The National Academy of Sciences, India

NOMINATIONS
Valid for Consideration for Election to Fellowship – 2015

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
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CONTENTS

ANIMAL SCIENCES 257 - 301
(Structural, Developmental, Functional, Genetical, Ecological, Behavioural, Taxonomical and Evolutionary Aspects)

MEDICAL & FORENSIC SCIENCES 302 - 382
(Basic and Clinical Medical Sciences, Pharmacology, Anthropology, Psychology and Forensic Sciences, Human genetics, Reproduction Biology, Neurosciences, Molecular Medicine)
### ANIMAL SCIENCES

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALI, Sharique Athar</td>
<td>282</td>
</tr>
<tr>
<td>BHATNAGAR, Maheep</td>
<td>294</td>
</tr>
<tr>
<td>CHANDRA, Amar Kumar</td>
<td>295</td>
</tr>
<tr>
<td>CHANDRA, Goutam</td>
<td>264</td>
</tr>
<tr>
<td>CHAUHAN, Ramswaroop Singh</td>
<td>265</td>
</tr>
<tr>
<td>CHOUBISA, Shanti Lal</td>
<td>296</td>
</tr>
<tr>
<td>DEY, Sudip</td>
<td>297</td>
</tr>
<tr>
<td>DUBE, Anuradha</td>
<td>283</td>
</tr>
<tr>
<td>DUBE, Anuradha</td>
<td>283</td>
</tr>
<tr>
<td>GARG, Lalit Chander</td>
<td>298</td>
</tr>
<tr>
<td>GHOSH, Mrinal Kanti</td>
<td>257</td>
</tr>
<tr>
<td>GHOSH, Sukla</td>
<td>266</td>
</tr>
<tr>
<td>GHOSH, Tapash Chandra</td>
<td>267</td>
</tr>
<tr>
<td>GOMES, Antony</td>
<td>299</td>
</tr>
<tr>
<td>GOSWAMI, Umesh Chandra</td>
<td>268</td>
</tr>
<tr>
<td>GOVINDARAJU, Archunan</td>
<td>272</td>
</tr>
<tr>
<td>GOYAL, Neena</td>
<td>300</td>
</tr>
<tr>
<td>HALDAR, Chandana</td>
<td>273</td>
</tr>
<tr>
<td>HOTI, Sugeerappa Laxmanappa</td>
<td>284</td>
</tr>
<tr>
<td>JADHAO, Arun Govindraoji</td>
<td>258</td>
</tr>
<tr>
<td>JAIN, Subodh Kumar</td>
<td>269</td>
</tr>
<tr>
<td>JENA, Joykrushna</td>
<td>285</td>
</tr>
<tr>
<td>KADARKARAI, Murugan</td>
<td>274</td>
</tr>
<tr>
<td>KAMARAJU, Raghavendra</td>
<td>259</td>
</tr>
<tr>
<td>KAR, Devashish</td>
<td>275</td>
</tr>
<tr>
<td>KAR-CHOWDHURI, Debapratim</td>
<td>260</td>
</tr>
<tr>
<td>KEERIKKATTIL, Joy Paily</td>
<td>286</td>
</tr>
<tr>
<td>KROTHAPALLI, Raja Surya S. Rao</td>
<td>287</td>
</tr>
<tr>
<td>MATHUR, Premendu Prakash</td>
<td>261</td>
</tr>
<tr>
<td>NAPPAN VEETTIL, Giridharan</td>
<td>288</td>
</tr>
<tr>
<td>NAQVI, Syed Mohammad K.</td>
<td>289</td>
</tr>
<tr>
<td>OMKAR</td>
<td>290</td>
</tr>
<tr>
<td>PRAKASH, Soam</td>
<td>262</td>
</tr>
<tr>
<td>RANA, Suresh Vir Singh</td>
<td>291</td>
</tr>
<tr>
<td>ROY, Jagat Kumar</td>
<td>263</td>
</tr>
<tr>
<td>SAVARIAR, Vincent</td>
<td>276</td>
</tr>
<tr>
<td>SHARMA, Mandeep</td>
<td>292</td>
</tr>
<tr>
<td>SHARMA, Ramesh C.</td>
<td>270</td>
</tr>
<tr>
<td>SHARMA, Vijay Kumar</td>
<td>277</td>
</tr>
<tr>
<td>SINGH, Dileep Kumar</td>
<td>301</td>
</tr>
<tr>
<td>SWARUP, Anoop</td>
<td>278</td>
</tr>
<tr>
<td>TAHESEN, Qudsia</td>
<td>279</td>
</tr>
<tr>
<td>TRIPATHI, Renu</td>
<td>280</td>
</tr>
<tr>
<td>VARSHNEY, Akhilesh Chandra</td>
<td>293</td>
</tr>
<tr>
<td>VENUGOPALAN, Vayalam Purath</td>
<td>271</td>
</tr>
<tr>
<td>WUDAYAGIRI, Rajendra</td>
<td>281</td>
</tr>
</tbody>
</table>

