoproteins and LDL particle size along with distribution of ABO blood group are potent indicators and can be used for diagnosis of predisposed CHD among Asian Indian population in Eastern India. Along with, genotypes with apo E4 allele have been found to be associated with CAD irrespective of other risk factors. Moreover, anti- to pro-inflammatory cytokine ratios may be implicated in the development of Acute Myocardial Infarction. These research contributions, as reflected in the publications of the nominee, will be pivotal to develop biometric chip for early prediction of CHD, as well as novel and safe drug development, from the prevention and therapeutic points of view.

Proposer : Prof. Sekhar Chakrabarti, **Second**er : Prof. Sampa Das

Ten Best Publications:

1. Ghatge, N. B., Chaudhuri, D., Sarkar, R. Sajem, A.L., Panja, S., Rout, J. and Mandal, N. (2013) An antioxidant extract of tropical lichen, *Parmotrema reticulatum*, induces cell cycle arrest and apoptosis in breast carcinoma cell line MCF-7 PLoS ONE 8(12): e82293. DOI:10.1371/journal.pone.0082293 (*if*=3.73)
2. Mallik, A. and Mandal, N. (2013) Bibliometric analysis of global publication output and collaboration structure study in microRNA research Scientometrics DOI 10.1007/s11192-013-1128-z (*if*=2.13)
3. Biswas, S.; Ghosal, P. K.; Halder, B. and Mandal, N. (2013) Distribution of ABO Blood Group and Major Cardiovascular Risk Factors with Coronary Heart Disease BioMed Research International vol. 2013, Article ID 782941 DOI:10.1155/2013/782941 (*if*=2.88)
4. Sarkar, R., Hazra, B. and Mandal, N. (2012) Hepatoprotective potential of *Caesalpinia crista* against iron overload induced liver toxicity in mice Evidence-based Complementary and Alternative Medicine Volume 2012, Article ID 896341, 9 pages doi:10.1155/2012/896341 (*if*=1.722, *ci*=2)
5. Sarkar, R., Hazra, B. and Mandal, N. (2012) Reducing power and iron chelating property of *Terminalia chebula* (Retz.) alleviates iron induced liver toxicity in mice BMC Complementary and Alternative Medicine 12:144 doi:10.1186/1472-6882-12-144 (*if*=2.08, *ci*=2)
6. Sarkar, R., Hazra, B. and Mandal, N. (2012) Remediation of iron-overload induced oxidative stress by *Caesalpinia crista* Free Radical Biology and Medicine, Volume 53, Supplement 1, September 2012, Page S104, DOI 10.1016/j.freeradbiomed.2012.08.218 (*if*=5.969)
7. Hazra, B., Sarkar, R., Biswas, S. and Mandal, N. (2010) Comparative study of the antioxidant and reactive oxygen species scavenging properties in the extracts of the fruits of *Terminalia chebula*, *Terminalia bellerica* and *Emblica officinalis* BMC Complementary and Alternative Medicine 10:20 doi:10.1186/1472-6882-10-20 (*if*=2.08, *ci*=54)
8. Mandal, S., Hazra, B., Sarkar, R., Biswas, S. and Mandal, N. (2009) Assessment of the antioxidant and reactive oxygen species (ROS) scavenging activity of methanolic extract of *Caesalpinia crista* leaf. Evidence-based Complementary and Alternative Medicine doi:10.1093/ecam/nep072 (*if*=1.722, *ci*=30)
9. Hazra, B., Biswas, S. and Mandal, N. (2008) Antioxidant and free radical scavenging activity of *Spondias pinnata*. BMC Complementary and Alternative Medicine 8:63 doi:10.1186/1472-6882-8-63 (*if*=2.08, *ci*=197)
10. Biswas, S., Ghosal, P.K., Mandal, S.C. and Mandal, N. (2008) Association of low-density lipoprotein particle size and ratio of different lipoproteins and apolipoproteins with coronary heart disease. Journal of Cardiology 52:118-126 (*if*=2.298, *ci*=9)

NALLARI, PRATIBHA (b 1957), Professor and Head, Dept. of Genetics, Osmania University, Hyderabad-7

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

I am happy to propose Dr. Pratibha Nallari as a Fellow of National Academy of Sciences, India whom I know as a pioneer in carrying out considerable research on very rare disorders in Indian Population such as Dilated Cardiomyopathy (DCM) and Hypertrophic Cardiomyopathy (HCM), Arrhythmogenic Right Ventricular Dysplasia/Cardiomyopathy (ARVD/C), Long QT syndrome and Idiopathic Pulmonary Arterial Hypertension (IPAH) for which drug targets haven't been identified. Dr. Nallari's research on heritable cardiomyopathies revealed an association with a deletion in cardiac Myosin Binding Protein C gene which is associated with an increased risk of heart failure in South Asian populations (Nature Genetics 2009). Apart from this, she has identified 84 novel mutations which are deposited to NCBI database which can be considered as diagnostic markers as well as therapeutic targets for these rare disorders. To validate the functional aspects of these novel mutations, cloning and cell lines studies are being carried out. Her research on Lymphatic filariasis has led to identification of genetic markers which are potential targets for developing vaccines. Dr. Nallari's highly enthusiastic activity on identification of genetic markers for IPAH has earned her not only national level funding but also attracted International collaborations with University of Lincoln, UK for research on IPAH, and an international grant from GlaxoSmithKline, UK. Her collaboration with Sick Kids Hospital, Toronto for carrying out Exome analysis of ARVD/C DNA samples revealed various mitochondrial genes in the etiology of ARVD/C which are the stepping stones for developing diagnostic kits/potential drug targets.

Proposer : Dr.G.Bhanu Prakash Reddy, **Secunder** : Prof.V.Dashavantha Reddy Vudem

Ten Best Publications:

1. Perundurai S Dhandapany, Sakthivel Sadayappan, Yali Xue, Gareth T Powell, Deepa Selvi Rani, Pratibha Nallari, Taranjit Singh Rai, Madhu Khullar, Pedro Soares, Ajay Bahl, Jagan Mohan Tharkan, Pradeep Vaideeswar, Andiappan Rathinavel, Calambur Narasimhan, Dharma Rakshak Ayapati, Qasim Ayub, S Qasim Mehdi, Stephen Oppenheimer, Martin B Richards, Alkes L Price, Nick Patterson, David Reich, Lalji Singh, Chris Tyler-Smith & Kumarasamy Thangaraj "A common MYBPC3 (cardiac myosin binding protein C) variant associated with cardiomyopathies in South Asia", Nature Genetics 41, 187 – 191, 2009 (*if=35.532, ci=95*)
2. Deepa Selvi Rani, Perundurai S. Dhandapany, Pratibha Nallari, Periyasamy Govindaraj, Lalji Singh, Kumarasamy Thangaraj. "Mitochondrial DNA Haplogroup 'R' is Associated with Noonan syndrome of South India", Mitochondrion, 10(2): 166-73, 2010. (*if=4.2, ci=39*)
3. Gayatri Ramachandran & Manoj Kumar, Deepa Selvi Rani, Ananthapur Venkateswari, Calambur Narasimhan, Pratibha Nallari, Punit Kaur. "An In silico Analysis of Troponin I Mutations of Indian Origin in Hypertrophic Cardiomyopathy" PLoS ONE, 8(8); 1-8, 2013. (*if=3.7, ci=0*)
4. Lova Satyanarayana M, Advithi R, Viswamitra V, Mona Latifi, Hossein MJ, Venkateshwari A, Pratibha N. "Haplotypes of NOS3 Gene Polymorphisms in Dilated Cardiomyopathy" PLoS ONE, 8(7); 1-5, 2013 (*if=3.7, ci=2*)
5. Maithili.D.V.N., Pranathi Rao.P.,Reena.T.R., Bhavesh.T and Pratibha N. "Etiopathogenesis of Arrhythmogenic Right Ventricular Dysplasia/ Cardiomyopathy", J.Hum.Genet. 50:375–381, 2005. (*if=2.275, ci=19*)
6. Hridesh Dixit, Lakshmi Rao, Pratibha Nallari, Venkata Padmalatha, Turlapati Raseswari, Anil Kumar Kapu, Bineet Panda, Durgadutta Tosh, Mamata Deendayal, Nalini Gupta, Baidyanath Chakrabarthy, Lalji Singh. "Genes Governing premature ovarian failure", RBMO, 20: 724-740, 2010. (*if=3.26, ci=11*)
7. Deepa SR, Pratibha N, Narasimhan C, Thangaraj K, " Cardiac Troponin T (TNNT2) Mutations Are Less Prevalent in Indian Hypertrophic Cardiomyopathy Patients" DNA and Cell Biology, 31(4): 616-624, 2011 (*if=2.159, ci=5*)
8. Lakshmi Rao, Murthy Kanakavalli, Raseswari Turlapati, Pratibha Nallari, Lalji Singh "Paternally derived translocation t(8;18)(q22.1;q22)pat associated in a patient with developmental delay: Case report and review" Journal of Pediatric Neurosciences, 5: 64-67, 2010. (*if=2.26, ci=2*)
9. Reena T.R., Annapurna S.D., Narasimhan C., Bhavesh J., Prafulla G.K. & Pratibha N., "Genotype-Phenotype correlation of R870H mutation in Hypertrophic Cardiomyopathy " Clin. Genet. 69: 434-436 2006. (*if=3.26, ci=2*)
10. Vinod C, Jyothy A, Vijay Kumar M, Raghu Raman R, Nallari P, Venkateshwari A. "Heterozygosity for TGF β1 -509 C/T Polymorphism is Associated With Risk for Breast Cancer in South Indian Population" Tumour Biol, DOI 10.1007/s13277-012-051, 2012. (*if=2.2, ci=0*)

RANI, RAJNI (b 1955), Staff Scientist VII, National Institute of Immunology, New Delhi

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Dr. Rajni Rani has made significant contributions in the area of Molecular Immunogenetics having far reaching implications in disease prognosis and management of several important autoimmune and infectious diseases like psoriasis, Type 1 diabetes, vitiligo, hypoparathyroidism and leprosy. Her work on type 1 diabetes demonstrated integrated roles of different cytokine genes, insulin gene, predisposing MHC alleles and vitamin D receptor gene in autoimmune Th1 responses against the beta cells of the pancreas. She has shown elegantly that different manifestations of diseases like leprosy and vitiligo could be due to MHC molecules with distinct molecular signatures for the peptide binding groove responsible for the presentation of peptides. She has published the largest studies on vitiligo and hypoparathyroidism providing strong evidence for autoimmune nature of these diseases with a strong genetic factor for predisposition to develop these diseases in the highly polymorphic MHC complex. Her work received well-deserved recognition in the form of a commentary in *Journal of Investigative Dermatology*, a Nature Press journal. Recently she has been involved in studying the melanocyte-keratinocyte biology and their interactions to understand the disappearance of pigment producing melanocytes in vitiligo. She is a very talented Immunogeneticist and a scientist with clarity of work who has consistently worked on disease related issues with human materials and subjects during the entire span of her career. Her studies have a direct bearing on understanding the etiology and genetic factors associated with human diseases. It is because of this unique expertise and ability she should be recognized.

Proposer : Dr. Chandrima Shaha, **Second**er : Dr. Sher Ali

Ten Best Publications:

1. Natarajan VT, Ganju P, Singh A, Vijayan V, Kirty K, Yadav S, Puntambekar S, Bajaj S, Dani P, Kar HK, Gadgil CJ, Natarajan K, Rani R and Gokhale RS. (2014) IFN- γ signaling maintains skin pigmentation homeostasis through regulation of melanosome maturation. *Proceedings of National Academy of Sciences, USA*, 2014, 111 : 2301-2306 (*if=9.74 (current), ci=Just published*)
2. Goswami R, Singh A, Gupta N, Consortium IGV, Rani R. (2012). Presence of strong association of the Major Histocompatibility Complex (MHC) Class I allele HLA-A*26:01 with idiopathic hypoparathyroidism. *Journal of Clinical Endocrinology and Metabolism*. *Journal of Clinical Endocrinology and Metabolism*. 97 : E1820-E1824; doi:10.1210/jc.2012-1328. (*if=6.5 (corresponding year), ci=cited by 2*)
3. Singh A, Sharma P, Kar HK, Sharma VK, Tembhre MK, Gupta S, Laddha NC, Dwivedi M, Begum R; The Indian Genome Variation Consortium, Gokhale RS, Rani R. (2012). HLA alleles and amino acid signatures of the peptide binding pockets of HLA molecules in Vitiligo. *Journal of Investigative Dermatology*. 132(1):124-134; <http://dx.doi.org/10.1038/jid.2011.240>. (*if=6.193 (corresponding year), ci=cited by 16*)
4. Natrajan VT, Singh A, Kumar AA, Sharma P, Kar HK, Marrot L, Meunier JR, Natarajan K, Rani R and Gokhale RS. (2010). Transcriptional Upregulation of Nrf2-dependent Phase II Detoxification Genes in the Involved Epidermis of Vitiligo Vulgaris *Journal of Investigative Dermatology*. 130: 2781-2789; doi:10.1038/jid.2010.201. (*if=6.31 (corresponding year), ci=cited by 15*)
5. Israni N, Goswami R, Kumar A, Rani R. (2009). Interaction of vitamin D receptor with HLA-DRB1*0301 in Type 1 diabetes patients from North India. *PLoS One*. 4(12): e8023. doi:10.1371/journal.pone.0008023 (*if=4.41 (corresponding year), ci=cited by 20*)
6. Spierings E, Hendriks M, Absi L, Canossi A, Chhaya S, Crowley J, Dolstra H, Eliaou JF, Ellis T, Enczmann J, Fasano ME, Gervais T, Gorodezky C, Kircher B, Laurin D, Leffell MS, Loiseau P, Malkki M, Markiewicz M, Martinetti M, Maruya E, Mehra N, Oguz F, Oudshoorn M, Pereira N, Rani R, Sergeant R, Thomson J, Tran TH, Turpeinen H, Yang KL, Zunec R, Carrington M, Knijff PD, Goulmy E. (2007). Phenotype Frequencies of Autosomal Minor Histocompatibility Antigens Display Significant Differences among Populations. *PLoS Genet* 3(6): e103 doi:10.1371/journal.pgen.0030103. (*if=9.543 (corresponding year), ci=cited by 57*)
7. Kumar R, Goswami R, Agarwal S, Israni N, Singh S. K., Rani R. (2007). Association and interaction of the TNF-alpha gene with other pro and anti-inflammatory cytokine genes and HLA genes in type 1 diabetes patients from North India. *Tissue Antigens* 69: 557-567, doi:10.1111/j.1399-0039.2007.00817.x, 2007 (*if=3.024 (corresponding year), ci=cited by 22*)
8. Rani R, Fernandez-Viña MA, Stastny P. (1998). Associations between HLA class II alleles in a North Indian population. *Tissue Antigens* 52 (1), pp. 37-43 (*if=4.339 (corresponding year), ci=cited by 43*)
9. Rani R, Narayan R, Kar HK, Fernandez-vina MA, Stastny P. (1998) Role of HLA-B and C alleles in development of Psoriasis in patients from North India. *Tissue Antigens* 51 : 618-622. (*if=4.339 (corresponding year), ci=cited by 31*)
10. Rani R, Fernandez vina MA, Zaheer SA, Beena KR, Stastny P (1993). Study of HLA class II alleles by PCR Oligotyping in leprosy patients from North India. *Tissue Antigens* 42 : 133-137. (*if=4.784 (corresponding year), ci=cited by 73*)

SALUJA, DAMAN (b 1959), Professor, Dr B R Ambedkar Center for Biomedical Research, University of Delhi, delhi

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Daman Saluja, who is an outstanding teacher and researcher, has made excellent contributions in developing novel strategies of DNA based diagnosis of infectious diseases and cancer. She has patented a prototype kit for the diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoea*, two important organisms involved in most common sexually transmitted diseases (STD). The technology has been transferred to industry for commercialization. She has also developed beacon based diagnosis of *Trichomonas* and LAMP based diagnosis of *Mycobacterium tuberculosis* (patents filed). In collaboration with an industry, a hand held PCR machine has been developed and biochips are being designed for detection of several STD agents simultaneously. At present, Dr Saluja's laboratory is engaged in developing low cost, novel method of qPCR for the detection and quantification of *bcr/abl* transcript for CML and *Aml/ETO* transcript for AML patients and testing anti-leukemic effects of some plant extracts. She was awarded 'The Biotech Product & Process Development and Commercialization Award' of 2013 by the Honourable President of India and was also selected for Khorana technology transfer workshop under Indo-US Science and Technology program.

In addition to several contributions in diagnostic and medical biotechnology, Dr Saluja is also interested to understand the mechanism of gene expression in cancer using Sin3B, a co-repressor protein, as a model system. They identified two new isoforms of human Sin3B and showed their selective expression in lungs, placenta and oral carcinoma. Her pioneering work has shown that Sin3B interacts with p53 under genotoxic stress and represses the target gene expression through hypermethylation.

Proposer : Prof B C Das, **Seconded** : Prof K Muralidhar

Ten Best Publications:

1. Saluja, D., & Godson, G. N. (1995). Biochemical characterization of *Escherichia coli* temperature-sensitive *dnaB* mutants *dnaB8*, *dnaB252*, *dnaB70*, *dnaB43*, and *dnaB454*. *Journal of Bacteriology*, 177(4), 1104-1111. (*if*= 3.94, *ci*= 22)
2. Tanese, N., Saluja, D., Vassallo, M. F., Chen, J., & Admon, A. (1996). Molecular cloning and analysis of two subunits of the human TFIIID complex: HTAFII130 and hTAFII100. *Proceedings of the National Academy of Sciences of the United States of America*, 93(24), 13611-13616. (*if*=10.45, *ci*= 111)
3. Amrolia, P. J., Ramamurthy, L., Saluja, D., Tanese, N., Jane, S. M., & Cunningham, J. M. (1997). The activation domain of the enhancer binding protein p45NF-E2 interacts with TAF(II)130 and mediates long-range activation of the α - and β -globin gene loci in an erythroid cell line. *Proceedings of the National Academy of Sciences of the United States of America*, 94(19), 10051-10056. (*if*=10.45, *ci*= 46)
4. Saluja, D., Vassallo, M. F., & Tanese, N. (1998). Distinct subdomains of human TAF(II)130 are required for interactions with glutamine-rich transcriptional activators. *Molecular and Cellular Biology*, 18(10), 5734-5743. (*if*=10.49, *ci*= 104)
5. Chaudhry, U., Ray, K., Bala, M., & Saluja, D. (2002). Detection of a novel point mutation patterns in *gyrA* and *parC* genes of ciprofloxacin resistant isolates of *Neisseria gonorrhoeae* from India. *Sexually Transmitted Infections*, 78(6), 440-444. (*if*=3.39, *ci*= 15)
6. Mishra, A., Bharti, A. C., Varghese, P., Saluja, D., & Das, B. C. (2006). Differential expression and activation of NF- κ B family proteins during oral carcinogenesis: Role of high risk human papillomavirus infection. *International Journal of Cancer*, 119(12), 2840-2850 (*if*=5.3, *ci*= 48)
7. Patel, A. L., Sachdev, D., Nagpal, P., Chaudhry, U., Sonkar, S. C., Mendiratta, S. & Saluja, D. (2010). Prevalence of chlamydia infection among women visiting a gynaecology outpatient department: Evaluation of an in-house PCR assay for detection of *Chlamydia trachomatis*. *Annals of Clinical Microbiology and Antimicrobials*:9:24-29 (*if*=3.27, *ci*= 8)
8. Bansal, N., Kadamb, R., Mittal, S., Vig, L., Sharma, R., Dwarakanath, B. S., & Saluja, D. (2011). Tumor suppressor protein p53 recruits human Sin3B/HDAC1 complex for down-regulation of its target promoters in response to genotoxic stress. *PLoS ONE*, 6(10)(*if*=4.1, *ci*= 9)
9. Chopra M, Gupta R, Gupta S, Saluja D. (2008) Molecular modelling study on chemically diverse series of cyclooxygenase-2 selective inhibitors: generation of predictive pharmacophore model using catalyst. *J Mol Model.*;14(11):1087-99. (*if*=2.4, *ci*= 12)
10. Nimesh M., Joon, D., Pathak, A.K., Saluja D, (2013) Comparative study of diagnostic accuracy of established PCR assays and in-house developed *sdaA* PCR method for detection of *Mycobacterium tuberculosis* in symptomatic patients with pulmonary tuberculosis. *J. of Infection* 67(5):399 – 407 (*if*=4.05)

PARTHASARATHY, SATISHCHANDRA (b 1953), Senior Professor of Neurology, Director-Vice Chancellor, National Institute of Mental Health and Neurosciences, Bangalore-29.

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Prof. Satishchandra, Director / Vice Chancellor NIMHANS, is a recognized international expert in the field of epileptology having contributed to the characterization of different unique disease entities like "Hot Water Epilepsy" and "Myoclonic Epilepsies", their genetic basis and evolved management strategies. He is an expert in the field of neuro infections with special reference to HIV / AIDS and other tropical diseases like tuberculosis in India. He has many national and international publications in the field which are widely quoted. He is pursuing research in spite of busy schedule in collaboration with basic science research institutes in the country and has two prestigious RO1 projects supported by NIH, USA in collaboration with international scientists. He has been championing the cause of National Mental Health Programme as an adviser to the Minister of Health and Family Welfare, Government of India. He is instrumental in getting Institute of National Importance status to NIMHANS by an act of Parliament. To protect the human rights and promote welfare of neurologically and mentally challenged, he is instrumental in establishing a "Free Legal Aid Centre" at NIMHANS for the first time in the country. A "Centre for Well Being" has been established away from NIMHANS to promote positive mental health in the society. Prof. Satishchandra is respected as a compassionate and yet a very professional neurologist, the patient welfare being the prime concern. He is a benevolent leader involving the faculty of the institute in decision making and yet promoting accountability. He is an academician and an able administrator.