### MEDICAL & FORENSIC SCIENCES

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABRAHAM, Annie</td>
<td>362</td>
</tr>
<tr>
<td>ADIGA, Satish Kumar</td>
<td>326</td>
</tr>
<tr>
<td>AGARWAL, Sanjay Kumar</td>
<td>302</td>
</tr>
<tr>
<td>ANTO, Ruby John</td>
<td>303</td>
</tr>
<tr>
<td>BAHADUR, Raj</td>
<td>372</td>
</tr>
<tr>
<td>BASHYAM, Murali Dharan</td>
<td>327</td>
</tr>
<tr>
<td>BASU, Sandip</td>
<td>328</td>
</tr>
<tr>
<td>BHARADWAJ, Mausumi</td>
<td>304</td>
</tr>
<tr>
<td>BHATTACHARYA, Jayanta</td>
<td>305</td>
</tr>
<tr>
<td>BHATTACHARYYA, Maitree</td>
<td>306</td>
</tr>
<tr>
<td>BISWAS, Jyotirmay</td>
<td>351</td>
</tr>
<tr>
<td>CHAKRABARTI, Subhabrata</td>
<td>307</td>
</tr>
<tr>
<td>CHAKRABORTY, Soumen</td>
<td>329</td>
</tr>
<tr>
<td>CHANDAK, Giriraj Ratan</td>
<td>308</td>
</tr>
<tr>
<td>CHATTERJEE, Mitali</td>
<td>309</td>
</tr>
<tr>
<td>CHATTOPADHYAY, Debprasad</td>
<td>310</td>
</tr>
<tr>
<td>CHAUDHURI, Swapna</td>
<td>330</td>
</tr>
<tr>
<td>CHHIBBER, Sanjay</td>
<td>352</td>
</tr>
<tr>
<td>CHOUDHURY, Nabajyoti</td>
<td>331</td>
</tr>
<tr>
<td>COLAH, Roshan Behram</td>
<td>311</td>
</tr>
<tr>
<td>DAMLE, Satyawans Gangaramji</td>
<td>373</td>
</tr>
<tr>
<td>DAS, Satya Narayan</td>
<td>312</td>
</tr>
<tr>
<td>DASGUPTA, Uma</td>
<td>374</td>
</tr>
<tr>
<td>GANGENAHALLI, Gurudutta U.</td>
<td>332</td>
</tr>
</tbody>
</table>
GARG, Ravindra Kumar 333 MISRA, Sanjeev 341
GAUR, Deepak 313 MUKERJI, Mitali 368
GHOSH, Sankar Kumar 353 MUKHOPADHYAY, Satinath 342
GIRI, Ashok Kumar 334 NALLARI, Pratibha 357
HALDER, Ashutosh 314 PALURU, Vijayachari 343
HUSAIN, Nuzhat 315 PARTHASARATHY, Satishchandra 358
JAIN, Amita 363 PHANITHI, Prakash Babu 369
JAMIL, Kaiser 335 RANI, Rajni 359
JULKA, Pramod Kumar 336 RAY, Arunabha 344
KAKKAR, Poonam 316 SACHDEVA, Geetanjali 321
KANNAIRAN, Chitra 354 SALUJA, Daman 360
KAPAETTU, Satyamoorthy 375 SARKAR, Banwarilal 379
KAR, Shantanu Kumar 317 SAXENA, Sunita 380
KAUL, Deepak 376 SENGUPTA, Shantanu 345
KAUR, Gurcharan 337 SHARMA, Aman 322
KHANNA, Vinay Kumar 355 SHUKLA, Rakesh 370
KHULLAR, Madhu 338 SHUKLA, Sangeeta 346
KONDAIAH, Paturu 318 SINGH, Mahendra Pratap 347
KRISHAN, Kewal 377 SINGH, Sanjay 371
KUMAR, Anil * 364 SINGH, Sunit Kumar 323
KUMAR, Arun 319 SINGH, Surender 348
KUMAR, Ashok * 339 SINHA, Sanjeev 324
KUMAR, Raj 378 TOTEJA, Gurudayal Singh 325
KUMAR, Vijay Lakshmi 365 TRIPATHI, Anil Kumar 361
MANDAL, Mahitosh 366 TRIPATHI, Arvind 349
MANDAL, Nripendranath 356 VASANTHAPURAM, Ravi 381
MEHROTRA, Divya 367 VEMUGANTI, Geeta Kashyap 382
MEHROTRA, Ravi 340 VUTHALURU, Seenu 350
MISRA, Ramnath 320
GHOSH, MRINAL KANTI (b 1966), Principal Scientist, CSIR-Indian Institute of Chemical Biology (IICB), Kolkata