Proposer : Prof. Devika Nag, **Secunder :** Prof. SK Shankar

Ten Best Publications:

1. Satishchandra P, Shivaramakrishna A, Kalaiperumal VG, Schoenberg BS. Hot Water Epilepsy: A variant of reflex epilepsy in southern India. *Epilepsia* 1988;29: 52-56. (CI=68)
2. Acharya J.N, Satishchandra P, Asha T, Shankar S.K. Lafora's Disease in South India A clinical, electrophysiological and pathological study. *Epilepsia* 1993;34: 476-487. (CI=44)
3. Minnassin BA, Lee JR, Herbrick J, Hulzenga J, Soder S, Mungall AJ, Dunham J, Gardner R, Fong GC, Carpenter S, Jardim L, P. Satishchandra, Andermann E, Snead OC, Cender LI, Tsui L, Delgado-Esequeta AV, Rouleau GA, Scherer SW. Mutations in a gene encoding a novel protein tyrosine phosphatase cause progressive myoclonus epilepsy. *Nature Genetics* 20 (2), 171-174, 1998. (CI=276)
4. Singh S, Satishchandra P, Shankar SK, Ganesh S. Lafora disease in the Indian population: EPM2A and NHLRC1 gene mutations and their impact on subcellular localization of laforin and malin. *Hum Mutat.* 2008; 29(6): 1-12. (CI=11)
5. Kapoor A, Satishchandra P, Ratnapriya R, Reddy R, Kadandale J, Shankar SK, Anand A. An idiopathic epilepsy syndrome linked to 3q13.3-q21 and missense mutations in the extracellular calcium sensing receptor gene. *Ann Neurol.* 2008; 64: 158-67 (CI=14)
6. Rathnapriya R, Satishchandra P, Kumar SD, Gadre G, Reddy R, Anand A. A Locus for Autosomal dominant reflex epilepsy precipitated by hot water maps to chromosome 10Q21.3-22.3. *Human Genet* 2009; 125: 541-549 (CI=12)
7. Satishchandra P, Nalini A, Gourie-Devi M, Khann N, Santosh V, Ravi V, Desai A, Chandramukhi A, Jayakumar PN, Shankar SK. Profile of neurological disorders associated with HIV/AIDS from South India (1989-1996) *Indian J Med Research.* 2000; 111: 14-23. (CI=81)
8. Gupta JD, Satishchandra P, Gopukumar K, Wilkie F, Waldrop-Valverde D, Ellis R, Ownby R, Subbakrishna DK, Desai A, Kamat A, Ravi V, Rao BS, Satish KS, Kumar M. Neuropsychological deficits in human immunodeficiency virus type 1 clade C seropositive adults from South India. *J Neurovirol.* 2007;13:195-202. (CI=49)
9. Gadre G, Satishchandra P, Mahadevan A, Madhusudhan SN, Shankar SK. Rabies viral encephalitis : Clinical determinants in diagnosis with special reference to paralytic form . *J. Neuro Neurosurg Psychiat* 2010;81:812-820 (CI=8)
10. Satishchandra P., Shankar SK. Creutzfeldt Jakob Disease in India (1971-1990). *Neuroepidemiology.* 1991;10: 27-32. (CI=12)

TRIPATHI, ANIL KUMAR (b 1958), Professor and Head, Department of Clinical Hematology and Medical Oncology, King George Medical University, Lucknow, India

Member of the NASI: No

(YON 2013, Medical & Forensic Sciences)

Dr. Tripathi has bright and exceptional record as medical student having received gold medals in all subjects during MBBS. Apart from being an excellent teacher and clinician, he is an outstanding researcher. He has started his research career as visiting scientist at National Institutes of Health, USA. There he has worked on monocyte cell biology and reported how the expression of Fc receptors is regulated. Subsequently he has worked on Antibody dependent cellular cytotoxicity (ADCC) as relevant in infections and cancers. Back home, Dr. Tripathi established research lab in the hematology division of Department of Medicine and despite being tremendously busy in clinical and academic activities, he continues with his research pursuits. He initiated work on Chronic Myeloid Leukemia (CML), and has reported for the first time that the S phase fraction and aneuploidy may be good prognostic markers in CML. He is also in charge of the HIV division and is involved in clinical and applied research in this field. His paper on HIV has been widely cited. He is recipient of prestigious Oakridge Fellowship in Leukemia Research of U.S.A. and World Federation of Hemophilia Fellowship at Oxford, UK. He has written a text book "Essentials of Medicine for Dental students" which is widely read. He is Editor-in-chief of an indexed journal "Indian J of Hematology & Blood Transfusion" published by Springer. He is Fellow of Academy of Medical Sciences of India. Dr. Tripathi has received prestigious award "Vigyan Ratna" by the Government of UP for his outstanding scientific contributions.

Proposer : Dr.S.S.Agarwal, **Seconder** : Prof.Shally Awasthi

Ten Best Publications:

1. Tripathi AK, Taplits M, Puri J, and Hoffman T: Down-Regulation of Surface FcRI and Decrease in Antibody-Dependent Cellular Cytotoxicity of Cultured Monocytes: Reversal by Monensin or Cytochalasine-D. *J. Immunology* 1991: 146(4); 1309-1315. (IF=6.0, CI=11)
2. Hoffman T, Brando C, Lizzio EF, Lee Y, Hanson M, Tripathi AK, Taplits M, Puri J, Bonvini E, Abrahamsen TG, Carter CS, Reid GK, and Evans J: Calcium-Dependent Eicosanoid Metabolism by Concanavalin A-stimulated Human Monocytes in vitro: Synergism with Phorbol Ester Indicates Separate Regulation of Leukotriene B2 Synthesis and Release. *J. Immunology* 1991: 146(2); 692-700. (IF=6.0, CI=17)
3. Hoffman T, Tripathi AK, Lee YL, Bonvini E, Golding B, and Saventer GV: Inflammatory Mediator Release from Human Monocytes via Immobilized Fc Receptor: Potential Role in Adverse Reactions to Systemic Monoclonal Antibody Therapy. *Transplantation* 1992: 54(2); 343-346. (IF=4.0, CI=11)
4. Hoffman T, Lee YL, Lizzio EF, Tripathi AK et al. Differential Turnover of enzymes involved in human monocytes eicosanoid metabolism. Selective inhibition of cyclooxygenase Product formation by cycloheximide in the absence of effects on 5-lipoxygenase or phospholipase A2. *Biochem Pharmacol* 1992;44(5); 955-963. (IF=4.74, CI=4)
5. Sircar AR, Tripathi AK, Choudhary SK, and Misra R. Clinical Profile of AIDS; A Study at a Referral Hospital. *J. Assoc. Physicians India*, 1998: 46; 775-778. (IF=1.37, CI=34)
6. Tripathi AK, Chaturvedi R, Ahmad R, Asim M, Sawlani KK, Singh RL, Tekwani BL. Flowcytometric Analysis of Aneuploidy and S-phase Fraction in Chronic Myeloid Leukemia patients: Role of Early Detection of Accelerated Phase. *Leukemia Research*.2003; 27: 899-902 (IF=2.92, CI=15)
7. Tripathi AK, M Khanna, N Gupta, Chandra M. Low Prevalence of HBV and HCV coinfection in Patients with Human Immunodeficiency Virus in Northern India. *JAPI*. 2007;55:429-431 (IF=1.37, CI=14)
8. Bajpai P, Tripathi AK, Agarwal D. Increased Frequency of Glutathione-S-Transferase (GST M1 & GST T1) Null Genotypes in Indian patients with Chronic Myeloid Leukemia. *Leukemia Research* 2007;31:1359-1363 (IF=2.92, CI=16)
9. Tripathi AK, Tripathi P, Ahmad R, Deb Chaudhary P, Verma SP. S-Phase fraction as response marker in patient with chronic myeloid leukemia. *Leukemia and Lymphoma* 2009; 50:1223-1225 (IF=2.58, CI=15)
10. Singh P, Yadav GP, Gupta S, Tripathi AK, Ramchandran R, Tripathi RK. A novel dimer-tetramer transition captured by the crystal structure of the HIV-1 Nef. *PLoS one* 2011; 6: issue 11/ e 26629 (IF=4.5, CI=1)

ABRAHAM, ANNIE (b 1960), Professor of Biochemistry, University of Kerala, Thiruvananthapuram.

Member of the NASI: No

(YON 2012, Medical & Forensic Sciences)

Dr. Annie Abraham, Professor, Department of Biochemistry, University of Kerala is an established investigator in the area of Biomedical Science and Biochemistry. She has a brilliant academic career having been a first ranker and fellowship holder throughout her education. Her research work published in good journals has led to the development of novel cancer therapeutic procedures including the use of gold nanomaterials modified with proper surface functionalization. In addition, as a teacher she has nurtured the Department of Biochemistry and has taken it to greater heights by her commitment to curriculum development and consolidation of domain knowledge through dedicated teaching. As a state University Faculty, she could get a number of externally funded projects (KSCSTE and DBT), research publications in internationally reputed peer reviewed journals (37) and best paper awards (4). She has produced ten Ph.Ds till day and eight more are pursuing research under her guidance. Her research aims at developing novel strategies for the therapeutic intervention of not only cancer but also cataract in experimental models. She has made significant contributions to photodynamic and photo thermal therapy. She has made extensive studies on the biocompatibility as well as diagnostic and therapeutic applications of various nano sized materials like gold nanoparticles, gold nanorods and semiconductor quantum dots. At the National level, she has served as Sectional Secretary of Medical Sciences in Indian Science Congress and Coordinator of UGC special assistance programme with competence and sincerity. Overall, she is an inspiring teacher and a dedicated researcher.

Proposer: Prof. K. Muralidhar, **Seconded:** Prof. BK Thelma

Ten Best Publications:

1. M. Vibin, R. Vinayakan, Annie John, V. Raji, C. S. Rejiya, Annie Abraham, Cytotoxicity and fluorescence studies of silica-coated CdSe quantum dots for bioimaging applications. *Journal of Nanoparticle Research* (2011), 13:2587-2596 (*IF* = 3.253)
2. Raji V, Jatish Kumar, Rejiya C S, Vibin M, Vinesh N Shenoi and Annie Abraham, Selective photothermal efficiency of citrate capped gold nanoparticles for destruction of cancer cells. *Experimental Cell Research* (2011), 317:2052 -2058 (*IF* = 3.609, *CI* = 4)
3. M. Vibin, R. Vinayakan, Annie John, C. S. Rejiya, V. Raji, Annie Abraham. Cellular uptake and subcellular localization of highly luminescent silica-coated CdSe quantum dots- in vitro and in vivo. *Journal of Colloid and Interface Science* (2011), 357, 2: 366-371 (*IF* = 3.223)
4. Rejiya C.S., Cibin T.R. and Annie Abraham, Leaves of *Cassia tora* as a novel cancer therapeutic – an in vitro study. *Toxicology in vitro* (2009), 23, 6, 1034-1038 (*IF* = 2.766, *CI* = 9)
5. Gayathri Devi D, Cibin T.R, Ramaiah D, Annie Abraham, Bis(3,5-diiodo-2,4,6-trihydroxyphenyl) squaraine: A novel candidate in photodynamic therapy for skin cancer models in vivo. *Journal of Photochemistry and Photobiology B: Biology* (2008), 92; 153–159. (*IF* = 2.38, *CI* = 11)
6. Joseph T, Kusumakumary P, Chacko P, Abraham A, Pillai MR, DNA repair gene XRCC1 polymorphisms in childhood acute lymphoblastic leukemia. *Cancer Letters* (2005), 217, 1:17-24 (*IF* = 4.864, *CI* = 44)
7. Biju P.G, Rooban B. N, Lija Y, Gayathri Devi V, Sahasranamam. V and Annie Abraham, Drevogenin D prevents selenite-induced calpain activation in cultured rat lens. *Molecular Vision* (2007), 13:1121-1129 (*IF* = 2.54, *CI* = 10)
8. Rooban. B N, Lija Y, Biju PG, Sasikala V, Sahasranamam V and Annie Abraham, Vitex negundo attenuates calpain activation and cataractogenesis in selenite models. *Experimental Eye Research* (2009), 88, 3: 575-582 (*IF* = 3.037, *CI* = 14)
9. Beena A. Khan, Annie Abraham and S. Leelamma, Biochemical response rats to the addition of curry leaf (*Murraya koenigii*) in and mustard seeds (*Brassica juncea*) to the diet. *Plant Foods for Human Nutrition* (1996), 49, 4: 295-299. (*IF* = 2.463, *CI* = 40)
10. Khan, B.A., A. Abraham and S. Leelamma, Influence of spices: *Murraya koenigii* and *Brassica juncea* on rats fed atherogenic diet. *Journal of Food Science and Technology* (1998), 35, 1:66-68. (*IF* = 0.477, *CI* = 397)

JAIN, AMITA (b 1960), Professor, Department of Microbiology, KG Medical University, Lucknow, UP

Member of the NASI: No

(YON 2012, Medical & Forensic Sciences)

Dr Amita Jain is contributing efficiently since 1988. She was awarded Best Teacher of KGMU in 2012. Executed large scale studies evaluating prevalence of drug resistance in Mycobacterium, Staphylococci, Pneumococci and Haemophilus influenza, using both conventional and genotypic methods including sequence and mutation analysis, studying epidemiology and mechanisms of emergence/ development and transmission of drug resistance in tuberculosis, evaluating and inventing cost effective phenotypic as well as genotypic methods for diagnosis of tuberculosis and detection of drug resistance and looking at treatment options (adjuvant therapy) for tuberculosis. Her studies on emergence of drug resistance in mycobacterium have led to first report on XDR and Pre XDR Tuberculosis from India. She established state level reference laboratory for diagnosis and Quality control of TB diagnosis and a Virology diagnostic and research Laboratory for diagnosis, outbreak investigation, research and training with capacity of diagnosing viruses by serological, molecular, sequencing and viral culture methods. Novel sequences of many viruses and drug resistance genes are deposited in GeneBank. Invented a novel method for simultaneous detection of HBV and HCV with build in controls and filed an Indian and PCT patent. Published first report on association of IL-17 levels with severity of dengue virus infection. She has guided total 82 MD/ MS/ MDS/ DM/ MCH thesis and 23 Ph. D. thesis either as Chief/ co guide. She has published 152 research and review articles, book chapters, monographs etc. with total author citation of 1452. Her Teaching/research efforts have been appreciated at various research teaching/platforms.

Proposer : Professor *asha Mathur*, **Seconder** : Professor *U C Chaturvedi*

Ten Best Publications:

1. Amita Jain, Indranil Roy, Mahendra K Gupta, Mala Kumar, S. K. Agarwal 2003. Prevalence of extended spectrum beta lactamase producing gram negative bacteria in septicaemic neonates in a tertiary care hospital. *Journal of Medical Microbiology* 52 421-425 (*if*=2.5, *ci*=148)
2. Jain A, Basal E 2003. Inhibition of Propionibacterium acnes induced mediators of inflammation by Indian herbs *Phytomedicine* 10: 34-38 72 (*if*=3.25)
3. Jain A, Agarwal A, Biofilm production, a marker of pathogenic potential of colonizing and commensal staphylococci, *J. of Micro. Meth.* 76: 88-92, 2008. (*if*=2.470, *ci*=56)
4. Amita Jain, Pradeep Kumar, Shally Awasthi 2005. High nasopharyngeal carriage of drug resistant Streptococcus pneumoniae and Haemophilus influenzae in school going North Indian children. *Tropical Medicine and International health* 10 : 234-239 (*if*=2.938, *ci*=45)
5. Rajesh Mondal and Amita Jain 2007. Extensively drug resistant Mycobacterium tuberculosis, India. *Emerging Infectious Diseases* 13 :1429-143 (*if*=6.794, *ci*=37)
6. Vandana Tiwari, Amita Jain, R K Verma 2003. Application of enzyme amplified mycobacterial DNA detection in diagnosis of pulmonary and extrapulmonary tuberculosis. *Indian Journal of Medical Research* 118: 8-11 (*if*=2.061, *ci*=41)
7. Amita Jain, Rajesh Mondal 2007. Prevalence and antimicrobial resistance pattern of extended spectrum β -lactamase producing Klebsiella spp isolated from cases of neonatal septicaemia. *Indian Journal of Medical Research* 125:89-94, (*if*=2.061, *ci*=37)
8. Guleria RS, Jain A, Tiwari V, Mishra MK .Protective effect of green tea extract against the erythrocytic oxidative stress injury during Mycobacterium tuberculosis infection in mice, *Mole. and Cellu. Bioche.* 236:173-181, 2002. (*if*=4.168, *ci*=19)
9. Jain A, Verma RK, Tiwari V, Goel MM, DOT -ELISA Vs PCR of fine needle aspirates of tubercular lymphadenitis- a prospective study in India, *Acta Cyto.* 49:17-21, 2005. (*if*=0.69, *ci*=20)
10. Jain A, Agarwal J, Bansal S, Prevalence of methicillin resistant coagulase negative staphylococci in neonatal Intensive Care Unit- findings from a tertiary care hospital in India, *J. of Med. Micro.* 53: 941-944, 2004 (*if*=2.380, *ci*=28)

KUMAR, ANIL (b 1974), PROFESSOR OF PHARMACOLOGY, UNIVERSITY INSTITUTE OF PHARMACEUTICAL SCIENCES, PANJAB UNIVERSITY, CHANDIGARH

Member of the NASI: Yes

(YON 2012, Medical & Forensic Sciences)

Prof. Kumar has extensively worked in the areas of age and linked neurological problems including neurodegenerative disorders particularly Alzheimer [Prakash and Kumar, 2013], Huntington's chorea [Mishra et al, 2013; Kumar et al, 2013,] and Parkinson's disease [Kumar et al, 2012]. His research work also addresses strategies for depression [Rinwa and Kumar, 2013], traumatic brain injury [Rinwa and Kumar, 2013], neuropathic pain [Kumar et al, 2014 (in press); Kumar et al, 2011], stroke [Gaur et al, 2011], stress [Machwal and Kumar, 2014 (in press); Kumar et al, 2013], epilepsy [Kumar et al, 2013], chronic fatigue syndrome [Kumar et al, 2012], cognitive dysfunction [Prakash and Kumar, 2013], sleep related problems such as anxiety [Kumar et al, 2013]. His work focuses on the molecular mechanisms involved in these disease conditions particularly the role of oxidative damage, neuroinflammatory, apoptotic, and mitochondrial dysfunction. Besides, his works extensively explore the role of GABAergic, glutamatergic and nitric oxide modulatory mechanism in these disease conditions. In addition, Prof Kumar extensively screened the neuroprotective potential of various herbals/ phytochemicals, cyclooxygenase inhibitors, PPAR γ , neuroprotectants, bioflavonoid including antioxidants, leukotrienes antagonists, immunophyllines [Kumar et al, 2012; Kumar et al, 2010] for these disease conditions as possible drug candidates. These exhaustive studies unravel scientific basis of therapeutic management of these devastating conditions. Prof. Kumar is also instrumental in establish the practice of rational use of drugs in the University Health Centre through prescription monitoring [Kulkarni and Kumar et al, 2004]. This has also become part of the regular teaching to postgraduate's studies.

Proposer : PROF S.K. KULKARNI, Secondar : PROF K.K. BHASIN

Ten Best Publications:

1. Puneet Rinwa, Sukant Garg, Anil kumar (2013). Suppression of neuroinflammatory and apoptotic signaling cascade by curcumin alone and in combination with piperine in rat model of olfactory bulbectomy induced depression. PLOS, 8(4), e61052, 1-11 (*if*=4.01, *ci*=2)
2. Harikesh Kalonia, Jitendriya Mishra, Anil Kumar (2012). Targeting neuro-inflammatory cytokines and oxidative stress by minocycline attenuates quinolinic acid-induced Huntington's disease-like symptoms in rats. Neurotoxicity Res, 22(4),310-322 (*if*=3.05, *ci*=10)
3. Puneet Kumar, Harikesh Kalonia, Anil Kumar (2011). Role of LOX/COX pathways in 3-nitropropionic acid-induced HD like symptoms in rats: Protective role of Licofelone. British Journal of Pharmacology, 164, 644-654. (*if*=5.03, *ci*=13)
4. Puneet Kumar, Harikesh Kalonia, Anil Kumar (2010) Novel protective mechanisms of antidepressants against 3-nitropropionic acid induced Huntington's-like symptoms: a comparative study. J Psychopharmacology, 1-14 [PMID 0305041]. (*if*=3.64, *ci*=8)
5. Anil Kumar, Samrita Dogra, and Atish Prakash (2009). Protective effect of curcumin (*Curcuma longa*), against aluminium toxicity: Possible behavioral and biochemical alterations in rats. Behav Brain Res, 205 (2), 384-90. (*if*=3.22, *ci*=44)
6. Vaibhav Gaur, Aditi Aggarwal and Anil Kumar (2009).. Protective effect of naringin against ischemic reperfusion cerebral injury: possible neurobehavioral, biochemical and cellular alterations in rat brain. Eur J Pharmacol, 616 (13) 147-54. (*if*=2.58, *ci*=44)
7. Puneet Kumar and Anil Kumar (2009). Protective effect of hesperidin and naringin against 3-nitropropionic acid induced Huntington's like symptoms in rats: possible role of nitric oxide. Behav Brain Res, 206,38-46. (*if*=3.22, *ci*=28)
8. Puneet Kumar and Anil Kumar (2009). Protective effects of epigallocatechin gallate following 3-nitropropionic acid-induced brain damage: possible nitric oxide mechanisms. Psychopharmacology (Berl), 207 (2), 257-70. (*if*=4.1, *ci*=8)
9. Puneet Kumar and Anil Kumar (2008). Possible role of Sertraline Against 3-Nitropropionic Acid Induced Behavioral, Oxidative Stress and Mitochondrial dysfunctions in Rat Brain. Progr In Neuro-sychopharm & Biol Psychiatry, 33,100-108. (*if*=2.82, *ci*=41)
10. Puneet Kumar; SSV Padi; PS Naidu; Anil Kumar (2006). Effect of resveratrol on 3-NP-induced neurotoxicity, an animal model of Huntington's disease: possible neuroprotective mechanisms. Behav Pharmacol, 17 (5),485-92. (*if*=2.85, *ci*=60)

KUMAR, VIJAY LAKSHMI (b 1959), Professor, All India Institute of Medical Sciences, New Delhi

Member of the NASI: Yes

(YON 2012, Medical & Forensic Sciences)

Dr. Kumar has been working on the expression, regulation and clinical implications of steroid and growth factor receptors in endometrial, breast and prostate cancers and has shown that androgenic deprivation brings about up-regulation of androgen receptor both in experimental model and in human prostate cancer. Her work on the splice variants of human estrogen receptor suggests that composite analysis of receptor levels and its splice variants would be a better prognostic marker and predictor of hormone responsiveness of breast cancer. Her work on the scientific validation of medicinal properties of the plant *Calotropis procera* has shown that oral administration of the soluble latex constituents exhibit potent anti-inflammatory and analgesic property by inhibiting mediators like histamine, bradykinin and prostaglandins. These constituents exhibit protective effect against gastric ulcer, hepatotoxicity, hepatocellular carcinoma, hyperglycemia, arthritis, diarrhea and are free of any toxic effects. She has also shown that the proteins derived from the latex inhibit inflammation, afford protection in arthritis and maintain coagulation homeostasis in sepsis and exhibit thrombin and plasmin like activities. Her work on the latex also revealed that its local administration induces acute inflammation mediated through the release of histamine, prostaglandins and expression of cyclooxygenase-2. She has developed experimental models for the screening of compounds exhibiting anti-inflammatory, anti-arthritic and cytotoxic properties. Her research on the cholesterol-lowering drug, atorvastatin shows that it ameliorates inflammatory hyperalgesia and suggests that it may provide dual benefit in both arthritis and cardiovascular diseases. Thus, Dr. Kumar has made significant contribution to the field of pharmacology.