**Member of the NASI: No**

(YON 2015, Animal Sciences)

Dr. Mrinal Kanti Ghosh is a leading cancer biologist of India, associated with CSIR-Indian Institute of Chemical Biology. He is among the first few who initiated the cancer cell signaling research in India and established several signaling crosstalks. He made significant contributions in cancer research by novel target identification and therapeutic development. He started his career by establishing a Novel mechanism of gene regulation under oxidative stress and then went on to propose a unique viral mechanism for chromatin remodeling (Molecular Cell:2003); mechanistic insights of cancer initiation (JCB:2000; EMBO-J:2001; Journal of Virology:2001&2010; Oncogene:2005). He has also established several novel signaling routes and crosstalks (involving EGFR-Wnt, CK2-Stat3 and ERα-CK2 signaling), validated by animal modeling indicating the essence of combinatorial therapeutic approach (JBC:2012a, CDDise:2013, Cell Signal:2014; Oncogene:2015; Genes&Cancer:2013; BMRI:2014a&b). Additionally, his laboratory elucidated the basis of molecular defects in various cancer scenarios by focusing on transcriptional and post-translational mechanisms of several oncogenic and tumor suppressor proteins (Oncogene:2013; Breast Cancer Research:2014; JBC:2012b; FEBS J:2014; Int. J Biochem Cell Biol:2015). With regard to his achievements in the field of clinical cancer research and drug discovery, in a collaborative effort with the Chemists and Clinicians, he addressed important issues in both diagnostic and therapeutic aspects (PlosOne:2013; J Peptide Science:2013; Molecular Therapy:2015). Dr. Ghosh has made extraordinary contribution in the field of basic and applied cancer research that has the potential for translation in the near future. He has successfully guided 8 Ph.D. and 4 Master degree students. Eight students are currently engaged in PhD programme.

**Proposer:** Dr. Susanta Roychoudhury, **Secondor:** Dr. Hemanta Majumder

**Ten Best Publications:**


JADHAO, ARUN GOVINDRAOJI (b 1960), Professor, Department of Zoology, RTM Nagpur University, Nagpur

Member of the NASI: No (YON 2015, Animal Sciences)

Prof. Jadhao’s research group is mainly engaged in unraveling the molecular mechanisms of neuroendocrine control of fish reproduction. He made significant contributions in the area of neuroanatomy and neuroendocrinology. The nominee made a novel finding which shows the anatomically distinct two brain types in the same gender of the fish species (1) and this has been shown for first time in any vertebrate animals demonstrating the inter-sexual and intra-sexual dimorphisms within the males and within females brain, which predominantly seen in the preoptic and tuberal region. Probably such dimorphisms may responsible for the different reproductive behaviors within the same gender (1). Further, he made a significant contribution in identifying neuronal descending pathways in the central nervous system (CNS) and demonstrated different neuronal cell populations of the brain that projecting to the spinal cord extending up to 25th segment and also shows regeneration capacity in fish (2,3,4). He also identified the gender differences in the expression of galanin (5) and calcium binding protein (6) in the fish preoptic area which controls the hormonal regulation by the pituitary. Further he has reported the presence of FMRF-amide (7), galanin (8), gonadotropin releasing hormone (GnRH) and gonadotropin inhibiting hormone (GnIH) (9,10), calcium binding proteins (calretinin) (11,12), NADPH-diaphorase (13, 14) and neuronal nitric oxide synthase (nNOS) (15) in the brain of teleost and frog species. For the first time his group has reported the presence of GnIH in the olfactory system and pituitary gland of fish and frog, confirming its role in the hormonal regulation.