Proposer : Prof. Y.K. Gupta, **Secunder** : Dr. Sunil K. Lal

Ten Best Publications:

1. Kumar V.L., Wadhwa S.N., Kumar V. and Farooq A. 1990. Androgen, estrogen and progesterone receptor content and serum hormone profiles in patients with benign hypertrophy and carcinoma of the prostate. *J. Surg. Oncol.* 44: 122-128. (*if=2.644, ci=38*)
2. Kumar V.L., and Basu N. 1994. Anti-inflammatory activity of latex of *Calotropis procera*. *J. Ethnopharmacol.* 44: 123-125. (*if=2.755, ci=98*)
3. Kumar V.L., Majumder P.K., Gujral S., Kumar V. 1998. Comparative analysis of epidermal growth factor receptor mRNA levels in normal, benign hyperplastic and carcinomatous prostate. *Cancer Letters* 134: 177-180. (*if=4.258, ci=30*)
4. Dewan S., Sangraula H. and Kumar V.L. 2000. Preliminary studies on the analgesic activity of latex of *Calotropis procera*. *J. Ethnopharmacol.* 73: 307-311. (*if=2.755, ci=97*)
5. Kumar S., Dewan S., Sangraula H. and Kumar V.L. 2001. Anti-diarrhoeal activity of the latex of *Calotropis procera*. *J. Ethnopharmacol.* 76: 115-118. (*if=2.755, ci=83*)
6. Roy S., Sehgal R., Padhy B.M. and Kumar V.L. 2005. Antioxidant and protective effect of latex of *Calotropis procera* against alloxan-induced diabetes in rats. *J. Ethnopharmacol* 102: 470-473. (*if=2.755, ci=73*)
7. Arya S. and Kumar V.L. 2005. Anti-inflammatory efficacy of extracts of latex of *Calotropis procera* against different mediators of inflammation. *Mediators Inflamm* 2005: 228-232. (*if=3.882, ci=47*)
8. Kumar V.L., Roy S. 2007. *Calotropis procera* latex extracts afford protection against inflammation and oxidative stress in Freund's Complete Adjuvant induced monoarthritic in rats. *Mediators Inflamm.* 2007: 47523. (*if=3.882, ci=33*)
9. Bharti S., Wahane V.D. and Kumar V.L. 2010. Protective effect of *Calotropis procera* latex extracts on experimentally induced gastric ulcers in rat. *J. Ethnopharmacol* 127: 440-444. (*if=2.755, ci=23*)
10. Wahane V.D. and Kumar V.L. 2010. Atorvastatin ameliorates inflammatory hyperalgesia in rat model of monoarticular arthritis. *Pharmacol. Res.* 61: 329-333. (*if=4.346, ci=16*)

MANDAL, MAHITOSH (b 1963), Associate Professor, School of Medical Science and Technology, Indian Institute of Technology, Kharagpur 721302, West Bengal, India

Member of the NASI: No

(YON 2012, Medical & Forensic Sciences)

Dr. Mandal has made excellent contribution in cancer biology to identify specific genes and their biological significance in normal and cancer cells. Thymoquinone and diosgenin, the active ingredients obtained from black cumin and fenugreek exert potent bioactivity, including anticancer effects. The antineoplastic activity of these agents against squamous cell carcinoma, breast and colon cancer in vitro and in vivo has been carried out. Dr. Mandal has cloned and characterized the genes involved in the origin and progression of cancer, which can serve not only as reliable diagnostic and prognostic marker but also opened up the possibility of designing new gene - based cancer therapeutics. It has been documented that the inhibition of phosphorylation of EGFR and VEGFR by ZD6474 would inhibit breast cancer cell proliferation and induces apoptosis. Incorporation of an anti-EGFR plus VEGFR strategy with chemotherapy could be more effective in treating patients with locally advanced or metastatic breast cancer than either approach alone. His results have indicated that the celecoxib-loaded Hap- Cht nanoparticles in colon cancer can serve as promising, effective and safe means of delivering celecoxib, and other potential therapeutic agents for colon cancer therapy. Publications on high impact factor peer-reviewed journals including Nature, Nature Cell Biology, J Biol Chem., Cancer Research, Clinical Cancer Research, Oncogene, PNAS and EMBO indicate the importance of the work carried out by him and his contribution in the field as evidenced by high citation index - 4703 and h index - 36.

Proposer : Prof B C Das, **Seconded** : Prof S C Kundu

Ten Best Publications:

1. Kumar BN, Rajput S, Dey KK, Parekh A, Das S, Mazumdar A, Mandal M*. Celecoxib alleviates tamoxifen-instigated angiogenic effects by ROS-dependent VEGF/VEGFR2 autocrine signaling. BMC Cancer. 2013 Jun 3;13:273. (*if*=3.33, *ci*=4)
2. Pradhan R, Rajput S, Mandal M, Mitra A, Das S. Frequency dependent impedimetric cytotoxic evaluation of anticancer drug on breast cancer cell. Biosens Bioelectron. 2014 May 15;55:44-50. (*if*=5.38, *ci*=2)
3. Sarkar S, Rajput S, Tripathi AK, Mandal M*. Targeted therapy against EGFR and VEGFR using ZD6474 enhances the therapeutic potential of UV-B phototherapy in breast cancer cells. Mol Cancer. 2013 Oct 20;12(1):122. . (*if*=5.13, *ci*=2)
4. Rajput S, Kumar BNP, Sarkar D, Das S, Azab B, Santhekadur PK, Das SK, Emdad L, Sarkar D, Fisher PB, Mandal M*, Targeted apoptotic effects of thymoquinone and tamoxifen on XIAP mediated Akt regulation in breast cancer. (2013) PLoS ONE ; 8 (4) art. no. e 61342. (*if*=4.41, *ci*=11)
5. Das S, Kaushik Dey K, Dey G, Pal I, Majumder A, Maiti Choudhury S., Kundu SC, and Mandal M*: Antineoplastic and apoptotic potential of traditional medicines thymoquinone and diosgenin in squamous cell carcinoma; 2012, PLoS ONE 7,(10) Art. No-e46641, (*if*=4.41, *ci*=11)
6. Venkatesan P, Puvvada N, Dash R, Prashanth Kumar BN, Sarkar D, Azab B, Pathak A, Kundu SC, Fisher PB, Mandal M* : The potential of celecoxib-loaded hydroxyapatite-chitosan nanocomposite for the treatment of colon cancer. Biomaterials. 2011 May;32(15):3794-806. (*if*=7.882, *ci*=43)
7. Sarkar S, Majumder A, Dash R, Sarkar D, Fisher PB, Mandal M*. ZD6474, a dual kinase inhibitor of Epidermal growth factor receptor and Vascular endothelial growth factor receptor-2, inhibits MAPK/ERK and AKT/PI3-K and induces apoptosis in breast cancer. Cancer Biol Ther. 2010 Apr 4;9(8). (*if*=4.95, *ci*=39)
8. Sarkar S, Mazumdar A, Dash R, Sarkar D, Fisher PB, Mandal M*. ZD6474 enhances paclitaxel antiproliferative and apoptotic effects in breast carcinoma cells. J Cell Physiol. 2011 Feb; 226(2):375-84. (*if*=3.986, *ci*=14)
9. Jaganathan SK and Mandal M*. Antiproliferative Effects of Honey and of Its Polyphenols: Journal of Biomedicine and Biotechnology, 2009, Vol-209, 8306-16., (*if*=2.88, *ci*=87)
10. Jaganathan SK, Mandal M*, Involvement of non-protein thiols, mitochondrial dysfunction, reactive oxygen species and p53 in the honey-induced apoptosis. Investigational New Drugs, 2010 Oct;28(5):624-33. (*if*=3.35, *ci*=21)

MEHROTRA, DIVYA (b 1968), Professor, Dept of OMFS, King George's Medical University, Lucknow

Member of the NASI: No

(YON 2012, Medical & Forensic Sciences)

Dr Divya Mehrotra has around 70 scientific publications to her credit in various reputed national and international scientific publications, of which a few have been extra ordinary. Her article on dermal fat graft in temporomandibular joint ankylosis was printed as the cover article in British Journal of Oral & Maxillofacial Surgery in 2008.

She has contributed in three books, of which she was co-editor in one.

She is the editor-in-chief of the Journal of Oral Biology and Craniofacial Research and on the advisory board or reviewer in about ten National & International Journals. Also, she is reviewer for International funded projects. She is also actively involved in public health awareness programs.

Dr Mehrotra has worked extensively on epidemiology of oral precancer and chewing habits for tobacco and areca nut products. Her expertise in the field of TMJ ankylosis and distraction osteogenesis is appreciated across the globe. Recently, she has been involved in bone regeneration which has been again published in British Journal of Oral & Maxillofacial Surgery. She has lectured as Guest faculty at national and international level. Her work has been well cited in the literature.

She is actively involved in research activities, with multiple running projects from ICMR, DBT, DST, and is the guide to Ph D, M Phil, MDS students. She has recently concluded an ICMR task force, house to house survey on pan masala consumption in 4.5 lac population of Lucknow.

Proposer : LATE PROF MAHDI HASAN, Seconder : PROF CL KHETRAPAL

Ten Best Publications:

1. Mehrotra D, Pradhan R, Mohammad S, Jaiswara C. 2008. Random control trial of dermis-fat graft and interposition of temporalis fascia in the management of temporomandibular ankylosis in children. Br J Oral Maxillofac Surg, 46 (7), 521-526. (*if=2.72, ci=24*)
2. Mehrotra D, Pradhan R, Gupta S. 2009. Retrospective comparison of Surgical modalities in 100 patients of oral submucous fibrosis, J Oral Med Oral Pathol Oral Radiol Oral Surg Endod, 107, (3) e1-e10. (*if=1.815, ci=28*)
3. Chaudhary A, Wakhlu A, Mittal N, Misra S, Mehrotra D, Wakhlu AK. 2009. Melanotic Neuroectodermal Tumor of Infancy: 2 Decades of Clinical Experience With 18 Patients, (American) J Oral and Maxillofacial Surgery, 67,(1), 47-51, (*if=1.64, ci=13*)
4. Gupta S, Mehrotra D. 2009. Ewing's Sarcoma Of Maxilla: Report Of A Case: Quintessence International, 40 (2): 135-140, (*if=0.728, ci=6*)
5. Mehrotra D, Dhasmana S, Kumar S. 2009. Management of temporomandibular ankylosis with temporal fascia interposition arthroplasty and distraction osteogenesis: report of 30 cases. J long term effects of Medical implants. 19 (2): 139-48, (*if=0.684, ci=2*)
6. Mehrotra D, Pradhan R, Mohammad S, Kumar S. 2011. Complications associated with different surgical modalities for management of temporomandibular ankylosis in a series of 791 cases. J Oral Max Surg Med & Pathol 23, 122-27 (*if=-, ci=1*)
7. Nayak S, Goel MM, Chandra S, Bhatia V, Mehrotra D, Kumar S, Makker A, Rath SK, Agrawal SP. 2012. VEGF-A Immunohistochemical and mRNA Expression in Tissues and its Serum levels in Potentially Malignant Oral Lesions and Oral Squamous Cell Carcinomas. Oral Oncol; 48(3): 233-9. (*if=3.056, ci=4*)
8. Mehrotra D, Kumar S, Dhasmana S. 2012. Hydroxyapatite/Collagen block with Platelet Rich Plasma in Temporomandibular ankylosis. Br J Oral Maxillofacial Surgery, 50, 8, 774-8. (*if=2.72, ci=3*)
9. Mehrotra D, Kumar S, Agarwal GG, Asthana A, Kumar S. 2013. Odds ratio of risk factors for oral submucous fibrosis in a case control model. British Journal of Oral and Maxillofacial Surgery, 51(7) e169-173. (*if=2.72, ci=2*)
10. Mehrotra D, Agarwal GG, Kumar S, Shukla A, Asthana A. Development and Validation of a Questionnaire to Evaluate Association of Tobacco Abuse With Oral Submucous Fibrosis, Asia Pac J Public Health 1010539511426471, first published on December 22, 2011 as doi:10.1177/1010539511426471. (*if=1.06, ci=3*)

MUKERJI, MITALI (b 1967), Principal Scientist, CSIR-Institute of Genomics and Integrative Biology, Delhi.

Member of the NASI: Yes

(YON 2012, Medical & Forensic Sciences)

Dr. Mitali Mukerji has played a pioneering role in establishing genomics technology in India and creating an interface between genomics and medicine. From fundamental contributions in bacterial genetics (Molecular Microbiology 1995, 1997) she has moved on to setting up an “Indian genomics framework” for stratified and personalized medicine (ACS Chem. Biol 2011, Nature Review Genetics 2008). She has contributed immensely to the understanding of the complex genetic structure of Indian populations and its relation to global populations (Hum. Genet. 2005, J. Genet. 2008, Science 2009, AJHG 2011, Hum. Genet. 2011). Her works have highlighted the applicability of this information in (a) identification of founders, tracing mutations, estimating prevalence and mechanisms of disease in SCAs (Human genetics 2000, 2005; Hum. Genet. Mol. Genet. 2001; J.B.S.D. 2002; Arch Neurol 2005, Annals of Human Genetics 2005, 2010; J Hum. Genet. 2005; Human Mutation 2009) (b) identification of genes for high altitude adaptation (PNAS 2010); Bipolar disorder (Biol Psychiatry 2005); salt adaptation (AJHG 2010), malaria susceptibility (Infect. Genet. Evol 2012) etc. Her group has provided the first evidence of genomic correlates of principles of Prakriti in Ayurveda (JTM 2008), discovered EGLN1 involvement in high altitude adaptation and susceptibility to HAPE (PNAS 2011) and its role in modulating asthma (AJRCMB 2012). Nominee has used functional genomics approaches to demonstrate how Alu repeats so called “Junk” can contribute to novel regulatory networks in primates (Mol Biol Evol 2003; Bioinformatics 2004; BMC Evol Biol 2004; Mol Gen Genet 2007, Genome Biol 2011, Genetica 2005, Brief Func Genomics 2011).

Proposer: Prof. Samir K. Brahmachari, **Seconded:** Dr. Sandip K. Basu

Ten Best Publications:

1. M Mukerji, S Mahadevan (1997) Characterization of the negative elements involved in silencing the *bgl* operon of *Escherichia coli*: possible roles for DNA gyrase, H-NS, and CRP-cAMP in regulation. *Mol Microbiol* 24: 3. 617-627 May (IF=4.819; CI=59)
2. Q Saleem, S Choudhry, M Mukerji, L Bashyam, M V Padma, A Chakravarthy, M C Maheshwari, S Jain, S K Brahmachari (2000) Molecular analysis of autosomal dominant hereditary ataxias in the Indian population: high frequency of SCA2 and evidence for a common founder mutation. *Hum Genet* 106: 2. 179-187 Feb (IF=5.047; CI= 69)
3. Indian Genome Variation Consortium (2008) Genetic landscape of the people of India: a canvas for disease gene exploration. *J Genet* 87: 1. 3-20 Apr Lead consortium author (IF=1.338; CI=93)
4. Pankaj Jha, Swapnil Sinha, Kanika Kanchan, Tabish Qidwai, Ankita Narang, Prashant Kumar Singh, Sudhanshu S Pati, Sanjib Mohanty, Saroj K Mishra, Surya K Sharma, Shally Awasthi, Vimala Venkatesh, Sanjeev Jain, Analabha Basu, Shuhua Xu, Mitali Mukerji, Saman Habib (2012) Deletion of the APOBEC3B gene strongly impacts susceptibility to falciparum malaria. *Infect Genet Evol* 12: 1. 142-148 (IF=3.055, CI=nil)
5. Ankita Narang, Pankaj Jha, Vimal Rawat, Arijit Mukhopadhyay, Debasis Dash, Analabha Basu, Mitali Mukerji (2011) Recent admixture in an Indian population of african ancestry. *Am J Hum Genet* 89: 1. 111-120 Jul (IF=11.680, CI=1)
6. Shilpi Aggarwal, Sapna Negi, Pankaj Jha, Prashant K Singh, Tsering Stobdan, M A Qadar Pasha, Saurabh Ghosh, Anurag Agrawal, Bhavana Prasher, Mitali Mukerji (2010) EGLN1 involvement in high-altitude adaptation revealed through genetic analysis of extreme constitution types defined in Ayurveda. *Proc Natl Acad Sci U S A* 107: 44. 18961-18966 Nov (IF=9.771, CI=9)
7. Bhavana Prasher, Sapna Negi, Shilpi Aggarwal, Amit K Mandal, Tav P Sethi, Shailaja R Deshmukh, Sudha G Purohit, Shantanu Sengupta, Sangeeta Khanna, Farhan Mohammad, Gaurav Garg, Samir K Brahmachari, Mitali Mukerji (2008) Whole genome expression and biochemical correlates of extreme constitutional types defined in Ayurveda. *J Transl Med* 6: 09 (IF=3.51, CI=27)
8. Deepak Grover, Partha P Majumder, Chandrika B Rao, Samir K Brahmachari, Mitali Mukerji (2003) Nonrandom distribution of alu elements in genes of various functional categories: insight from analysis of human chromosomes 21 and 22. *Mol Biol Evol* 20: 9. 1420-1424 Sep (IF=5.510, CI= 57)
9. Ravi Shankar, Deepak Grover, Samir K Brahmachari, Mitali Mukerji (2004) Evolution and distribution of RNA polymerase II regulatory sites from RNA polymerase III dependant mobile Alu elements. *BMC Evol Biol* 4: 1. Oct (IF = 3.70, CI = 32)
10. Rajesh Pandey, Amit K Mandal, Vineet Jha, Mitali Mukerji (2011) Heat shock factor binding in Alu repeats expands its involvement in stress through an antisense mechanism. *Genome Biol* 12: 11. Nov (IF = 6.89)

PHANITHI, PRAKASH BABU (b 1963), Professor, University of Hyderabad, Hyderabad

Member of the NASI: Yes

(YON 2012, Medical & Forensic Sciences)

Prof. Prakash Babu group have been working in the area of cerebral malaria induced cell death. His publications include erythrocyte membrane modification during experimental Cerebral Malaria (2006). His work focuses on the activation of Nuclear transcription factor NF-kappa B, differential activation of Protein Kinase C and induction of Protein Tyrosine Kinases and CaM kinase II-alpha activity, levels and Ca/calmodulin dependent phosphorylation in mice brain during fatal murine cerebral malaria (2013). Mitochondrial changes and induction of cell death proteins-Bcl2, Bax, cytochrome-c and p53 were reported in murine cerebral malaria. Recent studies show that the involvement of ER stress and JNK pathway contributing for the neuronal cell death in CM (2011)

Other area of his lab are ischemic brain and role of cytotoxic protease; granzyme-b in post-ischemic injury in the infarct of human brain (2010) and in rat (2010). Earlier his lab reported that differential PARP cleavage is an indication of heterogeneous form of cell death during ischemia (2009) and the involvement of multiple apoptogenic proteins in the cell death (Brain Res, 1246: 178-190, 2009). In another studies his lab reported that Wnt/b-catenin/Tcf Signaling Pathway is activated in Rat Gliomas (2009) and in human astrocytomas (2009). In another studies his group demonstrated that Mustard NPR1 protein, a mammalian I κ B homologue inhibits the NF- κ B activation and proliferation in human U373 GBM cells (2009). Recently his lab reported on the Novel antiproliferative and antioxidant role of BjAnn1, a mustard annexin protein in human glioblastoma cell lines (2013).

Proposer : Prof. S.E. Hasnain, Secondar : Dr. Shahid Jameel

Ten Best Publications:

1. Gangadhara R Sareddy, Divya Kesanakurti, Pulugurtha Bharadwaja Kirti and Phanithi Prakash Babu. Novel Antiproliferative and Antioxidant Role of BjAnn1, a Mustard Annexin Protein in Human Glioblastoma Cell Lines. J Cancer Sci Ther. 2013, 5.7 (*if*=5.82, *ci*=0)
2. Gangadhara Reddy Sareddy, Chinta Ramulu, Khamushavalli Geeviman and Phanithi Prakash Babu. (2011). Non-steroidal anti-inflammatory drug celecoxib suppress the growth and induce apoptosis of human glioblastoma cells via NF- κ B pathway. Journal of Neuro-Oncology. 106 (1): 99-109. (*if*=3.12, *ci*=11)
3. Ganta Vijay Chaitanya, Alexander JS, Phanithi Prakash Babu. (2010). PARP-1: Association with cell death proteases and cell death programming. Cell communication and signalling. 8: 20-31. (*if*=5.09, *ci*=51)
4. Ganta Vijay Chaitanya, Phanithi Prakash Babu. (2010) Granzyme-b is involved in mediating post-ischemic neuronal death during focal cerebral ischemia in rat model. Neuroscience 165: 1203-1216. (*if*=3.12, *ci*=15)
5. Akiri SVC Rao, Sareddy G Reddy, Phanithi P Babu and Attipalli R Reddy. (2010) Antioxidant and anti-proliferative activities of navara rice bran extract BMC Complementary and Alternative Medicine. 10:4. (*if*=2.08, *ci*=23)
6. Naresh Poliseti, Chaitanya V G, Geeta K Vemuganti, Prakash Babu P. (2010). Isolation, Characterization and Differentiation Potential of Rat Bone Marrow Stromal Cells towards neuronal lineage. Neurol India. 58(2):201-8. (*if*=1.04, *ci*=40)
7. Gangadhara Reddy Sareddy, Manas Panigrahi, Sundaram Challa, Anita Mahadevan, Phanithi Prakash Babu. (2009). Activation of Wnt/ β -catenin/Tcf signaling pathway in human astrocytomas. Neurochem. Int, 55:307-317 (*if*= 2.66, *ci*=40)
8. G. Vijay Chaitanya and Phanithi Prakash Babu. (2009) Differential PARP cleavage: An indication of heterogeneous forms of cell death and involvement of multiple proteases in the infarct of focal cerebral ischemia in rat. Cellular and Molecular Neurobiology, 29(4):563-573. (*if*= 2.11, *ci*= 15)
9. Gangadhara Reddy Sareddy, Manas P, Sundaram C, Anita M, and P. Prakash Babu. (2009). Wnt/b-catenin/Tcf Signaling Pathway Activation in Malignant Progression of Rat Gliomas Induced by Transplacental N-Ethyl-N-Nitrosourea Exposure. Neurochemical Research. 34: 1278-1288. (*if*=2.13, *ci*=17)
10. G. Vijay Chaitanya and P. Prakash Babu. (2008). Activation of Calpain, Cathepsin-b and active Caspase-3 during transient focal cerebral ischemia in rat model. Neurochemical Research, 33:2178-2186. (*if*=2.13, *ci*=27)

SHUKLA, RAKESH (b 1952), Professor, Department of Neurology, King George's Medical University UP, Lucknow

Member of the NASI: No

(YON 2012, Medical & Forensic Sciences)

Dr. Rakesh Shukla's in-depth studies in migraine have been directed towards elucidating the role of 5-HT₂ receptor and nitric oxide (NO) in migraine. His meticulously planned studies using platelets as a neuronal model, and 3H ketanserin as a ligand, have demonstrated reduced affinity to platelet 5-HT₂ receptors in migraine which suggests a post-synaptic dysfunction. Oxidative stress and release of nitric oxide (NO) has also been proposed as the mechanism of migraine. His studies suggest that changes in the status of NO and platelet activation in patients with migraine appear only during migraine attacks and are not present in between the attacks. There was no change in the arachidonic acid induced free radical generation from circulating polymorphonuclears, or in the activity of antioxidant enzymes in migraineurs suggesting that neutrophils are not the cause of oxidative stress. He also studied the changes in 5-HT₂ receptors in patients of tension-type headache, to establish the specificity of the changes in migraine, and has shown that there is a decrease in the number of binding sites. Dr. Shukla's findings show that 3H ketanserin binding to platelet 5-HT₂ receptors can be a possible method of differentiating migraine without aura (i.e. common migraine) and tension-type headache.

He has also evaluated patients with Parkinson's disease with a view to finding a biomarker for this second commonest neurodegenerative disorder. His studies using platelets and polymorphonuclears as a peripheral model for neurological disorders have opened a new area of research as no such studies are available from India.