Proposer : Prof. P. D. Prasada Rao, Seconder : Dr. Subeer Mujumdar

Ten Best Publications:
KAMARAJU, RAGHAVENDRA (b 1957), Scientist "F", National Institute of Malaria Research, (ICMR), Sector -8, Dwarka, New Delhi

Member of the NASI: Yes (YON 2015, Animal Sciences)

The nominee Dr. Raghavendra is an established investigator in the area of Malariology. He has made significant contributions to the fields of vector control, and insecticide resistance and its management—both of relevance to the public health programme. His Ph.D. work gave, for the first time evidence for the biochemical mechanisms underlying insecticide resistance. His later work contributed to the distribution of An. culicifacies sibling species, and their differential responses to different classes of insecticides and kinetics of development of resistance in field. This led to suggesting specific indoor residual spray strategy for vector control. His evaluation work on chlorfenapyr, a pyrrole class insecticide, for control of multi-insecticide resistant vectors is acclaimed by WHO and it paved way for multi-country field evaluation studies. His recent work on in silico approaches for finding insecticide-insecticide and insecticide–synergist pairs for managing resistance using strategies such as negative cross-resistance provided new leads for management of resistance. He is associated with many GoI committees' on insecticides in public health. He is expert member in WHO working groups on vector control, and for drafting guidelines for the use of public health products, and his laboratory is recognized as WHO collaborating Centre for testing and evaluation of public health pesticides. He has published on vector control using bacterial pesticides, fungus and plant extracts, co-patented a plant extract as larvicide. He guided more than 20 PhDs and PDFs and M. Sc dissertations, published more than 80 papers in peer-reviewed national/international journals and 10 articles as book chapters.

Proposer : Dr. Sarala Karumuri Subbarao, Seconder : Prof. Kambadur Muralidhar

Ten Best Publications:
The nominee has made significant contributions in the areas "stress biology and genotoxic stress". His work received first-rate citations (65-pub.;>1600 citations; Nature group journals) and award of prestigious international collaborative project (Major:UK-IERI; British Council). He developed and validated Drosophila melanogaster as an in vivo model for the detection of double strand breaks by neutral Comet assay. In genotoxic stress area, methods for the detection of single-strand-break, double-strand-break and oxidative DNA damage were developed and validated. He was the first to demonstrate (global genome-wide) DSB repair pathways along with alkylating and oxidative DNA damage (Environ. Mol. Mutagenesis, 2005, 46, 189; Environ. Mol. Mutagenesis, 2008, 49, 206; Mutation-Res, 2011, 72, 44; Mutation-Res, 2011, 726, 222; Mutation-Res-FMM, 2014, 747-748, 28; Mutation-Res, 2014, 766, 35; Hazardous Materials, 2015, 283, 558)

Ten Best Publications:
Premendu P. Mathur has contributed significantly in the field of male reproduction and reproductive toxicity. He developed highly specific radioimmunoassay for clusterin and purified clusterin from ram sera, which gave new direction to clusterin research. He demonstrated that environmental contaminants at very low doses adversely affect male reproduction and proposed a mechanism of action based on generation of ROS and the involvement of mitochondrial- and Fas-FasL-dependent cell death pathways. He demonstrated that Bisphenol A impairs insulin signaling and glucose transport in rat testis thus leading to impaired testicular functions. He has shown that Adjudin, a novel male contraceptive, causes transient induction of oxidative stress accompanying restructuring of adherens junctions in testis and Interleukin-1 alpha is a novel regulator of blood-testis barrier. Using bioinformatics approach he proposed structures of glucose transporters, GLUT-2, GLUT-8 and gap junction protein, connexin 26 for the first time and demonstrated that Bisphenol A interacts with them thereby inhibiting glucose uptake in testis. Dr. Mathur has also contributed significantly to the development of Bioinformatics teaching and research in India. He has led to the development of many open access database. These studies provided new insights into the mechanism of action of some of the environmental contaminants. He is editorial board member of six and reviewer of around ninety national and international journals. He is a Fellow of National Academy of Medical Sciences (India).

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

**Ten Best Publications:**


PRAKASH, SOAM (b 1956) Professor, Department of Zoology, Dayalbagh Educational Institute, Agra
Member of the NASI: Yes (YON 2015, Animal Sciences)

I am acquainted with Prof. Soam Prakash, FAZ ,FNAESA contributions in the area of Nano Parasitology (Soni and Prakash,2011,212,2013,214,201s) and Public health/vector control technology last 20 years and would happy to propose him for the fellowship of the academy for the significant contribution in the country in Parasitology and Nanotechnology described below:
1.0ne of the first expert to utilize, synthesize silver and gold nano particles for Malaria, Filariasis Dengue, Chickengunia control. (2011,2012,2013,204,2015- onwards publications)
2.0ne of the first Indian author to initiate Consciousness research in animals by establishing a Quantum biology laboratory to trace evolutionary aspect of consciousness, providing outstanding support to create center of excellence in formulating consciousness and Quantum- Nano center at Dayalbagh Educational Institute in 2111 and Children Science centre in 1994.
3. Has published more than 100 international publications, Guided 8 pH.Ds in diversified fields like vector control, biotechnology, public health and successfully completed more than 10 major projects (DST,AICTE,UGC) etc. in last 20 years and has been awarded fellowship from Academy of Zoology and Fellow of national Environmental Science Academy in 1984 & 2006.
4. Chaired international conferences is reviewing at least 30 international journals of repute and is also been guest Group leader, Editorial list for journals of repute on special issues(4) and has been nominated as Editor for many journals of interdisciplinary research (Cell communication). He has worked in, lectured and visited various labs Viz, Cold Springer Harbor labs (USA) and has worked in laboratories like "Alfa Biogene, New Jersey", Research hospital at Minneola, USA (2000) and delivered invited lectures in the areas of diversified topics. (1984,2000,2012,2014)

Proposer : Prof. V.P. Sharma, Seconder : Prof. Anand Mohan

Ten Best Publications :

262
ROY, JAGAT KUMAR (b 1957), Professor, Banaras Hindu University, Varanasi

Member of the NASI: No (YON 2015, Animal Sciences)

Using Drosophila as his model system, Prof. Jagat Kumar Roy has made significant contributions to chromosome organization and regulation of gene expression during development and differentiation. He unraveled the dynamic organization of heterochromatin and its differential replication in larval brain. His group showed regulation of developmental genes in Drosophila by the classical tumour suppressor genes. His elegant demonstration that homeotic transformation following perturbation in a segment polarity gene generates wings in all three thoracic segments (Emerald & Roy 1997, Nature 389:684) explains evolution of insect wings. His current research attempts to understand the molecular pathways regulated by Rab11, a G-protein-coding gene involved in vesicular trafficking. Using sophisticated genetic screens and confocal microscopy, he showed how Rab11 affected diverse cellular functions like membrane morphogenesis, cytoskeletal organization, cell adhesion, etc., as well as morphogenesis, viz., formation of eye, myogenesis and gonadogenesis. His studies also characterized development of malignant tumour in Drosophila brain due to mutation in the dcp2 gene, coding for an RNA degradation protein. Dr Roy’s recent interest in the molecular etiology of cervix cancer has demonstrated the prevalence of HPV in women in eastern India and has shown that mutation in BRN3A is an important cellular factor in cervix cancer, which opens a novel approach in understanding of its molecular pathogenesis. Besides his sustained research contributions, Prof. JagatKumar Roy is one of the most popular teachers among students. His single minded exemplary commitment to teaching and research, and work ethic provide inspiration to students and colleagues alike.

Proposer: Prof. Rajiva Raman, Seconder: Prof. Subhash Chandra Lakhota

Ten Best Publications:
9. Singh D, Roy J K (2013) Rab11 plays an indispensable role in the differentiation and development of the indirect flight muscles in Drosophila. PlosOne 8, e73305 (if=3.73)
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), sandyflygenic sites with limiting factors for sandfly breeding were discovered (Chandra et al., 1994), 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), larvivoracity of several fishes and insects was established (Chandra et al., 2008a, 2008b, 2013; Mandal et al., 2008), several plants were reported to have mosquitoicidal, wormicidal, molluscicidal and bacterial roles (Bhattacharjee et al., 2006; Ghosh et al., 2008, 2012; Hossain et al., 2012; Rawani et al., 2013; Singh et al., 2015), synergism between phytochemicals and antibiotics against pathogenic bacteria (Chatterjee et al., 2009) was established, green silver nano particles were synthesized by Drypetes roxburghii and Solanum nigrum having mosquitoicidal and bacterial roles (Haldar et al., 2012; Rawani et al., 2013). Geobacillus thermodenitrificans (thermophilic bacterium) was isolated and established as bioremidiator 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).