Proposer : Dr. Devika Nag, **Seconder** : Dr. B.N. Dhawan

Ten Best Publications:

1. Shukla R, Shanker K, Nag D, Verma M, Bhargava KP. Serotonin in tension headache. J Neurol Neurosurg Psychiatr 1987; 50 : 1982-1984. (*if*=4.791, *ci*=31)
2. Barthwal MK, Srivastava N, Shukla R, Nag D, Seth PK, Srimal RC, Dikshit M. Polymorphonuclear leucocyte nitrite content and antioxidant enzymes in Parkinson's disease patients. Acta Neurol Scand 1999; 100 : 1-5. (*if*=2.153, *ci*=22)
3. Shukla R, Barthwal MK, Srivastava N, Nag D, Seth PK, Srimal RC, Dikshit M. Blood nitrite levels in patients with migraine during headache-free period. Headache 2001; 41 : 475-481. (*if*=2.786, *ci*=18)
4. Shukla R, Khanna VK, Pradeep S, Husain M, Tandon R, Nag D, Dikshit M, Srimal RC, Seth PK. Platelet 3H ketanserin binding in migraine. Cephalalgia 2001; 21 : 567-572. (*if*=4.265, *ci*=03)
5. Shukla R, Khanna VK, Husain M, Tandon R, Nag D, Dikshit M, Srimal RC, Seth PK. Platelet 3H ketanserin binding in tension type headache. Headache 2003; 43 : 103-108. (*if*=2.786, *ci*=03)
6. Shukla R, Barthwal MK, Srivastava N, Sharma P, Raghavan SAV, Nag D, Srimal RC, Seth PK, Dikshit M. Neutrophil free radical generation and enzymatic antioxidants in the migraine patients. Cephalalgia 2004; 24: 37-41. (*if*=4.265, *ci*=10)
7. Shukla R, Rajani M, Srivastava N, Barthwal MK, Dikshit M. Nitrite and Malondialdehyde content in the cerebrospinal fluid of patients with Parkinson's disease. Int J Neurosci 2006; 116: 1391-1402. (*if*=0.884, *ci*=10)
8. Sinha A, Patel S, Shukla R, Singh MP. Blood proteome profiling in case controls and parkinson's disease patients in Indian population. Clinica Chimica Acta 2007; 380: 232-234. (*if*=2.388, *ci*=05)
9. Sinha A, Srivastava N, Singh S, Singh AK, Bhushan S, Shukla R, Singh MP. Identification of differentially displayed proteins in cerebrospinal fluid of Parkinson's disease patients: A proteomic approach. Clinica Chimica Acta 2009; 400 (1-2): 14-20. (*if*=2.388, *ci*=22)
10. Singh M, Khanna VK, Shukla R, Parmar D. Association of polymorphism in cytochrome P450 2 D6 and N-acetyltransferase-2 with Parkinson's disease. Dis Markers. 2010; 28(2): 87-93. (*if*=1.723, *ci*=03)

SINGH, SANJAY (b 1963), Professor of Pharmacology, Deptt. of Pharmaceutics, Indian Institute of Technology (Banaras Hindu University), Varanasi 221 005, Uttar Pradesh, India.

Member of the NASI: Yes

(YON 2012, Medical & Forensic Sciences)

Prof. Singh has made major scientific contributions in areas of nanopharmacology/medicine. He has demonstrated reduction on dose, side effects and enhancement in bioavailability of many drugs such as antipsychotic - Risperidone, antidiabetic - Repaglinide, antihypertensive - Carvedilol Phosphate and anti HIV - Zidovudine by using nanotechnology (Muthu, et al., 2008 & 2009, Rawat et al., 2010, Chakraborty et al., 2009 & 2010 and Singh et al., 2010). He has also enhanced the efficacy of some drugs by delivering at the targeted sites. Eugenol, a volatile oil, was targeted at epidermal layer of skin for enhanced activity against Candidiasis through lipid nanostructures (Garg et al., 2011 and 2013). Diacerein used in osteoarthritis was delivered through nanoparticles to the knee joint of rats resulting in better recovery with reduction in its diarrhoeal side effects (Jain et al 2013 and 2014). Oral delivery of nanoparticles still a challenge. Adsorption technology was developed for oral delivery of nanoparticles in solid dosage forms (Chakraborty et al., 2010). In addition, Dr. Singh has worked in the area of stress disorder pharmacology and proved that Risperidone and Citalopram has gastroprotective potential and can be beneficial in treatment of stress ulcers (Saxena et al., 2011, Saxena and Sanjay Singh., 2011). He has international research collaboration with Swedish University in addition to five other projects in this area.

He has 100 research publications and three chapters in books. Significance of Prof. Singh's contribution is evidenced by his publications in high impact international journals and citations by researchers across the globe.

Proposer : Prof. Shyam Sunder, **Seconder :** Prof. A.M. Kayastha

Ten Best Publications:

1. Singh, S., Jayaswal, S.B., Upadhyay, S.N., Singh, J. (1991): Iontophoretic Delivery of Propranolol Hydrochloride through Human Epidermis. *Journal of Controlled Release*. 18, 165-170. (if=7.633, ci=08)
2. Singh, S., Muthu, M.S. (2007): Preparation and characterization of nanoparticles containing an atypical antipsychotic agent. *Nanomedicine (UK)*. 2 (2), 233-240. (if=5.26, ci=28)
3. Muthu, M.S., Singh, S. (2008): Studies on biodegradable polymeric nanoparticles of risperidone: In-vitro and in-vivo evaluation. *Nanomedicine (UK)*. 3(3), 305-319. (if=5.26, ci=24)
4. Muthu, M.S., Rawat, M.K., Singh, S. (2009): PLGA nanoparticles formulations of risperidone: Preparation and neuropharmacological evaluation. *Nanomedicine, (NBM)*. 5(3), 323-333. (if=6.930, ci=46)
5. Chakraborty, S., Shukla, D., Jain, A., Mishra, B., Singh, S. (2009): Assessment of solubilization characteristics of different surfactants for carvedilol phosphate as a function of pH. *Journal of Colloid and Interface Science*. 335, 242-249. (if=3.172, ci=26)
6. Chakraborty, S., Shukla, D., Vuddanda, P.R., Singh, S., Mishra, B. (2010): Utilization of adsorption technique in the development of oral delivery system of lipid based nanoparticles. *Colloids and surfaces B: Biointerfaces*. 81 (2), 563-569. (if=3.554, ci=15)
7. Garg, A., Singh, S. (2011): Enhancement in antifungal activity of eugenol in immunosuppressed rats through lipid nanocarriers. *Colloids and Surfaces B: Biointerfaces*. 87, 280-288. (if=3.554, ci=14)
8. Jain, A., Singh, S.K., Singh, Y., Singh, S., (2013) Development of lipid nanoparticles of diacerein an Osteoarthritic drug for enhancement in bioavailability and reduction in its side effects. *Journal of Biomedical Nanotechnology*. 9 (5), 891-900. (if=5.256, ci=01)
9. Garg., A, Singh, S., (2013) Targeting of eugenol loaded solid lipid nanoparticles to the epidermal layer of human skin. *Nanomedicine (UK)* doi: 10.2217/nnm.13.33. (if=5.26)
10. Jain, A., Mishra, S., Vuddanda, P. R., Singh, S.K., Singh, R., Singh, S. Targeting of diacerein loaded lipid nanoparticles to intra-articular cartilage using chondroitin sulfate as homing carrier for treatment of osteoarthritis in rats. *Nanomedicine: Nanotechnology, Biology, and Medicine* (<http://dx.doi.org/10.1016/j.nano.2014.01.008>) (if=6.930)

RAJ, Bahadur (b. 1951), Director Principal, Govt. Medical College & Hospital, Sector 32, Chandigarh.

Member of the NASI : No

(YON 2011, Medical & Forensic Sciences)

During his 32 years career, he has shouldered many responsibilities, as an orthopaedic surgeon par excellence, as an academician of repute, and as an able administrator. He is essentially responsible for introducing most modern concepts of spinal surgery in this part of India. He has not only applied recent techniques but made many innovations such as adopting a metacarpal plate to carry out lateral mass plating of cervical spine- first such surgery in India, developing technique to fix odontoid without expensive instrumentation, and many more, to suit these western techniques to Indian patients and economic conditions. As an academician he has been responsible for training large number of orthopaedic surgeons from all over India in these techniques which has made it possible for large number of patients to benefit from advances in orthopaedics in general and spine surgery in particular. As an administrator, he established the department of orthopaedics at Government Medical College & Hospital and has been delegated the task of establishing state of the art Regional Spinal Injury Centre at Mohali, which is in its final stages of completion. He is also deeply involved in basic and clinical research. He, in collaboration with Central Scientific Instruments Organization, designed and developed an indigenous Functional Electrical Stimulation system which will go a long way in rehabilitating the spinal cord injury patients. He is also involved in various ICMR research projects and is carrying out research on role of stem cells therapy in spinal cord injury patients.

Proposer : Prof. R.C. Mahajan **Seconder** : Prof. Indu Gupta

Ten Best Publications:

1. MARTIN A. MCNALLY, RAJ BAHADUR, EDDIE A. COOKE, RAMOND A. B. MOLLAN, July, 1997, VENOUS HAEMODYNAMICS IN BOTH LEGS AFTER TOTAL KNEE REPLACEMENT, The Journal of Bone and Joint Surgery, Volume 79-B, No. 4 (IF=2.665)
2. Manish Chadha and Raj Bahadur, 28 July, 1998, Steffee variable screw placement system in the management of unstable thoracolumbar fractures : a third world experience, Injury : International Journal of the Care of the Injured Volume 29, No. 10, 1998. (IF=2.383)
3. Mandeep S. Dhillon, Ravi Kumar Gupta, Raj Bahadur and Onkar N Nagi, Oct. 2001, Tuberculosis of the sternoclavicular joints, Acta Orthop Scand 2001, 72(5) : 514 -7 (IF=1.285)
4. Kapil Kumar, Vinod K. Sharma, Rajbahadur Sharma and Nicola Maffulli, Correction of Cubitus varus by French or Dome Osteotomy : A Comparative Study, The Journal of Trauma, Injury Infection and Critical Care Volume 49, Number 4 (IF=0.996)
5. R. BAHADUR, P. SAKSENA, V.P. BANSAL, Jan. 1992, Closed Intramedullary Nailing Without Reaming in Fracture Shaft of Femur, Indian Journal of Orthopaedics, Volume 26 No. 1 (IF=0.567)
6. RAJ BAHADUR, B.V. BHAT, Feb. 1989, Congenital Musculoskeletal Malformations in Neonates, J Indian Med. Association, Volume 87, No. 2 : 27-29, 1989 (IF=0.567)
7. J V S VIDYA SAGAR, RAJBAHADUR SHARMA, SURENDER SHARMA, Sep. 1989, Epidural Steroid Injection in Non-specific Low Backache, J.Ind. Med. Association, 87(9) 208-209 (IF=0.567)
8. Rohit Jindal, Manish Pruthi, Sudhir Garg, Raj Bahadur Sharma, Feb. 2011, Traumatic L4-5 Spondylolisthesis Eur. J. Orthop Surg Traumatol (2012), Vol. 22. page No.61-64 (IF=0.146)
9. V.K. SHARMA, R.C. AGNIHOTRI, DINESH PANKAJ, NEELESH KUMAR, ROHIT JINDAL, DEEPAK MEHTA AND RAJ BAHADUR, 2006, Development of four channel programmable FES system using multi-tap transformers, Journal of Scientific and Industrial Research 2006. Sr.No. 65, page No. 507-509 (IF=0.47)
10. NEELESH KUMAR, V.K. SHARMA, R.C. AGNIHOTRI, DINESH PANKAJ, ROHIT JINDAL, DEEPAK MEHTA AND RAJ BAHADUR, 2008, Effect of frequency and amplitude of FES pulses on muscle fatigue during toning of muscles. Journal of Scientific and Industrial Research 2008. Sr. No. 67, page No. 288-290. (IF=0.47)

DAMLE, SATYAWAN GANGARAMJI (b 1951), Vice Chancellor, Maharishi Markandeshwar University, Mullana, Ambala

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Prof. S.G.Damle, a well known researcher and academician, possesses more than 35 years of clinical and teaching experience in Pediatric Dentistry. He has guided nearly 60 Postgraduate students for their Master's (MDS) and Ph.D. Scholars. Presently he is Vice Chancellor of Maharishi Markandeshwar University, Mullana. He has been Principal Investigator in number of ICMR, WHO Research Projects and carried out numerous projects. He was instrumental in establishing that oral cavity can be an indicator for HIV/AIDS patients. He has carried out research in one of the most backward areas of Maharashtra i.e. Thane District. The prevalence studies of dental caries, gum diseases, oral cancer and dentofacial anomalies in the state of Maharashtra and Goa has won him recognition and acclamation. His pioneer research work includes Fluorides, HIV and Oral Health, Endodontics & Effects of Probiotics, Sugarfree gums and Toothpastes on Dental caries. He has been conferred numerous National and International awards & honours including Best Research Award of Indian Society of Dental Research. He has more than 125 publications to his credit. He was National President of Indian Dental Association (2006), Indian Society of Pedodontics and Preventive Dentistry (1995), Chairman of Pierre Fauchard Academy India Section (2005). He has authored Text Book on Pediatric Dentistry (4th Edition) as well as Manual for HIV/AIDS, Oral Health, Dental Health and Fluoride. He is actively involved with publication of journals for 18 years first with Journal of Indian Society of Pedodontics and Preventive Dentistry and later on with Contemporary Clinical Dentistry.

Proposer: Prof. R.C. Mahajan, **Seconder:** Prof. R. P. Bambah

Ten Best Publications:

1. Damle S.G., A.R. Patel. Caries prevalence and treatment need among children of Dharavi Bombay, India. Community Dentistry and Oral Epidemiology 1994; 22 (1): 62-63. (IF=2.328, CI=5)
2. Damle S.G., Bhavsar JP. Plaque removing efficacy of individually modified toothbrushes in cerebral palsy children. Journal of American Society of Dentistry for Children. 1995 Jul-Aug; 62 (4): 279 – 82. (IF=0.44, CI=4)
3. S G Damle. Fluoridated dentifrices: towards a cavity free future. International Dental Journal 2009;59(4) (Supplement 1): 237-243.(IF=0.743)
4. Damle SG, Gandhi M, Laheri V. Comparison of oral ketamine and oral midazolam as sedative agents in pediatric dentistry. Journal of Indian Society of Pedodontics and Preventive Dentistry. 2008;26(3):97-101. (IF=0.505, CI=8)
5. Damle S.G, Nadkarni UM. Calcium hydroxide and zinc oxide eugenol as root canal filling materials in primary molars: a comparative study. Australian Endodontic Journal. 2005 Dec; 31 (3): 114-9. (IF=1.22, CI=6)
6. Damle SG, Bhattal H, Loomba A. Apexification of Anterior Teeth: A Comparative Evaluation of Mineral Trioxide Aggregate and calcium Hydroxide Paste. Journal of Clinical Pediatric Dentistry. 2012;36(3):263-268. (IF=0.474)
7. Rodrigues JS, Damle S.G. Prevalence of dental caries and treatment needs in 12-15 year old municipal schoolchildren of Mumbai. Journal Indian Society of Pedodontics and Preventive Dentistry. 1998; 16 (2): 31-6. (IF=0.505, CI=3)
8. Singh R, Damle SG, Chawla A. Salivary mutans streptococci and lactobacilli modulations in young children on consumption of probiotic ice cream containing Bifidobacterium lactis Bb12 and Lactobacillus acidophilus La5. Acta Odontologica Scandinavica 2011;69(6):389-394. (IF=1.130)
9. Kalaskar R, Damle SG, Tiku A. Nonsurgical treatment of periapical lesions using intracanal calcium hydroxide medicament-A report of 2 cases. Quintessence International. 2007 May; 38(5):E279-84. (IF=0.643)
10. Kulkarni VV, Damle S.G. Comparative evaluation of efficacy of sodium fluoride, chlorhexidine and triclosan mouth rinses in reducing the mutans streptococci count in saliva: an in vivo study. Journal Indian Society of Pedodontics and Preventive Dentistry. 2003 Sep; 21 (3): 98-104. (IF=0.505, CI=9)

DASGUPTA, UMA (b.1946), Professor, Dept. of Biophysics, Molecular Bio. & Bioinformatics, Calcutta University, 92 APC Road, Kolkata.

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

During the course of her scientific career Professor Uma Dasgupta made original contribution to the following issues.

1. Existence of inducible and mutagenic repair process in eukaryotic system was demonstrated for the first time by her, using the thymidine kinase gene of herpes simplex virus. The ensuing paper (PNAS, USA, 1978, 75, p2378) has been widely referred (94 citations), and EC Friedberg's book "DNA Repair" (1984) excerpted a table from the paper. Later the work was extended to molecular level (Mol Cell Biol. 1984 (10):2227-30, citations 43).

2. Prof Dasgupta's laboratory demonstrated for the first time that environmental Arsenic does produce perturbation of DNA methylation in persons chronically exposed to arsenic, even at physiological ranges. The relevant paper (Toxicol Sci. 2006 Feb;89, p 431-7) had been cited 51 times. The work has been extended to genomic hypermethylation (Environ Toxicol. 2010 Jun;25(3):315-8).

3. Professor Dasgupta also demonstrated for the first time that the null genotype of GST TI gene is positively associated with incidence of chronic myeloid leukemia (Eur J Cancer Prevo 2005; 14:281-4). The work has since been corroborated by others (13 citations).

Professor Dasgupta worked extensively on the nature of mutations and other genetic modifications associated with the thalassemic diseases of Eastern India (Hum Hered. 1999;49(4):232-5; Prenat Diagn. 2004 Dec 15;24(12):992-6; Eur J Haematol. 2005 Jul;75(1):47-53; Hemoglobin. 2008;32(5):485-90; Hemoglobin. 2009;33(6):486-91 etc).

Professor Dasgupta's laboratory also provided molecular diagnosis for Fragile-X syndrome, DMD and Philadelphia Chromosome. These provided very important diagnostic services to clinicians of Kolkata.

Proposer: Dr. Amit Ghosh, **Seconder:** Dr. Hemanta K. Majumder

Ten Best Publications:

1. Ultraviolet reactivation of herpes simplex virus is mutagenic and inducible in mammalian cells. DasGupta UB, Summers WC. Proc Natl Acad Sci USA. 1978 May;75(5):2378-81. PMID: 20.9462 [PubMed - indexed for Medline] (CI : 94; IF : 9.432)

2. DNA hypermethylation of promoter of gene p53 and p16 in arsenic-exposed people with and without malignancy. Chanda S, Dasgupta UB, Guhamazumder O, Gupta M, Chaudhuri U, Lahiri S, Das S, Ghosh N, Chatterjee D. Toxicol Sci. 2006 Feb;89(2):431-7. Epub 2005 Oct 26. PMID: 16251483 [PubMed - indexed for Medline] (CI : 51; IF : 4.8)

3. Error-prone mutagenesis detected in mammalian cells by a shuttle vector containing the supF gene of Escherichia coli. Sarkar S, Dasgupta UB, Summers WC. Mol Cell Biol. 1984 Oct; 4(10):2227-30. PMID: 60.950.49 [PubMed - indexed for Medline] (CI : 43; IF : 6.057).

4. ras gene mutations in oral cancer in eastern India. Das N, Majumder J, Das Gupta UB. Oral Oncol. 2000 Jan; 36(1):76-8D. PMID: 10.889924 [PubMed - indexed for Medline] (CI : 3D; IF : 3.025).

5. Major beta-globin gene mutations in eastern India and their associated haplotypes. Bandyopadhyay A, Bandyopadhyay S, Chowdhury MD, Dasgupta UB. Hum Hered. 1999 Jul;49(4):232-5. PMID: 10.436386 [PubMed - indexed for Medline] (CI : 20.; IF : 3.81).

6. Glutathione S-transferase M1 and T1 null genotype frequency in chronic myeloid leukaemia. Mondal BC, Paria N, Majumdar S, Chandra S, Mukhopadhyay A, Chaudhuri U, Dasgupta UB. Eur J Cancer Prevo 2005 Jun; 14(3) : 281-4. PMID: 1590.1999 [PubMed - indexed for Medline] (CI : 13; IF : 2.2).

7. Fragile X syndrome in Calcutta, India. Saha S, Karmakar P, Chatterjee C, Banerjee O, Das S, Dasgupta UB. Ann Clin Biochem. 2001 May; 38(Pt 3):264-71. PMID: 1139250.2 [PubMed - indexed for Medline] (CI : 13; IF : 1.917).

8. Two beta-globin cluster-linked polymorphic loci in thalassemia patients of variable levels of fetal hemoglobin. Bandyopadhyay S, Mandai BC, Sarkar P, Chandra S, Das MK, Dasgupta UB. Eur J Haematol. 2005 Jul;75(1):47-53. PMID: 15946310. [PubMed - indexed for Medline] (CI : 10.; IF : 2.345).

9. Association of cytochrome P450, glutathione S-transferase and N-acetyl transferase 2 gene polymorphisms with incidence of acute myeloid leukemia. Majumdar S, Mondal BC, Ghosh M, Dey S, Mukhopadhyay A, Chandra S, Dasgupta UB. Eur J Cancer Prevo 2008 Apr;17(2):125-32. PMID: 18287869 [PubMed - indexed for medline] (CI : 8; IF : 2.2).

10. Chemically induced murine T lymphomas: continued rearrangement within the T-cell receptor beta-chain gene during serial passage. Dasgupta UB, Lilly F. Proc Natl Acad Sci USA. 1988 May; 85(9):3193-7. PMID: 2834735 [PubMed - indexed for medline] (CI : 4; IF : 9.432).

KAUL, DEEPAK (b.1953), Professor & Head, Deptt. of Experimental Medicine & Biotechnology, PGIMER, Chandigarh.

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

For the last three decades or so the exploration of RNome has helped us to rethink physiology as an exquisite readout and a window into the dynamic aspect of genome. It is in this context Dr. Kaul's research activity, for the last two and a half decades, assumes importance. His original contributions that have added a totally new dimension to the understanding of RNome in health and disease are:-

Dr. Kaul's studies directed to understand the functional RNomics of LXR- α genome revealed that this gene has not only the ability to provide immunity at the genomic level but also human subjects having mutated form of LXR- α gene may develop predisposition towards Coronary Heart Disease. He also not only showed for the first time that LXR- α RNomics programmes neuronal Cells to death responsible for Alzheimer's Disease but also down-regulation of TACO gene at the transcriptional level within human macro phages by endogenous molecules (such as Vitamin 'D' + Retinoic acid or Chenodeoxycholic acid + Retinoic acid) can make these cells resistant to Tuberculosis infection thereby proposing a new approach for host-based prevention/treatment of Tuberculosis. His original studies also revealed that therapeutics designed against E2F-1 transcription factor might prove beneficial for the treatment of Acute Lymphoblastic leukemia.

Proposer: Prof. G.P. Talwar, **Seconded:** Prof. Kasturi Datta

Ten Best Publications:

1. D. KAUL and K. Sikand (2004): Defective RNA-mediated c-myc gene silencing pathway in Burkitt's lymphoma. *Biochem. Biophys. Res. Commun.* 313, 552-554. (IF = 4.2)
2. PK Anand and D. KAUL (2005): Down-regulation of TACO gene transcription restricts Mycobacterium tuberculosis entry/survival within macrophages. *FEMS Microbiol. Lett.* 250, 137- 144. (IF = 4.5)
3. PK Anand, D. KAUL and M. Sharma(2005):Green tea polyphenol inhibits M. tuberculosis survival through down-regulation of TACO gene within human macrophages. *Int. J. Biochem.Cell Biology*, 38, 600-609. (IF = 5.2)
4. KAUL, A Gautam and K. Sikand (2006) : Importance of LxR- α transcriptome in the modulation of innate immunity. *Mol. Cellul. Biochem.* 292, 53-57. (IF = 2.8)
5. D. KAUL (2008) : Coronin-1A epigenomics governs mycobacterial persistence in tuberculosis. *FEMS Microbiol. Lett.* 278; 10-14. (IF = 4.5)
6. V.P. DAVE, D. KAUL, V. Sharma and Bhattacharya R. (2009) : Functional genomics of blood cellular LXR-a gene in human Coronary disease. *J. Mol. Cell. Cardiol.* 46, 536-544. (IF = 5.2)
7. A. Raina, D. KAUL (2010). LXR- α genomics programmes neuronal death observed in Alzheimer's disease. *Apoptosis* 15, 1461-1469. (IF = 5.0)
8. D.S. Gupta, D.KAUL, AJ.Kanwar, D.Prasad (2010). Psoriasis: crucial role of LXR- α RNomics. *Genes Immun.* 11: 37-44.
9. A Mehrotra, K.Joshi, D.KAUL. (2010). E2F-1 Rnomics is critical for reprogramming of cancer cells to quiescent state. *Int. Journal of cancer* 127, 849-58. (IF: 4.8)
10. S.Bhatia, D. KAUL, N.Varma (2010). Potential tumor suppressive function of miR-196b in B-cell lineage acute lymphoblastic leukemia. *Mol.Cell.Biochem* 340, 97-106. (IF: 2.8)

KRISHAN, KEWAL (b.1973), Senior Assistant Professor, Department of Anthropology, Panjab University, Chandigarh.

Member of the NASI: Yes

(YON 2011, Medical & Forensic Sciences)

1. Dr Kewal Krishan devised some of the new methods in the field of Forensic Science. For the very first time in scientific literature, by conducting research, he calculated the effect of limb asymmetry on estimation of stature in forensic examinations.
2. Established the relationship of body weight with footprints in different weight bearing conditions and its interpretation in criminal cases pertaining to rivalries, homicides, sexual offenses especially robberies, thefts, dacoity, etc. where the person is lifting the bags, gunny bags full of some material and leaving the footprints at crime site.
3. Discovered some of the new individualistic characteristics of footprints which are helpful in associating footprint with the criminal at the crime scene. The research papers pertaining to above mentioned discoveries have been published in Forensic Science International - One of the best international journals in the field.
4. A new method of sex determination has been devised by using sectioning point analysis.
5. He devised a new/novel index called Heel-Bail index emphasizing its relevance in sex determination. The research papers pertaining to these two recent discoveries have been published as Technical Notes in Journal of Forensic Sciences-An official journal of the American Academy of Forensic Sciences. On the basis of this commendable work in forensic science, he recently got travel grant awards and delivered lectures in USA, Thailand and Saudi Arabia. He received more than 280 citations of his forensic work all over the world. A publication has been cited in the syllabi of two American universities.

Proposer: Prof. KK Bhasin, **Seconder:** Prof. A.K Bhandari

Ten Best Publications:

1. Krishan K (2007) Individualizing characteristics of footprints in Gujjars of North India-Forensic aspects, Forensic Science International. 169 (2-3):137-144. Elsevier Science, (IF: 2.104; CI : 25).
2. Krishan K, Sharma A (2007). Estimation of stature from dimensions of hands and feet in a north Indian population. Journal of Forensic and Legal Medicine, 14 (6): 327-332. Elsevier Science, (IF: 0.606; CI : 70).
3. Krishan K, Kumar R (2007). Determination of stature from cephalo-facial dimensions in a North Indian population. Legal Medicine (Tokyo), 9(3):128-133. Elsevier Science, (IF: 0.654; CI : 28).
4. Krishan K (2007). Anthropometry in forensic medicine and forensic science-Forensic Anthropometry. The Internet Journal of Forensic Science, Vo1.2, NO.1. Internet Scientific Publications, Texas, USA. (IF: 0; CI : 29).
5. Krishan K (2008). Estimation of stature from footprint and foot outline dimensions in Gujjars of North India. Forensic Science International, 175 (2-3):93-101. Elsevier Science, (IF: 2.104; CI : 32).
6. Krishan K (2008). Estimation of stature from cephalo-facial anthropometry in north Indian population, Forensic Science International 181: 52.e1-e6. Elsevier Science, (I F : 2.104; CI : 25).
7. Krishan K (2008). Establishing correlation of footprints with body weight-Forensic aspects, Forensic Science International, 179 (1): 63-69. Elsevier Science, (IF: 2.104, CI : 12)
8. Krishan K (2008). Determination of stature from foot and its segments in a north Indian population. American Journal of Forensic Medicine and Pathology, 29(4):297-303, Lippincott Williams and Wilkins/Wolters Kluwer, (IF: 1.022; CI : 15).
9. Krishan K, Kanchan T, DiMaggio JA (2010). A study of limb asymmetry and its effect on estimation of stature in forensic case work, forensic Science International 200(1-3): 181e1-e5. Elsevier Science, (iF: 2.104; CI : 03) .:
10. Kanchan T, Krishan K, Sharma A, Menezes RG (2010). A study of correlation of hand and foot dimensions for personal identification in mass disasters, Forensic Science International 199(1-3): 112 e1-e6. Elsevier Science, (IF: 2.104; CI: 03).

KUMAR, RAJ (b 1959), Director, All India Institute of Medical Sciences (AIIMS), Rishikesh.

Member of the NASI: Yes

(YON 2011, Medical & Forensic Sciences)

I hereby take this opportunity to nominate Prof. (Dr.) Raj Kumar a well known academician, a skilled neurosurgeon and a researcher par excellence for the fellowship of National Academy of Sciences, India for his contribution in developing Paediatric Neurosurgery in UP and North India.

Dr. Kumar with his vast experience in congenital brain and spinal malformations over the years has laid down guidelines for their management in the Indian perspective. He has about 400 publications in various international and national journals and numerous chapters in books. He has authored 6 books on neurosurgery (pediatric neurosurgery, brain haemorrhage, head injury, pineal tumor, neurosurgery review). He has also published 2 booklets on Head Injury and brain tumor in hindi. He is editorial board member of several International journals (Child CNS, J Ped Infectious diseases, J. Pediatric Neurology) & asian editor of Paediatric Neurosurgery. He is a recognized teacher of International Society of Pediatric Neurosurgery.

He is the recipient of several National and International awards— Vigyan Gaurav (Council of Science & technology 2008), Vigyan Ratan (Council of Science & technology 2007), National Ambedkar Excellency award, Neuroscientist of year, Shalya Shree national honor, U.P. Ratan (2009), Sir Sri Ram Memorial Award (National Medical Academy 2010) and Certificate of Recognition (International Society of Paediatric neurosurgery -ISPN at Morocco), Fellowship National Academy of Medical Sciences- FAMS (2013). He has established a trauma centre at SGPGI.

Prof. Kumar has the honour of joining as founder Director of AIIMS, Rishikesh. He envisioned to create AIIMS, Rishikesh as a center of excellence in patient care, research, academics in the shortest possible time.

I feel he justly deserve to be nominated for this fellowship.

Proposer : Prof. C.L. Khetrpal, Secondar : Prof. Rakesh Kapoor

Ten Best Publications:

1. Kumar R, Das R, Mahapatra AK. Role of Gamma Interferon in diagnosis of Pott's spine. Journal of Neurosurgery (JNS) ; 2009 (Nov) (*if=2.965, ci=28800*)
2. Kumar R, Singhal N, Kapoor R, Mahapatra AK. Evaluation of clinicourodynamic outcome of bladder dysfunction after surgery in children with spinal dysraphism: a prospective study, Acta Neurochirurgica; 2008 (Feb): 150(2), 129-137. (*if=1.520, ci=6333*)
3. Kumar R, Singh S. Childhood Choroid Plexus Papillomas; Operative Complications. Original article. Child's Nervous System; 2005: 21, 38-43. (*if=1.542, ci=4090*)
4. Kumar R, Jain MK, Chhabra DK. Dandy Walker Syndrome: Different Modalities of Treatment & Outcome in 42 cases. Original article. Child's Nervous System (CNS) ; 2001(May): 17, 348-352. (*if=1.542, ci=4090*)
5. Kumar R, Nayak RS. Management of Pediatric Congenital Atlantoaxial Dislocation: a Report of 23 cases from Northern India. Pediatr Neurosurgery; 2002: 36, 197-208. (*if=0.703, ci=2204*)
6. Kumar R, Kalra SK, Vaid VK, Mahapatra AK. Chiari I malformation: surgical experience over a decade of management. British Journal of Neurosurgery; 2008(June): 22(3), 409-14. (*if=0.88, ci=2023*)
7. Kumar R, Subramanian A, Gupta A, Saxena S, Gupta A, Kumar R, Nigam A, Mandal SK, Roy R. Proton MR CSF Analysis and New Software as Predictors for the Differentiation of Meningitis in Children. Journal of Biomedical Science. NMR Biomedical; 2005(Jun): 18(4), 213-225. (*if=1.98, ci=1838*)
8. Kumar R, Kalra SK, Mahapatra AK. A clinical scoring system for neurological assessment of high cervical myelopathy: Measurements in pediatric patients with congenital atlantoaxial dislocations. Neurosurgery; 2007(Nov): 61(5), 987 – 993. (*if=2.785*)
9. Kumar R, Ambesh SP. Neuroendoscopic procedures: Anesthetic consideration for a growing trend. Review article in J. Neurosurgical Anesthesia; 2000: 12, 262-270. (*if=2.41*)
10. Kumar R. Atypical response to chemotherapy in Neurotuberculosis. British Journal of Neurosurgery; 1998: 12(4), 344-347 (*if=0.88, ci=2023*)

SARKAR, BANWARILAL (b.1955), Deputy Director, National Institute of Cholera & Enteric Diseases, P33 CIT Road, Scheme XM, Beliaghata, Kolkata.

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Dr. Sarkar has made very significant contribution in the field of cholera epidemiology by successfully developing a highly effective phage typing scheme. Cholera is still a major scourge in many developing countries and a quick identification of the strains in field conditions (often primitive) is of great significance. With this scheme, almost 100 per cent strains were found to be typeable and the strains could be clustered into 27 types (Chattopadhyay et al, 1993). The emergence of toxigenic *V.cholerae* O139 led him to further develop the phage typing scheme (Chakrabarti et al, 2000). A total of five newly isolated lytic phages, differing from each other and also from O1 phages, were included in this scheme. These two schemes were highly effective for phage typing of *V. cholerae* O1 and O139 particularly in outbreaks originating from single source and have been adopted worldwide based on this work. Vibriophage Reference Laboratory of the National Institute of Cholera and Enteric Diseases has been the only reference laboratory offering referral services in relation to cholera phage. An average, 1000 to 1500 strains of *V. cholerae* from 30 to 40 institutions are being sent to NICED, Kolkata for confirmation, serotyping, biotyping and phage typing results. These phages discovered by Dr. Sarkar used for typing are supplied to different institutes as requested and have been deposited to American Type Culture Collection (ATCC). Additionally, Dr. Sarkar is engaged in research and development of phage therapy which assumes great significance in the light of the emergence of multi-antibiotic resistant bugs worldwide (Bhowmick et al, 2009; Jaiswal et al, 2013).

Proposer: Dr. Amit Ghosh, **Seconder:** Prof. Sekhar Chakrabarti

Ten Best Publications:

1. Sarkar, B.L., G.B. Nair, B.K. Sircar and s.c. Pa1.1983. Incidence and level of *Vibrio parahaemolyticus* associated with freshwater plankton. *Appl. Env. Microbiol.*46: 288-290. IF 3.686, Cited by 22
2. Chattopadhyay, DJ., B.L. Sarkar, M.Q. Ansari, B.K. Chakrabarti, M.K. Roy, A.N. Ghosh and s.c. Pal. 1993. New phage typing scheme for *Vibrio cholerae* O1 biotype EITor strains. *J. Clin. Microbio*1.31: 1579-1585. IF 4.162, Cited by 35
3. Chakrabarti, A.K., A.N. Ghosh, G.B. Nair, S.K. Niyogi, S.K. Bhattacharya and B.L. Sarkar. 2000. Development and evaluation of a phage typing scheme for *Vibrio cholerae* O139. *J. Clin. Microbio*1.38: 44-49. IF 4.162, Cited by 21
4. Sarkar, B.L. 2002. Cholera bacteriophages revisited. *ICMR Bull* 32: 33-37. Cited by 3
5. Bhowmick T. S., H. Koley, M. Das, D. R Saha and B. L. Sarkar. 2009. Pathogenic potential of vibrio phages against an experimental infection with *Vibrio cholerae* Olin the RIT ARD model. *Int J Antimicrob Agents*.33:569-573. IF 4.41, Cited by 4
6. Bhowmick, T.S., M. Das, W. Ruppitsch, A. Stoeger, A. T. Pietzka, F. Allerberger, D. P. Rodrigues and B. L. Sarkar. 2009. Virulence associated and regulatory protein genes detection in association with phage typing of human *Vibrio cholerae* population from several geographical regions of world. *1. Med. Microbiol.*58:1160-67. IF 2.29, Cited by 5
7. Bhowmick, T.S., M. Das and B. L. Sarkar. 2011. Genotypic characterization of *Vibrio cholerae* isolates using several DNA fingerprint techniques. *Future Microbiol.*6: 29-42. IF 4.0, Cited by 1
8. Das M., RK.Nandy, Bhowmick, T.S., S. Yamasaki, A. Ghosh, G. B. Nair and B. L. Sarkar. 2011. *Vibrio cholerae* typing phage N4: genome sequence and its relatedness to T7 viral supergroup. *Intervirol.* 55: 185-193. IF 1.89, Cited by 1
9. B.L. Sarkar, S. Kanungo and G.B.Nair. How endemic is cholera in India? 2012. *Ind. 1. Med. Res.*135: 246-248. IF 2.0, Cited by 2
10. Jaiswal A, Koley H, Ghosh A, Palit A, B. Sarkar. Efficacy of cocktail phage therapy in treating *Vibrio cholerae* infection in rabbit model. *Microbes Infect.* 2013. 15: 152-6. IF 3.1, Cited by 2

KAPAETTU, SATYAMOORTHY (b 1960), Director, Manipal Life Sciences Centre, Manipal University, Manipal

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Our major efforts in research have been to understand how epigenetic changes control two major phenomenon: A) Malignant and premalignant tumors such as oral, cervix and breast cancers were used. Early biomarkers are identified by DNA methylation microarray analysis and are validated for mechanistic and translation purposes. B) Ayurveda distinguishes people and classifies human variations according to physiological, psychological and physical features. These are called Prakriti. We have studied DNA methylation signatures among individual with defined prakriti in Indian population using microarrays and signatures have been identified and signatures have identified to provide scientific basis of human variations according to Ayurveda. C) We have constructed first Indian human Bacterial Artificial chromosome library not only as a national resource for diagnostic purposes but also for translational variome studies. Towards this, we have analyzed genome wide copy number variations (CNVs) and validated the unique CNVs in our population. D) Studies on the genetics of human diseases, Pharmacogenetic research and translation in Indian population are undertaken. These include for genes associated with the effectiveness of anticancer drugs, psychiatric disorders and folate metabolism. E) Orthotropic models for organogenesis were established for skin and blood vessels. The three dimensional models representative of organs were demonstrated and pathological behavior through overexpression of critical genes for organogenesis. F) Constitutive signaling mechanism that is operative in tumor cells was first identified as BRAF through mutational analysis of series of oncogenes. Functional consequence of such mutations leading to constitutive activation of Erk (p42/p44 MAPK) was demonstrated.

Proposer : Prof. M.S. Valiathan, **Secunder :** Prof. P.C. Kesavan

Ten Best Publications:

1. Shama Prasada Kabekkodu, Samatha Bhat, Raghu Radhakrishnan, Abijith Aital, Roshan Mascarenhas, Deeksha Pandey, Lavanya Rai, Pralhad Kushtagi, Gopinath P M and Kapaettu Satyamoorthy 2014. DNA Promoter Methylation Dependent Transcription of Double C2 Like Domain Beta (DOC2B) Gene Regulates Tumor Growth in Human Cervical Cancer. J Biol Chem. February 25, 2014 asdoi:10.1074/jbc.M113.491506. (if=5.498)
2. Chakrabarty S, D'Souza RR, Kabekkodu SP, Gopinath PM, Rossignol R, Satyamoorthy K. 2014. Upregulation of TFAM and mitochondria copy number in human lymphoblastoid cells. Mitochondrion. 2014 Jan 23. pii: S1567-7249(14)00003-8. doi: 10.1016/j.mito.2014.01.002. (if=4.025)
3. Padmalatha S Rai, Ganesh C Pai, Jose F Alvares, Ravishankara Bellampalli, Puthiya M Gopinath and Kapaettu Satyamoorthy. 2014. Intraindividual somatic variations in MTHFR gene polymorphisms in relation to colon cancer. Pharmacogenomics.15: 349-359. (if=3.857)
4. Raghu Radhakrishnan, Upadhya Raghavendra, Abhijit Aithal, Shama Prasada, Samatha Bhat, Chinchu Jayaprakash, Satadru Ray, Kishore Chandra Prasad, Asha Kamath, Lene Rasmussen, Kapaettu Satyamoorthy 2013, DNA Methylation Changes in Clinical Stages of Oral Cancer Progression and Correlation with DOC2B Promoter Hypermethylation. Mol Cancer Biol., (in press)
5. Himanshu Gupta, Sanica C Sakharwade, Arshia Angural, Ananthapadmanabha Kotambail, Gopal K Bhat, Manjunath H Hande, Sydney C Dsouza, Purnima Rao, Veena Kumari, Abdul V Saadi, Kapaettu Satyamoorthy .2013. Evidence for Genetic Linkage between a Polymorphism in the GNAS gene and Malaria in South Indian Population. Acta Tropica. 128:571-577. (if=2.787)
6. Abdul V Saadi, Himanshu Gupta, Arshia Angural, Sreeja K Dhanya, Sridevi Mony, Devesh Oberoi, Sydney C D'Souza, Ramesh C Sahoo, Manjunath H Hande, Puthiya M Gopinath, Kapaettu Satyamoorthy. 2013. Single Nucleotide Polymorphisms of ADRB2 gene and their association with susceptibility for Plasmodium falciparum malaria and asthma in an Indian population. Infection, Genetics and Evolution 20: 140-147. (if=2.768)
7. Joshi MB, Lad A, Bharat Prasad A, Balakrishna A, Ramachandra L, Satyamoorthy K. 2013. High glucose modulates IL-6 mediated immune homeostasis through impeding neutrophil extracellular traps formation in diabetic conditions. FEBS Letters. 587: 2241-2246. (if=3.582, ci=1)
8. Tharoor H, Kotambail A, Jain S, Sharma PS, Satyamoorthy K. 2013. Study of the association of serotonin transporter triallelic 5-HTTLPR and STin2 VNTR polymorphisms with lithium prophylaxis response in bipolar disorder. Psychiatric Genetics 2:77-81. (if=2.365)
9. Satyamoorthy, K., Li, G., Garrero, M.R., Bros, M.S., Volpe, P., Weber, B.L., van Belle, P., Elder, D.E., and Herlyn, M. 2003. Constitutive mitogen activated protein kinase activation in melanoma is mediated by both BRAF mutations and autocrine growth factor stimulation. Cancer Res., 63: 756-759. (if=8.650, ci=400)
10. Satyamoorthy, K., Li, G., and Herlyn, M. 2001. Insulin-like growth factor I induces survival and growth of biologically early melanoma cells through both mitogen-activated protein kinase and β -catenin pathways. Cancer Res., 61: 7318-7324. (if=8.650, ci=154)

SAXENA, SUNITA (b 1952), DIRECTOR, NATIONAL INSTITUTE OF PATHOLOGY. INDIAN COUNCIL OF MEDICAL RESEARCH, NEW DELHI

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Dr Sunita Saxena is one of the rare breed of physician scientists who is rooted in India and acknowledged leader in oncology. A pathologist by training, she has evolved as a biologist par excellence. Her election to the Academy would send a strong message to encourage research by physicians who are often disadvantaged by clinical and service load. Her main interest has been defining genetic risk factors and biomarkers in breast cancers. She pointed out for the first time that unlike Asian and western counterparts, Indian patients showed paucity of linkage with the BRCA 1/2 genes thought to be high risk factors for breast cancers. She defined unique founder mutations in Indian women and drew attention to the younger age at which breast cancer is seen in India. To me, her major contribution pertains to cancers in the neglected region of north east India which are rarely investigated by our scientists. Tobacco related oesophageal and breast cancers due to consumption of a fermented form were defined by genome wide scans including gene expression profile and copy number variations. Moreover, 2 stable cell lines from breast cancers of young women have been developed with a view to understanding oncogenesis and identifying biomarkers. Her publications, citations and awards in the last/previous years testify to the magnitude and quality of her research. Dr Saxena's additional strength has been institutional building and engagement in enhancing cutting edge activities at national level. She is part of the group spearheading biomarkers/proteomics in diseases of importance to India.