Ten Best Publications:
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=86)
5. Ghosh A, Chowdhury N & Chandra G (2008), Laboratory evaluation of a phytosteroid compound of mature leaves of day jasmine (Solanaceae: Solanales) against larvae of Cx. quinquefasciatus (Diptera: Culicidae) and non-target organism, Parasitology Research, 103 :271-277. (if=2.852, ci=59)
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,  
**Seconder:** Prof G K Srivastava

**Ten Best Publications:**

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:

Professor 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.). This work has got a large number of citations, including in the Journal "Science". His work on evolutionary systems biology established the role protein disorder, protein complexes, three dimensional structural contexts and protein-protein interaction network on protein evolution (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 the future (Gene 2009 439: 11-16; Mol Biol Evol. 27:934-. 941 (2010)); Genomics 97: 200-204 (2011); Genome Biol Evol. 6(10):2741-2753. (2014)). Recently, he demonstrated that protein evolutionary rates are mainly determined by protein-complex forming propensity of the proteins and these results a wider 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)). Recently, by analyzing the orthologous sequences of cold and warm vertebrates his group demonstrated that GC transition has favored disordered residues to promote functional diversity in GC rich genes, and to protect them against functional loss of protein misfolding (Genomics 104: 530-537 (2014)).

Proposer : Prof. Chitra Dutta, Seconder : Prof. Pinak Chakrabarti

Ten Best Publications:


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 anhydro lutein, 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, Secondeer : Prof. Shelley Bhattacharya

Ten Best Publications:

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, **Secondor:** Prof. G.K. Srivastava

**Ten Best Publications:**

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)
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., FASc., FZSI, FNASFA, FSB; FAEB; FIESA 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 Jairajpurli Seconder: Prof. S.P. SINGH

Ten Best Publications:

VENUGOPALAN, VAYALAM PURATH (b 1960), Bhabha Atomic Research Centre, Kalpakkam

Member of the NASI: No (YON 2014, Animal Sciences)

Dr. Venugopalan 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 early work on biofouling on the offshore oil platforms in the Bombay High region augmented our understanding of the problem and led to development of control options. His work on nascent biofilms revealed their architectural features under different flow conditions, together with their functional significance. His work on biofilms in the context of bioremediation and wastewater treatment is well recognized. He made significant contributions in the use of granular biofilms for biodegradation of complex organic wastes and removal of excess nutrients such as nitrate from wastewater. He also developed technologies to combat biofilm formation on biomedical surfaces. A 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 of chronic non-healing wounds. Furthermore, his work on biofouling in the seawater intake systems of coastal power plants is relevant for trouble-free operation of power plant cooling systems. The use of chemical antifouling biocides can be harmful when they are discharged to the environment and therefore, he carried out extensive work on the impact of coolant water discharge into coastal marine systems. A book on this subject, co-edited by him and published by Springer, 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, Seconder: Prof. S. P. Thyagarajan

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=0.313, ci=22)
GOVINDARAJU, ARCHUNAN (b 1956), Professor and Head, Department of Animal Science, 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), developing a pheromone trap for rodent pests (Selvaraj and Archunan, 2002), estrus-specific pheromones in blackbuck (Archunan and Rajagopal, 2013), cow (Rameshkumar et. al., 2008) and buffalo (Rajanianarayan and Archunan, 2011; Karthikeyan et. al., 2013) and estrus-specific proteins in house rat and in buffalo. 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. He has obtained a patent for buffalo sex pheromones, the compounds present in the estrus urine which enhances the libido in the bull. His discovery of pheromone carrier protein in rat is significant in the context of making biotrap for rodents. 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. He has already carved a niche for himself in pheromone biology and pheromone technology in the international scenario, and expects to contribute much more in terms of research to the knowledge of pheromones.

Proposer: Dr. G. Marimuthu, Seconder: Dr. G. Shanmugam

Ten Best Publications:
HALDAR, CHANDANA (b 1952), Professor and Head, Department of Zoology, Banaras Hindu University, Varanasi-221005, UP, India.

Member of the NASI: Yes

(YON 2013, Animal Sciences)