Proposer : Prof. Indira Nath, **Second** : Prof Chitra Sarkar

Ten Best Publications:

1. Sunita Saxena, Anurupa Chakraborty, Mishi Kaushal Sanjeev Kotwal, Dinesh Bhatnagar, RS Mohil, Chintamani Chintamani, AK Aggarwal, Veena Sharma, PC Sharma, Gilbert Lenior and David Goldgar, Csilla Szabo Contribution of germline BRCA1 and BRCA2 sequence alterations in to breast cancer in Northern India. BMC Medical Genetics 2006, 7:75. (if=2.54, ci=47)
2. Sunita Saxena ; Bharat Rekhi ; Anju Bansal ; Ashok Bagga ; Chintamani C and N.S.Murthy: Clinicomorphological patterns of Breast Cancers Including family history in a Delhi hospital, India- A Cross-sectional study World Journal of Surgical Oncology 2005, 3:67 (if=1.14, ci=32)
3. L C Singh, Anurupa Chakraborty, Ashwani K Mishra, Thoudam Regina Devi, Nidhi Sugandhi2, Chintamani, Dinesh Bhatnagar, Sujala Kapur, Sunita Saxena "Study on predictive role of AR and EGFR family genes with response to Neo-adjuvant Chemotherapy in Locally Advanced Breast Cancer in Indian women" Medical Oncology 2012, 29(2) : 539-546 (if=2.1, ci=4)
4. Anurupa Chakraborty1, N.S. Murthy2, Chintamani3, D Bhatnagar3, R.S. Mohil3, A. Bhatnagar3, P.C. Sharma4, Sunita Saxena1 CYP 17 gene polymorphism and its association with high-risk North-Indian breast cancer patients" Journal of Human Genetics 52(2):159-165,2007. . (if=2.25)
5. Agarwal, S. Verma, U. Burra, NS Murthy, NK Mohanty and S. Saxena Ca"Flow Cytometric analysis of Th1 and Th2 cytokines in PBMCs as a parameter of immunological dysfunction in patients of Superficial Transitional cell carcinoma of bladder". Cancer Immunology and Immunotherapy. 2006, 55(6), 734-743. (if=3.7, ci=42)
6. Pandrangi Latha Santhi, Appalaraju Sarangadhara Bagadhi, Sinha Kumar Navin, Kumar Manoj, Dada Rima, Lakhanpal Meena, Soni Abha, Malvia Shreshtha, Simon Sheeba, Chintamani Chintamani, Mohil Singh Ravindar, Bhatnagar Dinesh, Saxena Sunita, Establishment and characterization of two primary breast cancer cell lines from young Indian breast cancer patients: mutation analysis Cancer Cell International.2014, 14:14.DOI: 10.1186/1475-2867-14-14 (if=2.29, ci=8)
7. Kaushal M, Mishra AK,Raju BS, Ihsan R, Chakraborty A, Sharma J, Zomawia E, Verma Y, Kataki A, Kapur S. Saxena S: Betel quid chewing as an environmental risk factor for breast cancer Mutation Research - Genetic Toxicology and Environmental Mutagenesis 703(2010), 143-148. IF-2.84 Citation-9 (if=2.84, ci=9)
8. Mishi Kaushal, Ashwani. K. Mishra, Jaganath Sharma, Eric Zomawia, Amal Kataki, Sujala Kapur, Sunita Saxena Genomic alterations in breast cancer patients in betel quid and non betel quid chewers. PLoS One 7(8):e43789, 2012 (if=4.24, ci=5)
9. Chattopadhyay I, Singh A, Phukan A, Purkayastha J, Kataki A, Mahanta J, Saxena S, Kapur S .Genome-wide analysis of chromosomal alterations in patients with esophageal squamous cell carcinoma exposed to tobacco and betel quid from high-risk area in India Mutation Research - Genetic Toxicology and Environmental Mutagenesis 696 (2010), pp. 130-138 (if=2.84, ci=22)
10. Ihsan R, Chauhan PS, Mishra AK, Yadav DS, Kaushal M, Sharma JD, Zomawia E, Verma Y, Kapur S, Saxena S. Multiple Analytic Approaches reveal distinct Gene- Environment interactions in Smokers in Lung Cancers. Plos One 6(12): e29431, 2011. (if=4.24, ci=20)

VASANTHAPURAM, RAVI (b.1955), Professor & Head, Department of Neurovirology, NIMHANS, Hosur Road, Bangalore.

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Prof. V.Ravi, started the Department of Neurovirology at NIMHANS in the year 1985 and brought it up to its present stage where it is an internationally recognized for its contributions to the field of Neurovirology. He is a renowned virologist, recognized globally for his original research contributions in viral infections of CNS, especially, Japanese encephalitis. During the past 25 years, Prof. Ravi has been responsible for the investigation of several outbreaks of viral diseases such as Japanese encephalitis, dengue, chikungunya and H1N1 in the country. His research has centered on the development of rapid, sensitive and specific laboratory methods as well as understanding the pathogenesis of the viral infections of the nervous system. His research unraveled several aspects of JEV infection hitherto unknown, such as persistence of JEV in the human nervous system, association of JEV with Guillain-Barre Syndrome, identification of novel antiviral agents against JEV and molecular aspects of JEV infection. Above all, his research efforts resulted in the transfer of technology for commercialization of three important indigenous diagnostic ELISA kits for detection of antibodies to HIV, JEV and *Cysticercus cellulosae*. Currently, Dr. Ravi is involved in the development of a chip for diagnosis of Acute Encephalitis Syndrome. He has served as an expert for several national agencies such as DBT, DST, ICMR and NACO. He has also served WHO as a Short Term Professional for establishing a network of Japanese encephalitis laboratories in South East Asia and as Temporary Adviser on several occasions.

Proposer: Prof. Asha Mathur, **Seconded:** Prof. Susarla K. Shankar

Ten Best Publications:

1. V.Ravi, Anita Desai, Poornima Shenoy, P.Satishchandra, A.Chandramuki, M.Gourie-Devi. Persistence of Japanese encephalitis virus in the human nervous system. *Journal of Medical Virology*, 40, 326-329, (1993). (CI : 47; IF: 2.47).
2. V.Ravi, AB.Taly, SKShankar, PKShenoy, Anita Desai, D.Nagaraja, M.Gourie-Devi, AChandramuki. Association of Japanese encephalitis virus infection with Guillain-Barre syndrome in endemic areas in South India. *Acta Neurologica Scandinavica*, 90, 67-72, (1994) (CI : 16; IF : 2.324).
3. ADesai, SKShankar, V.Ravi, AChandramuki, M.Gourie-Devi. Japanese encephalitis virus antigen in the human brain and its topographic distribution. *Acta Neuropathologica*, 89 (4),368-373, (1995). (CI : 32; IF : 5.31).
4. K.Muralikrishna, B.Ramireddy, V.Ravi and R.Manjunath. Protection of adult but not newborn mice against intracerebral challenge with Japanese encephalitis virus by adoptively transferred virus specific T lymphocytes: requirement of L3T4+ cells. *Journal of General Virology*. 77 : 705-714 (1996). (CI : 54; IF : 3.260).
5. Neelam Khanna, AChandramuki, Anita Desai, V.Ravi. Cryptococcal infections of the central nervous system: An analysis of predisposing factors, lab findings and outcome in patients from South India with special reference to HIV infection. *Journal of Medical Microbiology*, 45, 380-382, (1996). (CI : 41; IF: 2.272).
6. V.Ravi, S.Parida, Anita Desai, AChandramuki, M.Gourie-Devi, G.E.Grau. Correlation of TNF levels in the serum and CSF of Japanese encephalitis patients. *Journal of Medical Virology*, 51, 132-136, (1997). (CI : 43; IF : 2.47).
7. C.Ramakrishna, ADesai, S.K.Shankar, AChandramuki and V.Ravi. Oral immunisation of mice with live Japanese encephalitis virus induces a protective immune response. *Vaccine*. 17: 3102-3108 (1999). (CI : 19; IF : 3.616).
8. V.Ravi, ADesai, M.Balaji, MP Apte, L Lakshmanan, DKSubbakrishna, G.Sridharan, TN Dhole and BV Ravikumar. Development and evaluation of a rapid IgM capture ELISA (JEV-Chex) for the diagnosis of Japanese encephalitis. *J Clinical Virology*, (2006) 35 : 429-434. (CI : 17; IF : 3.179).
9. Gupta JD, Satishchandra P, Gopukumar K, Wilkie F, Waldrop-Valverde D, Ellis R, Ownby R, Subbakrishna DK, Desai A, Kamat A, Ravi V, Rao BS, Satish KS, Kumar M. Neuropsychological deficits in human immunodeficiency virus type 1 clade C-seropositive adults from South India. *J Neurovirology* 13 : 195-202 (2007) (CI : 27; IF : 2.831).
10. Soma Das, Lakshminarayana SV, Nagasuma Chandra V.Ravi and Anita Desai. Heat shock protein 70 is a putative receptor on Neuro 2a cells for Japanese encephalitis virus. *Virology* 385:47-57 (2009) (CI : 6; IF: 3.024).

VEMUGANTI, GEETA KASHYAP (b 1960), Prof and Dean, School of Medical Sciences, University of Hyderabad, Hyderabad

Member of the NASI: No

(YON 2011, Medical & Forensic Sciences)

Dr Geeta Vemuganti, a physician- pathologist by training, has contributed significantly to ophthalmic pathology and stem cell research in the country. Her innovative, cost effective and xenofree method of culturing limbal stem cells on human amniotic membrane lead to the first of its kind bench-to bedside applications of stem cell therapy in India. This work is highly acclaimed and won her several national and international awards and honors. Other contributions include identification of tissue specific limbal mesenchymal stromal cells, hypoinnogenecity of human bone marrow mesenchymal cells and putative cancer stem cells in Retinoblastoma. Her submission to International Atomic Energy Agency in response to their request to design proposals that could potentially alleviate radiation induced damage through stem cell therapy was well appreciated. This proposal of combating radiation induced dry eye was the first of its kind, wherein she documented that the human lacrimal gland could be cultured and expanded ex-vivo, showed evidence of stem cells, duct like formation and secreted tear film substances. She contributed significantly to establishing and expanding Ophthalmic Pathology as a subspeciality in the field of surgical pathology in India and has been invited to take up several leadership positions in National and International bodies in Ophthalmology, Ophthalmic Pathology and Research. She has published widely, authoring 180 papers in journals of international repute with a Citation Index of 2353 and H. Index of 25 (Citation Gadget). With her medical background and research experience she guided several doctoral students in both basic and applied research projects.

Proposer : Prof Syed E Hasnain, **Secunder** : Dr Sharmila Bapat

Ten Best Publications:

1. Vemuganti GK, Garg Prashant, Gopinathan U, Naduvilath TJ, John RK, Rajeev B, Rao GN. Evaluation of agent and host factors in progression of Mycotic keratitis: a histological and microbiological study of 167 buttons. *Ophthalmology* 2002 Aug;109(8):1538-1546 (*if*=5.567, *ci*=82)
2. Kiran VS, Kannabiran C, Chakravarti K, Vemuganti GK, Honavar SG. Mutational screening of the RB1 gene in Indian patients with retinoblastoma reveals eight novel and several recurrent mutations. *Hum Mutat.* 2003 Oct;22(4):339 (*if*=5.686, *ci*=14)
3. Sangwan VS, Vemuganti GK, Singh S, Balasubramanian D. Successful reconstruction of damaged ocular outer surface in humans using limbal and conjunctival stem cell culture methods. *Biosci Rep.* 2003 Aug;23(4):169-74. (*if*=2.379, *ci*=63)
4. Vemuganti GK, Naik M, Honavar SG, GC Shekar. Rapid Intraoperative Diagnosis of Tumors of the Eye and Orbit by Squash and Imprint Cytology. *Ophthalmology* 2004 May;111(5):1009-1015. (*if*=5.567, *ci*=10)
5. Polisetty N, Fatima N, Madhira S, Sangwan VS, Vemuganti GK. Mesenchymal cells from limbal stroma of the eye. *Mol Vis.* 2008 Mar 4;14:431-42 (*if*=2.205, *ci*=58)
6. Balla MM, Vemuganti GK, Kannabiran C, Honavar SG, Murthy R. Phenotypic Characterization of Retinoblastoma for the Presence of Putative Cancer Stem-like Cell markers by Flow Cytometry. *Invest Ophthalmol Vis Sci.* 2008 Nov 21. (*if*=3.397, *ci*=15)
7. Mariappan I, Maddileti S, Savy S, Tiwari S, Gaddipati S, Fatima A, Sangwan VS, Balasubramanian D, Vemuganti GK In vitro culture and expansion of human limbal epithelial cells. *Nat Protoc.* 2010 Aug;5(8):1470-9. Epub 2010 Jul 29 (*if*=9.924, *ci*=20)
8. Reddy AK, Balne PK, Garg P, Sangwan VS, Das M, Krishna PV, Bagga B, Vemuganti GK. *Dictyostelium polycephalum* Infection of Human Cornea. *Emerg Infect Dis.* 2010 Oct;16(10):1644-5458 (*if*=6.694, *ci*=2)
9. Tiwari S, Ali MJ, Balla MM, Naik MN, Honavar SG, Reddy VA, Vemuganti GK. Establishing human lacrimal gland cultures with secretory function. *PLoS One.* 2012;7(1):e29458 (*if*=4.531)
10. Chaurasia S, Ramappa M, Sangwan V, Vemuganti GK, Nalmada S. Chronic unilateral conjunctivitis. *Lancet Infect Dis.* 2012 Apr;12(4):354 (*if*=17.39)

DASH, DEBABRATA (b 1958), Professor, Department of Biochemistry, Institute of Medical Sciences, Banaras Hindu University

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Contributions of nominee over past two decades have carved him a niche in areas of thrombosis biology and translational nanomedicine. His study revealed that, silver nanoparticles are endowed with significant anti-thrombotic characteristics with potential application as medicated coronary stents. He demonstrated profound microfilaricidal action of nanosilver and its synergism with diethylcarbarnazine citrate with imminent therapeutic benefits. Nominee elucidated novel flow cytometry-based characterization of 2-dimensional nanomaterial graphene, and demonstrated thrombus-inducing attributes of graphene as well as of nanodiamond. While searching for a non-toxic isoform, nominee designed amine-modified graphene, which lacked toxicity, was hemocompatible, and could safely be used for biomedical purposes. He has designed a cost-effective graphene-based electrochemical biosensor to detect platelet-derived microparticles as markers for impending cardiovascular risk.

In his latest study nominee established amyloid- β -induced platelet activation being mediated by RhoA, raising hope that RhoA-ROCK-MLC/MYPT1 axis could be potential therapeutic target in Alzheimer's disease. Platelet life span of 10 days was shown to be terminated by extranuclear apoptosis. He demonstrated calcium-regulated proteasome activity in platelets, which plays central role in delimiting platelet survival through Bax proteolysis, and has therapeutic implications in thrombocytopenia. His work projected Wnt effector β -catenin and Bruton's tyrosine kinase as calpain substrates regulating platelet survival. He identified antithrombotic properties of tamoxifen, crinum and melatonin, and elucidated platelet late signaling events underlying pathological thrombus formation during stroke and coronary blockage. In support, nominee has demonstrated less fluid platelet membrane and abnormal tyrosine phosphoproteome in type-2 diabetes mellitus and ischemic stroke, which could explain platelet hyperactivity under these conditions.

Proposer : Prof. Debi P. Sarkar, **Seconder** : Prof. Prahlad C. Ghosh

Ten Best Publications:

1. Sonkar, V.K., Kulkarni, P.P. & Dash, D. (2014) Amyloid β peptide stimulates platelet activation through RhoA-dependent modulation of actomyosin organization, *FASEB J.* 28 (DOI:10.1096/fj.13-243691) (cited by 'Nature India') (*if=5.704, ci=Not available*)
2. Nayak, M.K., Kulkarni, P.P. & Dash, D. (2013) Regulatory role of proteasome in determination of platelet life span, *J. Biol. Chem.* 288: 6826-6834 (*if=4.773, ci=Not available*)
3. Kumari, S. Singh, M. K., Singh, S. K., Gracio, J.J.A. & Dash, D. (2013) Nanodiamond activates blood platelets and induces thromboembolism, *Nanomedicine* (DOI: 10.2217/NNM.13.23) [Epub ahead of print] (*if=5.86, ci=Not available*)
4. Kumari, S. & Dash, D. (2013) Regulation of β -catenin stabilization in human platelets, *Biochimie*, 95: 1252-1257 (*if=4.312, ci=Not available*)
5. Singh, S. K., Singh, M. K., Kulkarni P. P., Sonkar V. K., Gracio, J.A. & Dash, D. (2012) Amine-modified graphene: Thrombo-protective safer alternative to graphene oxide for biomedical applications, *ACS Nano*, 6: 2731-2740 (*if=12.062, ci=29*)
6. Singh, S. K., Goswami, K., Sharma, R.D., Reddy, M.V.R., & Dash, D. (2012) Novel microfilaricidal activity of nanosilver, *Int. J. Nanomedicine*, 7: 1023-1030 (*if=5.02, ci=9.55*)
7. Singh, S.K., Singh, M.K., Nayak, M.K., Kumari, S., Shrivastava, S., Gracio, J.J.A. & Dash, D. (2011) Thrombus inducing property of atomically thin graphene oxide sheets, *ACS Nano*, 5: 4987-4996 (*if=12.062, ci=31*)
8. Nayak, M.K., Singh, S.K., Roy, A., Prakash, V., Kumar, A. & Dash, D. (2011) Anti-thrombotic effects of selective estrogen receptor modulator tamoxifen, *Thromb. Haemost.* 106: 624-635 (*if=6.094, ci=11.2*)
9. Shrivastava, S., Bera, T., Singh, S., Singh, G., Ramachandrarao, P. & Dash, D. (2009) Characterization of anti-platelet properties of silver nanoparticles, *ACS Nano*, 3: 1357-1364 (cited by 'Nature India' and 'Science Now') (*if=12.062, ci=27.5*)
10. Wadhawan, V., Karim, Z.A., Mukhopadhyay, S., Gupta, R., Dikshit, M. & Dash, D. (2004) Platelet storage under in vitro condition is associated with calcium-dependent apoptosis-like lesions and novel reorganization in platelet cytoskeleton, *Arch. Biochem. Biophys.* 422: 183-190 (*if=4.557, ci=24.28*)

DOGRA, PREM NATH (b 1953), Professor & Head, Department of Urology, All India Institute of Medical Sciences, New Delhi.

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Pioneered the technique of Robotic Assisted inguinal lymphnode dissection in carcinoma of penis and was awarded the Best Video Prize in the 45th Annual Conference of Urological Society of India at Bengaluru, 2012. Pioneered the technique of pre-peritoneal Robotic Radical Prostatectomy for the first time in India for the treatment of carcinoma of prostate. Pioneered the new technique of Robotic retroperitoneal lymphnode dissection in carcinoma of testis for the first time in India. Pioneered for the first time in India the technique of Robotic total intracarpoeal illesistophy in GUTB Has done pioneering work in the management of stricture urethra following pelvis fracture urethral disruption defect (PFUDD) to reconstruct the obliterated urethral lumen with Laser energy popularly known as LASER CORE THROUGH URETHROTOMY. This is a challenging surgical problem which is difficult to manage even in the best centers. He has done more than 200 cases (highest in the literature). This work has been published in leading international journals of high repute (32,35,44,60,63,69,80,84,95) and attracted best video prize in annual conference of USICON-NZC. He had pioneered the technique for successful welding of VVF with LASER. This work has been quoted in the text book of UROLOGY Campbell ed.9th page 2337.

Proposer: Prof. Y.D. Sharma, **Secunder:** Prof. T.P. Singh

Ten Best Publications:

1. Core through urethrotomy with the neodymium YAG laser for posttraumatic obliterative strictures of the bulbomembranous urethra. Dogra PN, Aron M, Rajeev TP J Urol. 1999 Jan; 161(1):81-4 (*IF= 3.952, CI=13*)
2. Core through urethrotomy using the neodymium: YAG laser for Obliterative urethral strictures after traumatic urethral disruption and/or distraction defects: long-term outcome Dogra PN, Nabi G. (*IF= 3.952, CI=11*)
3. Laser welding of vesicovaginal fistula Dogra PN, Nabi G. Int Urogynecol J Pelvic Floor Dysfunct. 2001;12(1):69-70 (*IF= 2.375, CI=7*)
4. Primary small cell neuroendocrine carcinoma of urinary bladder: An uncommon entity to be (*IF= 0.912, CI=5*)
5. Endoscopic removal of knotted urethral catheter: a point of technique Dogra PN, Nabi G, Goel R (*IF= 0.891, CI=4*)
6. Primary embryonal rhabdomyosarcoma of prostate in adults: diagnosis and management Nabi G, (*IF=0.912, CI=4*)
7. Endourologic reconstruction of post-traumatic obliterated urethral stricture in a young female: a point of technique Dogra PN, Nabi G. Urology. 2001 Dec.58(6);1053-5 (*IF=2.242, CI=2*)
8. Holmium laser core-through urethrotomy for traumatic obliterative strictures of urethra: initial (*IF= 2.242, CI=2*)
9. Difficult removal of a JJ ureteric stent Dogra PN, Tajena R, Wadhwa SN Br J Urol. 1994 May;73(5):582-3 (*IF= 0.688*)
10. Endoscopic management of posttraumatic prostatic & supra prostatic strictures using Nd-YAG laser. G Nabi,P N Dogra: Int. Jr. of Urology(2002)9,710-714 (*IF= 0.982*)

GAUR, SHAILENDRA NATH (b 1952), Professor & Head, Department of Pulmonary Medicine, V. P. Chest Institute, University of Delhi, Delhi – 110007

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

It gives me great pleasure to propose the name of Prof SN Gaur for consideration for the award of Fellowship of the National Academy of Sciences India (Allahabad) in recognition of his contribution to science and medicine for three decades.

Dr Gaur has been known to me for the past 30 years ever since he started his career at Vallabhbai Patel Chest Institute, University of Delhi. He is currently Professor and Head of the Department of Pulmonary Medicine at this prestigious Institute. He has been actively involved in basic and clinical research over this period. He, along with his colleagues, has studied the immuno-biology and molecular characteristics of several common respiratory allergens involved in the pathogenesis of asthma. He has been associated with the development of an original and novel hypothesis postulating the role of choline in the pathogenesis of asthma and has carried it forward from experimental animal studies to human trials. He has also collaborated with mycologists in the identification and implication of several rare fungal species in human subjects in India.

Dr Gaur has been working with a team of allergologists, immunologists, biochemists and basic scientists for accomplishing above mentioned achievements. He has continued to work as a pulmonary physician as well and trained a large number of postgraduate students.

Proposer : Prof. J. N. Pande, Secondar : Prof. U.C. Srivastava

Ten Best Publications:

1. Mehta D, Gupta S, Gaur S N, Gangal S V, Agarwal K P. Increased leucocyte Phospholipase A2 activity and plasma lysophosphatidyl Choline levels in Asthma and rhinitis : Their relationship with airway sensitivity to histamine. *American Review of Respiratory and Critical Care Medicine*, 1990; 142: 157-161 (*IF=11.08, CI=47*)
2. Gupta R, Singh B P, Sridhara S, Gaur S N, Chaudhary V K, Arora N. Allergen of *Curvularia lunata* during cultivation in different media. *J Allergy and Clinical Immunology*, 1999; 104: 857-862 (*IF=11.003, CI=26*)
3. Rawat A, Singh A, Singh AB, Gaur SN, Kumar L, Roy I, Ravindran P. Clinical and Immunologic evaluation of *Cedrus deodara* pollen : a new allergen from India. *Allergy*, 2000; 55: 1-7 (*IF=6.271, CI=13*)
4. Kumar R, Gaur S N. Prevalence of Allergic bronchopulmonary aspergillosis in patients of bronchial asthma. *Asia Pacific J of Allergy and Immunology*, 2000; 18: 181-185 (*IF=0.76, CI=38*)
5. Gupta R, Singh BP, Sridhara S, Gaur SN, Kumar R, Chaudhary VK, Arora N. Allergenic cross-reactivity of *Curvularia lunata* with other airborne fungal species. *Allergy*, 2002; 57: 636-640. (*IF=6.271, CI=25*)
6. Kumari D, Kumar R, Sridhara S, Arora N, Gaur SN, Singh BP. Sensitization to blackgram in patients with bronchial asthma and rhinitis : clinical evaluation and characterization of allergens. *Allergy (European J Allergy Clin Immunol)*, 2006; 61:104-110. (*IF=6.271, CI=28*)
7. Srivastava D, Singh BP, Arora N, Gaur SN. Clinico-immunologic study on immunotherapy with mixed and single insect allergens. *J. Clin Immunol*, 2009; 29:665-673. (*IF=3.077, CI=03*)
8. Mehta AK, Singh BP, Arora N, Gaur SN. Choline attenuates immune inflammation and suppresses oxidative stress in patients with asthma. *Immunobiology*, 2010; 215: 527-534. (*IF=3.205, CI=09*)
9. Chowdhary A, Kathuria K, Randhawa HS, Gaur SN, Klaassen CH, Meis JF. Isolation of multiple-triazole-resistant *Aspergillus fumigatus* strains carrying the TR/L98H mutations in the *cyp51A* gene in India. *J Antimicrobial Chemotherapy*, 2012; 67: 362-366. (*IF=5.068, CI=23*)
10. Sharma P, Gaur SN, Arora N. In silico identification of IgE-binding epitopes of osmotin protein. *Plos One* 2013; 8: e54755. (*IF=4.09, CI=00*)

MALHOTRA, RAJESH (b 1962), Professor of Orthopaedics, All India Institute of Medical Sciences, New Delhi

Member of the NASI: Yes

(YON 2010, Medical & Forensic Sciences)

Prof Malhotra has been responsible to develop teaching modules and has been forerunner in teaching and propagating science and technique of arthroplasty including the complex primary and revision arthroplasties. He is invited as faculty in arthroplasty courses organized in India and abroad and regularly organizes courses for arthroplasty training. He has authored/edited 11 books and has published extensively in India and abroad. He has delivered over 400 invited guest lectures. He is running the only functional cadaveric bone bank in India and is the pioneer of complex musculoskeletal reconstruction using massive musculoskeletal allografts. He is member of AO Council and is faculty for AO educational activities. He is the Editor of Orthopedics Today, an orthopedic journal with nationwide circulation. Furthermore, he is on the editorial board of several national and international journals. He is Global Task Force member on Secondary Fracture Prevention constituted by American Society of Bone & Mineral Research. He is convener of the orthopedic initiative of the Indian Society of Bone & Mineral Research and has authored a book on Exercises for Osteoporosis. Prof Malhotra has worked hard to enhance awareness about the osteoporotic fractures through international as well as national forums. Dr. Malhotra has been awarded the prestigious Fellowship of the Royal College of Physicians and Surgeons, Glasgow (FRCS), in recognition of his expertise in surgery. Prof. Malhotra is member of many prestigious organizations like A.O., IOA and APOA. He was President Delhi Orthopaedic Association during 2011-12 and has been an executive member of Indian Orthopaedic Association for several years.

Proposer : Prof. S. D. Seth, Seconder : Prof. V.N. Sehgal

Ten Best Publications:

1. Malhotra R, Singh KD, Bhan S, Dave PK. Primary pyogenic abscess of the psoas muscle. Journal Bone Joint Surgery (Am) 1992: 74A; 278-28. (IF=3.272, CI=55)
2. S. Bhan, Malhotra R*, E. K. Kiran, S. Shukla, A comparison of fixed bearing total knee arthroplasty at a minimum follow up of 4.5 years. Journal Bone Joint Surgery (Am) 2005: 87:2290-2296. (IF=1.369, CI=76)
3. Malhotra R, Arya R, Bhan S: Bipolar arthroplasty in femoral neck fractures. Archives of Orthopaedics and Trauma Surgery 1995: 114; 79-82. (IF=2.832, CI=10)
4. Kotwal PP, Gupta Vikas, Malhotra R: Giant cell tumor of the tendon sheath. Is radiotherapy indicated to prevent recurrence after surgery? Journal of Bone and Joint Surg (Br.) 2000: 82(4); 571-573. (IF=1.369, CI=44)
5. Malhotra R, Gulati MS, Bhan S: Elbow arthropathy in Hemophilia. Archives of Orthopaedics and Trauma Surgery 2001: Vol.121, 3; 152-157. (IF=1.975, CI=9)
6. Ritabh Kumar, E. Krishna Kiran, Rajesh Malhotra, S. Bhan: Surgical management of the severely displaced supracondylar fracture of the humerus in children: INJURY 2002, 24 January, 33: 517-522. (IF=2.384, CI=21)
7. Bhan S, Malhotra R: Results of rotating platform Low Contact Stress Knee prosthesis. Journal of Arthroplasty 2003(Dec): 18(8); 1016-1022. (IF=3.272, CI=10)
8. E. Krishna Kiran, Aman Dua, Rajesh Malhotra, S. Bhan: Efficacy of External Rotation Method for the Reduction of Acute Anterior Dislocation and Fracture Dislocations of the Shoulder – A Prospective Study. J. Bone Joint Surg. (Am). 2004; Vol 86-A No. 11: 2431-2434. (IF=2.832, CI=16)
9. Bhan S, Pankaj A, Malhotra R. One- or two-stage bilateral total hip arthroplasty: a prospective, randomized, controlled study in an Asian population. J. Bone Joint Surg. (Br.) 2006 March; Issue 3: 88-B: 298-303. (IF=1.156, CI=31)
10. Pankaj A, Malhotra R, Bhan S: Dome osteotomy for posttraumatic cubitus varus: A surgical technique to avoid lateral condylar prominence. J Pediatric Orthopedics 2006 Jan-Feb; 26(1):61-6. (CI=16)

MANDAI, ANIL KUMAR (b.1958), Head, LV Prasad Eye Institute, LV Prasad Marg, Road #2, Banjara Hills, Hyderabad.

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

It is worthy of note that Dr. Mandal combines, in him the experience and ability of a surgeon and the curiosity and characteristics of a basic researcher. It is because of this dual character that he has successfully combined clinical practice and basic research, a feature rarely found in India. He divides his week as two days in surgery, two days for out-patient care and two days for research. In research, he works effectively and intimately with basic scientist colleagues.

Besides successfully managing glaucoma over 1200 children, he has successfully pursued molecular genetic research on several families and identified mutations in the CYP1 B 1 gene (Invest Ophthalmol is. Sci.2003; 44:4200-4203). This creative combination of clinical and basic research is unique and noteworthy. As a single surgeon, he has published his largest series on the management of congenital glaucoma, which has been well recognized in the ophthalmic community worldwide (Eye 2007;21,764-774). Because of his contribution to the management of developmental glaucoma in India he has been awarded S.S. Bhatnagar Award in 2003 and he is the first ophthalmologist to receive this award. Because of his many years of distinguished service in the programs of American Academy of Ophthalmology he has been awarded Senior Achievement Award in the year 2008 and he is the second Indian to receive such an award.

In recognition of significant contribution for the advancement of medical sciences he has been elected Fellow of the National Academy of Medical Sciences (India) in 2009.

Proposer: Prof. Chitra Sarkar, **Seconded:** Prof. D. Balasubramanian

Ten Best Publications:

1. Mandal AK, Walton OS, John T, Jayagandan A. Mitomycin C-Augmented Trabeculectomy in Refractory Congenital Glaucoma. Ophthalmology 1997;104: 996-1003 (IF: 5.491, CI : 71)
2. Mandal AK, Naduvilath T J, Jayagandan A. Surgical Results of Combined Trabeculectomy-Trabeculectomy for Developmental Glaucoma. Ophthalmology 1998;105:974 - 982 (IF: 5.491, CI : 54)
3. Mandal AK. Primary combined trabeculectomy-trabeculectomy for early-onset glaucoma in Sturge-Weber syndrome. Ophthalmology 1999;106:1621-1627 (IF: 5.491, CI : 26)
4. Reddy ABM, Panicker SG, Mandal AK, Hasnain SE, Balasubramanian D. Identification of R368H as a predominant CYP1 B1 allele causing primary congenital glaucoma in Indian patients. Invest Ophthalmol Vis Sci.2003; 44:4200-4203 (IF: 3.431, CI : 34)
5. Komatireddy S, Charabarty S, Mandal AK, Reddy ABM, Sampath S, Panicker SG, Balasubramanian D. Mutation spectrum of FOXC1 and clinical genetic heterogeneity of Axenfeld- Rieger anomaly in India. Molecular vision 2003;9:43-48 (IF: 2.541, CI : 25)
6. Mandal AK, Gothwal VK, Bagga H, Nutheti R, Mansoori T. Outcome of surgery on infants younger than one month of age with congenital glaucoma. Ophthalmology 2003;110:1909-19 (IF: 5.491, CI : 32)
7. Mandal AK, Bhatia PG, Bhaskar, A, Nutheti R. Long-term surgical and visual outcomes in children with developmental glaucoma operated within 6 months of birth. Ophthalmology 2004; 111 :283-290 (IF: 5.491, CI : 17)
8. Panicker SG, Mandal AK, Reddy ABM, Gothwal VK, Hasnain SE. Correlations of genotype with phenotype in Indian patients with primary congenital glaucoma. Invest Ophthalmol & Visual Sci 2004;45: 1149-1156 (I F : 3.43, CI : 38)
9. Kaur K, ABM Reddy, Mukhopadhyay, Mandal AK, Hasnain SE, Ray K, Thomas R, Balasubramanian, Chakrabarti. Myocilin gene implicated in primary congenital glaucoma. Clin Genet 2005;67:335-340 (IF: 3.304, CI : 32)
10. Chakrabarti S, Kaur K, Kaur I, Mandal AK, Parikh RS, Thomas R, Majumder PP. Globally, CYP1B1 mutations in primary congenital glaucoma are strongly structured by geographic and haplotype backgrounds. Invest Ophthalmol Vis Sci 2006;47:43-47 (IF: 3.431, CI : 31)

MUKHOPADHYAY, ASISH KUMAR (b 1967), Scientist D, National Institute of Cholera and Enteric Diseases, Kolkata, India

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Dr. Mukhopadhyay's pioneering research on *Helicobacter pylori* first time showed to the world that Indian HP strains are genetically distinct, which is immensely important to the point of vaccine development. His studies on mechanisms of resistance among HP to metronidazole helped to understand why this drug should be avoided for the treatment of HP in the Indian subcontinent. His study on curcumin showed immense therapeutic potential against HP infection, as it was highly effective in the eradication of HP from infected mice as well as in restoration of HP-induced gastric damage. The follow-up study demonstrated that curcumin alleviates MMP-3 and -9 activities during eradication of HP infection. The first Indian *H. pylori* full genome sequencing done by their group will help to identify new drug targets and future vaccine development. His study first time established that *dupA* of HP can be considered as a biomarker for duodenal ulcer in India.

His research is instrumental in gaining insights into the temporal shifts in the genetic makeup of *Vibrio cholerae* including hybrid and Haitian strains that causes devastating cholera outbreaks recently. He contributed to the development of monoclonal antibodies against rapidly emerging O139 for the first time that helped development of rapid diagnosis of cholera across the globe. His recent analysis on different variant CTX prophages of O139 helped to predict the probable cause of their extinction. He contributed to the construction of first Indian recombinant live oral cholera vaccine strain, which is now in the final stage of mass vaccination in Kolkata.

Proposer : Professor Desirazu N. Rao, **Secunder** : Prof. G. Balakrish Nair

Ten Best Publications:

1. Naha A., G. Chowdhury, J. Ghosh-Banerjee, M. Senoh, T. Takahashi, B. Ley, K. Thriemer, J. Deen, L. V. Seidlein, S. M. Ali, A. Khatib, T. Ramamurthy, R.K. Nandy, G.B. Nair, Y. Takeda and A.K. Mukhopadhyay. 2013. Molecular Characterization of High Cholera Toxin-Producing El Tor Variant *Vibrio cholerae* in the Zanzibar Archipelago of Tanzania. *J Clin Microbiol.* 51:1040-1045. (*if*=4.068, *ci*=4)
2. Patra R., S. Chattopadhyay, R. De, P. Ghosh, M. Ganguly, A. Chowdhury, T. Ramamurthy, G. B. Nair, and A. K. Mukhopadhyay. 2012. Multiple infection and microdiversity among *Helicobacter pylori* isolates in a single host in India. *PLoS ONE* 7(8): e43370. (*if*=4.24, *ci*=10)
3. De R., P. Kundu, S. Swarnakar, T. Ramamurthy, A. Chowdhury, G. B. Nair and A. K. Mukhopadhyay. 2009. Antimicrobial activity of curcumin against Indian *Helicobacter pylori* and also during mice infection. *Antimicrob. Agents Chemother.* 53:1592-1597. (*if*=4.565, *ci*=78)
4. Raychoudhuri, A, T. Patra, K. Ghosh, T. Ramamurthy, R.K. Nandy, Y. Takeda, G.B. Nair, and A.K. Mukhopadhyay. 2009. Classical *ctxB* in *Vibrio cholerae* O1, Kolkata, India. *Emerging Infect Dis.* 15:131-132. (*if*=5.993, *ci*=43)
5. Chattopadhyay, S., R. Patra, T. Ramamurthy, A. Chowdhury, A. Santra, G. K. Dhali, S.K. Bhattacharya, D.E. Berg, G.B Nair, and A.K. Mukhopadhyay. 2004. Multiplex PCR assay for rapid detection and genotyping of *Helicobacter pylori* directly from biopsy specimens. *J. Clin. Microbiol.* 42: 2821-2824. (*if*=4.068, *ci*=54)
6. Mukhopadhyay, A.K., J.Y. Jeong, D. Dailidienė, P.S. Hoffman, and D.E. Berg. 2003. The *fdxA* ferredoxin gene can down-regulate *frxA* nitroreductase gene expression and is essential in many strains of *Helicobacter pylori*. *J. Bacteriol.* 185: 2927-2935. (*if*=3.177, *ci*=24)
7. Mukhopadhyay, A.K., S. Chakraborty, S., T. Shimada, Y. Takeda, G.B. Nair, and D.E. Berg. 2001. Characterization of CTX and VPI prophages in environmental strains of *Vibrio cholerae*. *J. Bacteriol.* 183: 4737-4746. (*if*=3.177, *ci*=98)
8. Mukhopadhyay, A.K., D. Kersulyte, J.Y. Jeong, S. Datta, Y. Ito, A. Chowdhury, S. Chowdhury, A. Santra, S.K. Bhattacharya, T. Azuma, G.B. Nair, and D.E. Berg. 2000. Distinctiveness of genotypes of *Helicobacter pylori* in Calcutta, India. *J. Bacteriol.* 182: 3219-3227. (*if*=3.177, *ci*=211)
9. Kersulyte, D., A.K. Mukhopadhyay, B. Velapatiño, W.W. Su, Z.J. Pan, C. Garcia, V. Hernandez, Y. Valdez, R.S. Mistry, R.H. Gilman, Y. Yuan, H. Gao, T. Alarcon, M. Lopez Brea, G.B. Nair, A. Chowdhury, S. Datta, M. Shirai, T. Nakazawa, R. Ally, I. Segal, B.C.Y. Wong, S.K. Lam, F. Olfat, T. Boren, L. Engstrand, O. Torres, R. Schneider, J.E. Thomas, S. Czinn, and D. E. Berg. 2000. Differences in Genotypes of *Helicobacter pylori* from Different Human Populations. *J. Bacteriol.* 182: 3210-3218. (*if*=3.177, *ci*=212)
10. Mukhopadhyay, A.K., S. Garg, R. Mitra, A. Basu, D. Dutta, S.K. Bhattacharya, T. Shimada, T. Takeda, Y. Takeda, and G.B. Nair. 1996. Temporal shifts in traits of *Vibrio cholerae* isolated from hospitalized patients in Calcutta: a three-year (1993-1995) analysis. *J. Clin. Microbiol.* 34: 2537-2543. (*if*=4.068, *ci*=86)

PODDAR, MRINAL KANTI (b 1949), DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF CALCUTTA, KOLKATA

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Prof. Mrinal K. Poddar found that tetrahydrocannabinol (an active psychopharmacologic component of cannabis) produced bi-phasic response (at the neurochemical, behavioral and molecular levels) depending on its dosage. These psychopharmacologic drugs-induced changes in brain regional neurotransmitter activities were found to be modulated through the interaction of dopaminergic, cholinergic and GABAergic systems. He also showed that environmental temperature (higher or lower) had a great impact on those drug-induced neurochemical action by changing bio-available concentration of the drug and/or involving hypothalamic heat sensitive neurons or cold sensitive neurons of the mid-brain. His nutritional neurobiochemical studies suggested that consumption of low protein diet (without caloric restriction) unlike high protein diet, exerts a beneficial effects in aged subjects by maintaining a homeostasis between inhibitory- excitatory neurotransmitters activities in hypothalamus and hippocampal brain regions through the modulation of neuro-immune regulation and may down regulate the risk of age related neurodegenerative disorders; whereas, high protein diet brings about imbalance in those aged brain regional inhibitory-excitatory activities by modulating their receptor population and/or ligand affinity with a more immune-suppression than that observed with normal protein diet. Studies with long-term intake of caffeine (at moderate dosage) showed its antitumor action involving neuro-immune systems by regulating tumor-induced imbalance in neuroimmune-neuroendocrine interaction and reduced tumor growth and prolonged the host's life. In addition, he developed a sensitive micromethod to quantify cannabinoids from cannabis leaf and also found that the content of each variety of cannabinoids in cannabis leaf is sensitive to environmental temperature and humidity.

Proposer : Dr. G. C. MAJUMDER, Seconder : Dr. CHITRA MANDAL

Ten Best Publications:

1. S and Poddar MK. Dietary protein-carbohydrate ratio: exogenous modulator of immune response with age. *Immunobiology*. 2008;213(7):557-66 (*if=4.114, ci=10*)
2. Poddar MK, Bandyopadhyay BC and Chakrabarti L. Dietary protein alters age- induced Change in hypothalamic GABA and immune response. *Neuroscience*.2000; 97(2):405-9 (*if=3.458, ci=8*)
3. Haque, SJ and Poddar MK. Effect of tetracaine on membrane-bound acetylcholinesterase activity and anilino-naphthalene sulphonate-induce membranefluorescence. *Biochem. Pharmacol*. 1985;34: 2559 – 2603. (*if=4.705, ci=6*)
4. Bandyopadhyay, BC and Poddar MK. Hypothalamic GABAergic activity and T- cell proliferation in aged mammal: effect of dietary protein. *Neurochem Intl*.1998: 32(2):191-6. (*if=2.857, ci=10*)
5. Haque, SJ and Poddar, MK. Lignocain: Inhibitory effect on synaptosomal and erythrocyte membrane-bound acetylcholinesterase activity. *Biochem Pharmacol*.1983: 32(22): 3443-6 (*if=4.705, ci=12*)
6. Mukhopadhyay S and Poddar MK. Caffeine-induced locomotor activity: possible involvement of GABAergic-dopaminergic-adenosinergic interaction. *Neurochem. Res*.1995: 20(1):39-44. (*if=2.604, ci=21*)
7. Ghosh SK and Poddar MK. Effect of delta-9-tetrahydrocannabinol and theophylline on hepatic microsomal drug metabolizing enzymes. *Biochem Pharmacol*.1992:44(10):2021-7. (*if=4.705, ci=4*)
8. Ray SK and Poddar MK. Effect of pentylentetrazol on carbaryl-induced changes in striatal catecholamines. *Biochem Pharmacol*.1985:34(4):553-7. (*if=4.705, ci=11*)
9. Poddar MK and Dewey WL. Effects of cannabinoids on catecholamine uptake and release in hypothalamic and striatal synaptosomes. *J Pharmacol Exp Ther*.1980:214(1):63 (*if=4.995, ci=90*)
10. Poddar MK . et. al. Delta-9-Tetrahydrocannabinol-induced changes in brain ribosomes. *Toxicol Appl Pharmacol*. 1978: 46(3):737-57. (*if=4.447, ci=10*)

RAM, JAGAT (b 1956), Professor, Advanced Eye Centre, Post Graduate Institute of Medical Education and Research, Chandigarh

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Prof Jagat Ram has contributed significantly in the field of phacoemulsification and IOL implantation. He has 152 scientific publications with 1207 citations, H=18. He has evaluated the largest database of the world using Miyake-Apple-view and the published studies made global impact in improving cataract surgery. His contribution on posterior capsule opacification, a commonest vision-impairing complication is significant. He is the only invitee from Asia-Pacific region to contribute a Complete Issue "Elimination of Cataract Blindness" in Survey Ophthalmology which was an International honour. He made significant contribution in pediatric cataract management. He delivered over 355 lectures in pediatric/ age-related cataract in scientific Conferences. He played a significant role in training over 150 ophthalmologists from all over the country. Imbued with a missionary zeal, Prof. Ram has offered his services as an eye surgeon in organizing, participating and operating free of cost in over 112 major Eye Relief Camps aimed to provide Eye Care Services to the needlessly blind people living in the remote, rural and far flung areas with latest technology and equipment. He demonstrated Live Surgery phacoemulsification and pediatric cataract surgical techniques and intraocular lens implantation in various workshops and conferences held across the country.

For these achievements, he has received several prestigious including International Orbis Gold Medal and Best Video Awards at Milan (Italy) at European Society of Cataract and Refractive Surgery Conference 2012, 3. Asia-Pacific Academy of Ophthalmology (APAO) Distinguished Service Award presented at APAO-AIOS, Hyderabad, India and Fellowships from Scientific Organizations.

Proposer : Prof. Ramesh Chander Mahajan, **Second**er : Prof. Sudesh Kaur Khanduja

Ten Best Publications:

1. Ram J, Brar GS, Kaushik S, Gupta A, Gupta A. Role of posterior capsulotomy with vitrectomy and intraocular lens design and material in reducing posterior capsule opacification after pediatric cataract surgery. *Journal Cataract Refract Surgery* 2003;29:1579-84 (IF=2.508, CI=33)
2. Ram J, Panday S, Apple DJ, Werner L, Brar GS, Singh R, Chaudhary K, Gupta A. Effect of in-the-bag intraocular lens fixation on the prevention of posterior capsule opacification. *J Cataract Refract Surg* 2001, 27:1039-46 (IF=2.508, CI=43)
3. *Apple DJ, Peng Q, Visessook N, Werner L, Pandey SK, Escobar-Gomez M, Ram J, Auffarth GU: Eradication of posterior capsule opacification: Documentation of a marked decrease in Nd:YAG laser posterior capsulotomy rates noted in an analysis of 5416 pseudophakic human eyes obtained postmortem. *Ophthalmology* 2001;108:505-518 (IF=5.45, CI=162)
4. *Apple DJ, Ram J, Foster A, Peng Q. Elimination of cataract blindness: A global perspective entering new Millennium. *Survey Ophthalmol (A special Supplement)* 2000; 45: 1-196 (IF=2.92, CI=36)
5. Ram J, Gupta A, Brar GS, Kaushik S, Gupta A. Outcomes of phacoemulsification in patients with dry eye. *J Cataract Refractive Surgery* 2002; 28,1386-1389 (IF=2.508, CI=21)
6. Ram J, Apple DJ, Peng Q, Visessook N, Auffarth GU, Schoderbek RJ Jr, Ready EL Update on fixation of rigid and foldable posterior chamber intraocular lenses. Part I: Elimination of fixation-induced decentration to achieve precise optical correction and visual rehabilitation. *Ophthalmology* 1999 ;106:883-890 (IF=5.45, CI=55)
7. *Pandey S, Ram J, Werner L, Brar GS, Jain A, Gupta A, Apple DJ. Visual results and postoperative complications of capsular bag and ciliary sulcus fixation of posterior chamber intraocular lenses in children with traumatic cataract. *J Cataract Refract Surg* 1999;25:1576-84 (IF=2.508, CI=29)
8. Ram J, Apple DJ, Peng Q, Visessook N, Auffarth GU, Schoderbek RJ Jr, Ready EL Update on fixation of rigid and foldable posterior chamber intraocular lenses. Part II: Choosing the correct haptic fixation and intraocular lens design to help eradicate posterior capsule opacification. *Ophthalmology* 1999; 106: 891-900 (IF=5.45, CI=80)
9. Ram J, Sharma A, Pandav SS, Gupta A, Bamberg P. Cataract surgery in-patients with dry eyes. *J Cataract Refract Surg* 1998;24:1119-1124 (IF=2.508, CI=19)
10. Ram J. Cataract blindness in India. *The Lancet*. 1994;343:1228 (IF=38.28, CI=8)

SHARMA, DEEPAK (b 1957), Professor, Jawaharlal Nehru University, New Delhi

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Dr Deepak Sharma's extensive research work focused on electrophysiology, biochemistry and pharmacology of brain Ageing. His work has made significant contribution to the understanding of the interrelationship between the ageing-related alterations in biochemical (oxidative stress parameters) and electrophysiological activity of the ageing brain. How changes in oxidative stress parameters may lead to electrophysiological ageing (decline in multiple unit action potential and electroencephalographic activity) of the brain has been clarified. Concerning the pharmacology of ageing (i.e. antiageing medicine) his work has made significant contributions to the understanding of the mechanism of action of a variety of candidate antiageing drugs: Centrophenoxine, acetyl-L-carnitine, L-deprenyl, dehydroepiandrosterone. Antiageing action of hormones like estradiol, progesterone has also been clarified. Outstanding aspect of the work is how these substances counter electrophysiological ageing. He has also focused on herbal antiageing substances such as curcumin where it has been shown that curcumin counteracts aluminium-induced acceleration in ageing, besides normal ageing and it also counters aluminium neurotoxicity. How sleep deprivation promotes ageing is also another very interesting aspect of the work. Another important aspect of Dr. Deepak Sharma's research work concerns relationship between ageing and epilepsy: Ageing accelerates propensity for epilepsy and curcumin protects against seizures; neurosteroid hormone (DHEA) has antiepileptic action. Ethanopharmacological studies have shown that Bacopa monniera counters aluminium neurotoxicity. A part of Dr. Sharma's research work intraneuronal age-pigment lipofuscin correlate neuronal electrical activity, in addition to maternal malnutrition and development of the brain indicate his significant contribution in several areas of the field of neuroscience.