The pineal gland is an integral part of strategic regulation of seasonal functions and modulates mega events viz. immunity and reproduction in Indian tropical animals (birds – Perdicula asiatica and mammals- Funambulus pennanti, Capra hircus) and also in golden hamster Mesocricetus auratus. The pineal hormone melatonin exerts anti-gonadotropic effects and acts as “nature’s contraceptive”. Besides its anti-gonadal functions, melatonin regulates gestational physiology and foetal development. The postnatal transfer of maternal melatonin through milk is helpful in behavioural (diurnal/nocturnal) adjustments and sexual development of the offspring. Melatonin, as an immunoenhancer potentiates the physiological response of the immune cells via cytokine release along with its anti-apoptotic and antioxidant actions. Melatonin is the major temporal synchronizer, via SCN maintains the “immune adaptability” in a rhythmic manner - by activation of melatonin receptors MT1/MT2 present on the immune cells. The signal transduction of melatonin via its receptor MT1/MT2 utilizes and Ca+2/IP3/DAG pathway suggesting co-evolution of reproduction and immunity in seasonal breeders. The “trade-off” relation between reproduction and immunity mediated by melatonin suggest that it has high adaptive value for seasonal breeders. Melatonin protects from radiations (UV-A/B/C, LET, γ-rays) and the drug (antibiotics/phenylhydrazine/quinolphos etc.) induced toxicity and immune suppression by preventing free radical generation and enhancing anti-oxidant enzyme activity via RORα. Recently, synthesis in vitro evaluation of melatonin entrapped PLA nanoparticles ameliorated oxidative stress of T-lymphocytes. Based on our findings it can be suggested that easy and nonconventional methods (e.g. phototherapy, phytomelatonin etc.) can be utilized to improve the health in immunocompromised state.

Proposer : Professor Bashisth Narayan Singh, Seconder : Professor M.K. Thakur

Ten Best Publications:

1. Haldar, C, Haussler, D, Gupta, D (1992), Response of CFU-GM (Colony Forming Units for Granulocytes and Macrophages) from intact and pinealectomised rat bone marrow in murine recombinant interleukin-3 (rIL-3), recombinant granulocyte colony stimulating factor (rGM-CSF) and human recombinant erythropoietin (rEPO), Progress in Brain Research, 323-325 (if=5.03, ci=5)
3. Ahmad R, Haldar C. (2010). Photoperiodic regulation of MT1 and MT2 melatonin receptor expression in spleen and thymus of a tropical rodent Funambulus pennanti during reproductively active and inactive phase. Chronobiol. Int. 27; 446-462. (if=5.9, ci=5)
4. R. Ahmad and C. Haldar (2012), Immune responses to lipopolysaccharide (LPS) challenge in a tropical rodent (Funambulus pennanti): Photoperiod entrainment and sex differences, Stress, 15, 2, 172-183. (if=3.34, ci=3)
10. Goswami S, Haldar C, (2014), Melatonin improves ultraviolet B-induced oxidative damage and inflammatory conditions in cutaneous tissue of a diurnal Indian palm squirrel Funambulus pennanti, 171, 1147-1155 (if=4.1, ci=3)
KADARKARAI, MURUGAN (b 1961), Professor and Head, Department of Zoology, Bharathiar University, Coimbatore-641046

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 larvical 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, Secondor: Prof. G. Marimuthu

Ten Best Publications:
1. Murugan K and Anay 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=2.236, ci=21)
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): Inventoriest fishes 49, rivers, 245 wetlands North East India,343 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:

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,  
**Seconder:** Dr. Peter Kuruppacharil Varkey

**Ten Best Publications:**


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:
**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, 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, Seconder: Prof. P. D. Prasad Rao**

**Ten Best Publications:**

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 outstanding contributions to the field of Nematology. She has added, described, revised and reinstated a good number of soil-nematode taxa from unexplored habitats thus strengthening the classification of the group. Instead of following the traditional practices based on morphological attributes, she addressed the taxonomic identification from a holistic perspective combining morphological, developmental and ecological characteristics for a better scientific value. Her authoritative and rewarding publications with lucid and critical analyses of species supplemented with SEM details were regarded as exemplary contributions (Sudhaus, 2011). 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 and awarded Erasmus Mundus and EUMAINE Scholarships later. Her work as a Rothamsted International (RI) Fellow on nematode interactions with fungi and bacteria opened up new avenues of nematode-pest management. She remains the pioneer in the country to work on the developmental biology of these nematode groups with key findings supporting their ontogenic relationships. She has further explored the bioindicative properties of these nematodes for the first time in the country to report the environment quality of the Ramsar wetland, Keoladeo National Park. Due to her scientific intellect and expertise, she is the most sought-after collaborator for scientists of reputed organizations viz., Rothamsted Research, UCR, Ghent University, SCRI, CSIRO, Max Planck and Chinese Academy of Sciences, to name a few, under fellowships of Royal Society, TWAS, TWOWS, European Union Consortium, INSA, DBT, DST, Chinese & Australian Academies of Sciences.