Proposer : Professor Rameshwar Singh, **Second** : Second Professor Kailash Chand Upadhyay

Ten Best Publications:

1. Sharma D, Maurya A, Singh R. (1993) Age-related decline in multiple unit action potentials of CA3 region of rat hippocampus: correlation with lipid peroxidation and lipofuscin concentration and the effect of centrophenoxine. *NeurobiolAging*.14 (4):319-30 (*if*=5.95, *ci*=38)
2. Kaur J, Sharma D, Singh R (2001) Acetyl-L-carnitine enhances Na⁺,K⁺-ATPase Glutathione - S- (*if*=2.21, *ci*=56)
3. Amar jyoti and Deepak Sharma (2006) Neuroprotective role of Bacopa monniera against Aluminium (*if*=3.1, *ci*=63)
4. Kiran Bala, B.C Tripathy and Deepak Sharma (2006) Neuroprotective and anti-ageing effect of curcumin in aged rat brain regions. *Biogerontology* 7:81-89 (*if*=3.6, *ci*=109)
5. Singh R, Jenny K, Singh S1 and Sharma D (2008) Effect of paradoxical sleep deprivation on oxidative stress parameters in brain regions of adult and old rats *Biogerontology* 9:153-162 (*if*=3.6, *ci*=22)
6. Deepak Sharma, Pallavi Sethi, Ejaz Hussain and Rameshwar Singh (2008) Curcumin counteracts the (*if*=3.6, *ci*=33)
7. Pallavi Sethi, Amar jyoti, Ejaz Hussain and Deepak Sharma (2008) Aluminium induced (*if*=3.2, *ci*=52)
8. Pallavi Sethi, Amar Jyoti, Ejaz Hussain and Deepak Sharma (2009) Curcumin attenuates (*if*=2.8, *ci*=31)
9. Amar Jyoti, Pallavi Sethi and Deepak Sharma (2009) Aging accelerates the progression and (*if*=2.2, *ci*=06)
10. Monika Mishra, Rameshwar Singh, Somnath Mukherjee and Deepak Sharma (2013) Dehydroepiandrosterone's antiepileptic action in FeCl₃-induced epileptogenesis involves upregulation of glutamate transporters. *Epilepsy Research* 106:83-89 (*if*=2.4, *ci*=00)

SHUKLA, YOGESHWER (b 1963), Senior Principal Scientist; CSIR-Indian Institute of Toxicology Research, Lucknow.

Member of the NASI: Yes

(YON 2010, Medical & Forensic Sciences)

It gives me immense pleasure to nominate the credentials of Dr. Yogeshwer Shukla. He is working in the field from last 25 years. He has published about 125 papers in journals of the international repute. His work is well recognized. His three papers were published on the cover page of the leading journals like Toxicology & Applied Pharmacology (twice) and Asia Pacific Journal of Cancer Prevention. Dr. Shukla has been appointed in editorial board of prestigious journals like Cancer Letters, Journal of Proteomics etc. His work in the field of cancer chemoprevention with phytochemicals like black tea and its polyphenolic constituents, diallyl sulphide (garlic), lupeol (mango) and resveratrol (grapes) and their mechanism has provided vital leads in this field. Recently, his publication entitled Resveratrol induces apoptosis involving mitochondrial pathways in mouse skin tumorigenesis has been listed as top most cited paper in Life Sciences published in 2008. Dr Shukla's contributions leads to establish for the first time that black tea constituents are equally efficient in preventing in chemoprevention of lung, liver, skin and prostate cancer, as green tea. Dr Shukla also showed that Bromelain, a group of proteases, present in pineapple has anti-inflammatory and anticancer activity. He also showed for the first time that diallyl sulphide can also reverse the phenomena of multidrug resistance in human leukemic cells. At present, Dr Shukla is developing proteomic based biomarkers for early detection of breast cancer and to generate a database of proteomic signatures following exposure to pesticides for their possible carcinogenic risks.

Proposer: Dr. K.C. Gupta, **Seconder:** Prof. Alok Dhawan

Ten Best Publications:

1. Arora A, Seth K, Shukla Y. (2004), Reversal of P-glycoprotein mediated multidrug resistance by diallyl sulfide in K562 leukemic Cells and in mouse liver. Carcinogenesis. Vol. 25 pp.941-949. (IF=4.402, CI=61)
2. Arora A, Siddiqui IA, Shukla Y (2004). Modulation of p53 in 7, 12-dimethylbenz[a]anthracene-induced skin tumors by diallyl sulfide in Swiss albino mice. Molecular Cancer Therapeutics. Vol. 3 pp.1459-1466. (IF=5.225, CI=35)
3. Arora A, Seth K, Kalra N, Shukla Y (2005), Modulation of P-glycoprotein-mediated multidrug resistance in K562 leukemic cells by indole-3-carbinol. Toxicology and Applied Pharmacology. Vol. 202 pp.237-243. (IF=3.993, CI=25)
4. Shukla Y, Yadav A, Arora A. (2002) Carcinogenic and cocarcinogenic potential of cypermethrin on mouse skin. Cancer Letters. Vol. 182 pp.33-41. (IF=4.864, CI=35)
5. Kalra N, Seth K, Prasad S, Singh M, Pant AB, Shukla Y. (2007). Theaflavins induced apoptosis of LNCaP cells is mediated through induction of p53, down-regulation of NF-kappa B and mitogen-activated protein kinases pathways. Life Sciences. Vol. 80 pp. 2137-2146. (IF=2.661, CI=28)
6. Kalra N, Bhui K, Roy P, Srivastava S, George J, Prasad S, Shukla Y (2008) Regulation of p53, nuclear factor kappaB and cyclooxygenase-2 expression by bromelain through targeting mitogen-activated protein kinase pathway in mouse skin. Toxicology and Applied Pharmacology. Vol. 226 pp. 30-37. (IF=3.993, CI=26)
7. Bhui K, Prasad S, George J, Shukla Y (2009) Bromelain inhibits Cox-2 expression by blocking the activation of MAPK regulated NF:Kappa B and triggers mitochondrial death pathway in mouse skin tumors. Cancer Letters. Vol. 282 pp.167-176. (IF=4.864, CI=12)
8. George J, Shukla Y (2011). Pesticides and cancer: Insights into toxicoproteomic-based findings. Journal of Proteomics. Vol. 74 pp. 2713-22. (IF=5.460, CI=5)
9. George J, Singh M, Srivastava AK, Bhui K, Roy P, Chaturvedi PK, Shukla Y. (2011). Resveratrol and black tea polyphenol combination synergistically suppress mouse skin tumors growth by inhibition of activated MAPKs, p53 and reduced cell proliferation. Plos One. Vol. 6 e23395. (IF=4.400, CI=03)
10. George J, Srivastava A, Singh R, Shukla Y, (2011) Cypermethrin exposure leads to regulation of proteins expression involved in neoplastic transformation in mouse skin. Proteomics. Vol. 11 pp. 4411-21. (IF=4.430, CI=07)

SINGH, SARMAN (b 1956), Professor & Head, Division of Clinical Microbiology, All India Institute of Medical Sciences, New Delhi

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Prof. Sarman Singh is recommended for his outstanding and consistent contribution in the field of Tuberculosis, Leishmaniasis and Toxoplasmosis. He has successfully translated the basic knowledge into applied medicine and developed cost-effective diagnostic tools for the accurate diagnosis of the three diseases. A novel recombinant antigen prepared from Indian isolate of *L. donovani* has now been commercialized by Span Diagnostic globally for the rapid and cost-effective diagnosis of kala-azar. The most notable achievement is that this kit has been taken up by the NVBDCP, Ministry of Health, Government of India. With this he becomes the only medical scientist whose invention has been taken up by the National Disease Control Program. He has also developed a direct agglutination test kit for the diagnosis of human and animal toxoplasmosis. His novel invention of PCR primers and protocols based on ESAT-6 gene region of *Mycobacterium tuberculosis* has also been patented and are being used for the diagnosis and differentiation of tubercular and non-tubercular mycobacterial infections in both monoplex and multiplex PCR formats. His first report of high incidence of XDR-TB in Indian AIDS patients has made positive impact on the India's RNTCP. For these achievements Dr. Singh has received Dr. BC Roy award of MCI, Vigyan Ratna Award of UP Government, Technology Award of DBT, Prof. BK Aikat Award of ICMR and many other recognitions. He is more than 240 publications in peer reviewed journal with h-index of 31, and i10 index of 88 and more than 3400 citations.

Proposer : Dr. VM Katoch, Secretary, DHR, Govt of India, Secondar : Dr. Pawan Sharma

Ten Best Publications:

1. Singh S, Gilman-Sacks A, Chang KP, Reed SG. Diagnostic and prognostic value of rK39 antigen in Indian Leishmaniasis. *J Parasitol* 1995; 81: 1000-3 (*if=1.37, ci=128*)
2. Singh S, Prasad R, Mohanty A. High prevalence of Sexually transmitted and blood borne infections amongst the inmates of a District Jail in North India. *Int J STD AIDS* 1999; 10 (7) : 475-78. (*if=1.2, ci=57*)
3. Singh S, Veena Kumari, Singh N. Predicting Kala-Azar Disease Manifestations in Asymptomatic Patients with Latent *Leishmania donovani* Infection by Detection of Antibody against Recombinant K39 Antigen. *Clin Diagn Lab Immunol* 2002; 9: 568-72. (*if=2.3, ci=87*)
4. Singh S, Pandit AJ. Incidence and Prevalence of Toxoplasmosis in Indian pregnant women: A prospective study. *Am J Reprod Immunol*. 2004 Oct; 52(4):276-283 (*if=3.31, ci=48*)
5. Singh S, Sivakumar R. Challenges and new discoveries in the Treatment of Leishmaniasis. Review. *J Infect Chemother*, 2004; 10 (6): 307-315 (*if=1.52, ci=187*)
6. Singh S. New Developments in diagnosis of leishmaniasis. *Indian J Med Res*, 2006; 123: 311-330. (*if=2.02, ci=132*)
7. Mishra J, Saxena A, Singh S. Chemotherapy of Leishmaniasis: Past, present and future. *Current Medicinal Chemistry*, 2007; 14 (10): 1153-1169 (*if=5.2, ci=162*)
8. Kumar D, Nath L, Kamal MA, Varshney A, Jain A, Singh S, Rao KVS. Genome-Wide Analysis of the Host Molecular Network that regulates Intracellular Survival of *Mycobacterium tuberculosis*. *Cell* 2010 Mar 5; 140(5):731-743 (*if=31.2, ci=137*)
9. Singh S, Sankar MM, Gopinath K. High rate of extensively drug resistant tuberculosis in Indian AIDS patients. *AIDS*, 2007; 21: 2345-47 (*if=5.8, ci=40*)
10. Lisco A, Munawwar A, Introini A, Vanpouille C, Saba E, Feng X, Grivel JC, Singh S, Margolis L. Semen of HIV-1 Infected individuals: local shedding of Herpes viruses and Reprogrammed Cytokine Network. *J Infect Dis*. 2012; 205 (1): 97-105 (*if=6.2, ci=15*)

VALECHA, NEENA (b 1957), Director and Scientist'G', National Institute of Malaria Research, New Delhi

Member of the NASI: Yes

(YON 2010, Medical & Forensic Sciences)

Dr. Neena Valecha is Director of the National Institute of Malaria Research of ICMR. Her work has led to the introduction of new drugs, ensuring appropriate treatment for morbidity and mortality control in malaria. She had been instrumental in introducing artemisinin based chemotherapy for falciparum malaria in the country. Dr Valecha started active pharmacovigilance of antimalarials at NIMR and the institute has been recognized as one of the Centers by the Drugs Controller General of India. Her work led to the introduction of rapid diagnostic tests and drugs like alpha beta arteether in the national programme and registration of Bulaquine, fixed dose AS+AQ combination in India and combinations of synthetic substitute of artemisinin with piperazine. Currently she is working on safety of ACT in malaria in pregnancy. Dr Valecha has published 92 research articles, contributed chapters in the books and prepared treatment guidelines which are widely circulated in the country. I wish to underscore the fact that for the first time in malaria programme in India Dr Valecha introduced good clinical practices for clinical trials following principles of bioethics. Artemisinin monotherapy was banned in India on the evidence generated by her. Malaria drug policy of India revolves around her work on drug development. She represents India in Malaria Policy Advisory Committee of WHO International task force of WHO for containment of artemisinin resistant malaria parasite in SEA, technical expert group, WHO treatment guidelines for malaria, Scientific advisory committee member of world wide antimalaria resistant network and malaria medicine venture, and several important national committees

Proposer : Dr. V.P.Sharma, Seconded : Dr. V.P.Kamboj

Ten Best Publications:

1. Shah K Naman, Dhillion GPS, Dash AP, Arora Usha, Meshnick R Steven and Valecha N. 2011 ., Antimalarial drug resistance of Plasmodium falciparum in India: changes over time and space. Lancet Infect Dis. ;11: 57-64 (if= 15.583, ci=1)
2. Valecha N, Phyo AP, Mayxay M, Newton PN, Krudsood S, Keomany S, Khanthavong M, Pongvongs T, Ruangveerayuth R, Uthaisil C, Ubben D, Duparc S, Bacchieri A, Corsi M, Rao BHK, Bhattacharya PC, Dubhashi N, Ghosh SK, Dev Vas, Kumar A, Pukittayakamee S. 2010., An open-label, randomised study of Dihydroartemisinin-piperazine versus artesunate-mefloquine for falciparum malaria in Asia. PLoS ONE; 5: e11880. (if=4.351, ci=2)
3. Valecha N, Looareesuwan S, Mårtensson A, Abdulla SM, Krudsood S, Tangpukdee N, Mohanty S, Mishra SK, Tyagi PK, Sharma SK, Moehrle J, Gautam A, Roy A, Paliwal JK, Kothari M, Saha N, Dash AP, Björkman A. 2010., Artesunate, a New Synthetic Trioxolane for Treatment of Uncomplicated P. falciparum Malaria: A Phase II Multicentric Randomized Dose Finding Clinical Trial. Clin Infect Dis; 51: 684-691 (if=8.195, ci=0)
4. Valecha N., Pinto R.G.W., Turner D.H.G., Kumar A., Rodrigues S., Dubhashi N.G., Rodrigues E., Banaulikar S.S., Singh R., Dash A.P., Baird K. J. 2009., Histopathology of Fatal Respiratory Distress caused by Plasmodium vivax Malaria. Am.J.Trop.Med.Hyg.,81(5),: 758-762. (if=2.45, ci=3)
5. Valecha N., Srivastava P., Mohanty S.S., Mittra P., Sharma SK., Tyagi P.K., Pradhan K., Dev V., Singh R., Dash A.P., Sharma Y.D. 2009. Therapeutic efficacy of artemether-lumefantrine in uncomplicated falciparum malaria in India. Malaria Journal. 8:107 (if=2.913, ci=7)
6. Valecha N., Bhatia S., Mehta S., Biswas S., Dash A.P. 2007. Congenital malaria with atypical presentation: A case report from low transmission area in India. Malaria Journal. 6: 43 (if=3, ci=8)
7. Kumar A, Valecha N, Jain T, Dash A P. 2007. Burden of Malaria in India: Retrospective and Prospective View. Am. J.Trop.Med. Hyg., 77:69-78. (if=2.450, ci=49)
8. Dunne M., Singh N., Shukla M., Valecha N., Bhattacharya P.C., Dev V., Patel K., Mohapatra, M.K., Lakhani J., Benner R., Lele C., Patki K., 2005. A multicenter study of azithromycin, alone and in combination with chloroquine, for the treatment of acute uncomplicated Plasmodium falciparum malaria in India. The Journal of Infectious Diseases. 191: 1582-1588. (if=5.682, ci=38)
9. Valecha N., Joshi H., Eapen A., Ravinderan J., Kumar A., Prajapati S.K., Ringwald P. 2006., Therapeutic efficacy of chloroquine in Plasmodium vivax from areas with different epidemiological patterns in India and their Pvdhfr gene mutation pattern. Transactions of the Royal Society of Tropical Medicine and Hygiene. 100: 831-837. (if=2.062, ci=18)
10. Valecha N, Sharma V.P, Devi. C. U. 1998. A Rapid Immunochromatographic Test (ICT) for Diagnosis of Plasmodium falciparum. Diagn. Microbiol. Infect. Dis. 30: 257-260. (if=2.139, ci=16)

VIKRAM, NAVAL KISHORE (b 1970), ADDITIONAL PROFESSOR, DEPARTMENT OF MEDICINE, ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI

Member of the NASI: No

(YON 2010, Medical & Forensic Sciences)

Dr Naval's research has contributed significantly in understanding the epidemiology and correlates (genetic and environmental) of obesity, including the need for ethnic specific cutoffs, metabolic syndrome and related metabolic disorders in Indian adult and adolescent population. His work has highlighted that Indian population has imbalanced dietary profile with high insulin resistance and tends to develop cardiovascular risk factors at lower degree of adiposity. He was part of the core group that has proposed Consensus Guidelines for defining and managing obesity, abdominal obesity and metabolic syndrome, physical activity and healthy diet in Asian Indians. These guidelines have been significantly influenced by the research of Dr Naval's group. His work on genetic associations of obesity and insulin resistance may contribute to better understanding of the pathogenesis of obesity and its complications. Dr Naval's group has studied the metabolic syndrome extensively in adolescents and adults highlighting the various correlates and the issues in the definition of metabolic syndrome. His recent work on nonalcoholic fatty liver disease (NAFLD) highlights the increased cardiometabolic risk and increased severity of coronary artery disease in individuals with NAFLD. His studies indicate that resistance exercise may be a useful therapeutic option in improving glycemic control and insulin resistance in patients with type 2 diabetes and NAFLD. In recognition of his research contributions, he was awarded the 'NASI-SCOPUS Young Scientist Award for year 2010 in Medicine', the 'National Bioscience Award for Career Development 2012' conferred by the Department of Biotechnology, Govt. of India and the 'AIIMS Excellence Award 2013'.

Proposer : PROF. T. P. SINGH, Seconded : PROF. Y. D. SHARMA

Ten Best Publications:

1. Thakur ML, Sharma S, Kumar A, Bhatt SP, Luthra K, Guleria R, Pandey RM, Vikram NK. Nonalcoholic fatty liver disease is associated with subclinical atherosclerosis independent of obesity and metabolic syndrome in Asian Indians. *Atherosclerosis* 2012; 223(2): 507-11 (*if*=3.706, *ci*=13)
2. Bhardwaj S, Misra A, Misra R, Goel K, Bhatt SP, Rastogi K, Vikram NK, Gulati S. High prevalence of abdominal, intra-abdominal and subcutaneous adiposity and clustering of risk factors among urban Asian Indians in North India. *PLoS One*. 2011; 6(9): e24362 (*if*=3.73, *ci*=14)
3. Goel K, Misra A, Vikram NK, Poddar P, Gupta N. Subcutaneous abdominal adipose tissue is associated with the metabolic syndrome in Asian Indians independent of intra-abdominal and total body fat. *Heart*. 2010; 96(8): 579-83. (*if*=5.014, *ci*=40)
4. Misra A, Chowbey P, Makkar BM, Vikram NK, Wasir JS, Chadha D, Joshi SR, Sadikot S, Gupta R, Gulati S, Munjal YP for Consensus Group. Consensus Statement for Diagnosis of Obesity, Abdominal Obesity, and the Metabolic Syndrome for Asian Indians and Recommendations for Physical Activity, Medical and Surgical Management. *J Assoc Physicians India* 2009; 57: 163-170. (*ci*=212)
5. Misra A, Alappan NK, Vikram NK, Goel K, Gupta N, Mittal K et al. Effect of supervised progressive resistance-exercise training protocol on insulin sensitivity, glycemia, lipids, and Body composition in Asian Indians with type 2 diabetes. *Diabetes Care* 2008; 31 (7): 1282-1287 (*if*=7.74, *ci*=86)
6. Misra A, Vikram NK, Gupta R, Pandey RM, Wasir JS, Gupta VP. Waist circumference cutoff points and action levels for Asian Indians for identification of abdominal obesity. *Int J Obes (Lond)*. 2006; 30(1): 106-11 (*if*=5.221, *ci*=150)
7. Vikram NK, Batra CM, Gupta N, Tandon N, Misra A, Srivastava MC et al. Correlates of Type 2 diabetes mellitus in children, adolescents and young adults in north India: A multisite collaborative case-control study. *Diabetic Medicine* 2006; 23(3): 293-298 (*if*=3.24, *ci*=36)
8. Misra A, Guleria R, Talwar KK, Vikram NK, Arya S, Pandey RM et al. High prevalence of insulin resistance in postpubertal Asian Indian children is associated with adverse truncal body fat patterning, abdominal adiposity and excess body fat. *International Journal of Obesity* 2004; 28(10): 1217-1226 (*if*=5.221, *ci*=128)
9. Vikram NK, Pandey RM, Misra A, Sharma R, Devi JR, Khanna N. Non-obese (body mass index < 25 kg/m²) Asian Indians with normal waist circumference have high cardiovascular risk. *Nutrition* 2003; 19(6): 503-509 (*if*=2.859, *ci*=135)
10. Vikram NK, Talwar KK, Guleria R, Misra A, Dwivedi M, Sharma R et al. Correlations of C-reactive protein levels with anthropometric profile, percentage of body fat and lipids in healthy adolescents and young adults in urban North India. *Atherosclerosis* 2003; 168(2): 305-313 (*if*=3.706, *ci*=123)