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

Ten Best Publications:

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 malarias (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:
Dr. W. Rajendra, Professor of Zoology, Sri Venkateswara University, Tirupati is a dedicated researcher and illustrious guide throughout his career. Prof. Rajendra's unique contribution lies on the characterization of Lepidopteran-selective toxin (Buthus tamulus insect toxin; ButaIT) from the venom of Mesobuthus tamulus which was found to induce flaccid paralysis in Heliothis virescens. This toxin is a single polypeptide comprising 37 amino acids cross-linked by four disulfide bridges with a short $\alpha$-helix and three antiparallel $\beta$-strands. Realizing the potential of this peptide toxin, as an alternative to the synthetic insecticides, he constructed a recombinant baculovirus (Autographa californica NPV) expressing Buta-IT that can be used as a biopesticide for effective control of Lepidopteran insect pests which otherwise are resistant to most of the known synthetic insecticides. Hence, his basic research has given an important dimension for fruitful applications. He made significant contributions towards understanding the therapeutic role of indigenous medicinal plants during selected neurological disorders such as Epilepsy, Parkinson’s and Alzheimer’s diseases. He also carried out investigations on the protective role of selected medicinal plants against induced liver damage. He has also contributed in the understanding of neurobiological aspects of Newcastle disease virus infection in poultry and suggested therapeutic measures in amelioration of NDV infection. In addition, the nominee has proposed potential applications of ion-channel peptide toxins as lead structures for the development of drugs for the treatment of wide variety of neurological disorders. Apart from these, Dr. Rajendra made significant contributions in the fields of pharmacology, toxicology, muscle physiology and ethnopharmacology.

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

**Ten Best Publications:**


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

Member of the NASI: No  (YON 2012, Animal Sciences)

Prof.Sharique did his MS in (Zoology, Nagpur, University) & PhD on Pharmacology of melanocytes, as a BARC fellow. He has more than 100 research papers in peer reviewed journals of high impact factor (British J. of Pharmacol, John Wiley, Royal Soc of Great Britain’s J.of Pharm & Pharmacol, Blackwell, Planta Medica, Thiem, Comp. Physiol Biochem., Elsevier, Cell & Mol Biol, Springer, J. of Receptors & Cell Transduction, Pharmacology, Reuters, In vitro Biol. Springer, Curr Science, Explt. Biol, Nat Acad Sci Letters, etc and has also published letters in Nature Blog, Readers Digest, The Times of India and Current Science. He has also received the YS UNESCO & DST/MPCST awards. Dr Ali holds the distinction of being one of the youngest Principal Investigators of a US-DA (PL-480) project. Alis classical work on the nature, classification and role of cellular receptors in vertebrate pigmentation, pertaining to histamine and serotonin has been path breaking and is cited in several publications of high impact factor and books of repute. His recent work on stimulation of pigment cell receptors by melanogenic and melanolytic plant extracts has laid the concept of development of therapeutic approaches for hyper and hypo pigmentation. Ali has a patent on development of a new melanolytic agent (Patent Office Journ. 18/04/2014) & has gene sequencing credits also. Worth mentioning aspect of his credentials are that he has done all his research in an aided private college, amidst odds with 15 years of litigation against the state government, working on less than 50% salary in the old pay scale.

Proposer : Dr Devidas Kisan Rao Belsare,  
Secondor : Dr.PDP Rao, Nagpur

Ten Best Publications:


8. Salim,S. and Ali,SA (2012) Auto regulatory role of novel histamine H3 like receptors (H3R) and subsequent modulation of adrenergic induced aggregation in the pigmentary responses of Oreochromis mossambicus Pharmacology (UK) Reuters 3,(8) 325-335 (if=2.89)


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

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 immunobiology of leishmania parasite, development of new screening models, drug discovery and mechanism of drug resistance in visceral leishmaniasis (VL)- a fatal disease if left untreated. Dr Dube generated a stable Green/Red Fluorescent Protein (GFP) L.donovani transfectant cell lines for rapid screening of antileishmanials which are also being used in some national and international labs. She developed and established the only nonhuman primate (Presbytis entellus) model for VL for preclinical evaluation of potential drug/vaccine. To unravel the drug resistant mechanism she first developed drug (SSG) resistant in-vitro and in-vivo models using antimony resistant clinical isolates and that these isolates overexpressed novel proteins and their significance has been explored. She has contributed to the discovery of two new potential and safe oral antileishmanial lead compounds from natural resources. Using new drug delivery systems the effectiveness of Amphotericin-B, a toxic but most effective antileishmanial, at reduced dose schedules was demonstrated. She applied functional proteomics for identifying some parasite molecules, possessing Th1 stimulatory property, as potential immunoprophylactic agents against VL. She demonstrated successful immunization with killed Leishmania parasites in hamsters and Indian langurs and also showed a long-lasting immunity against VL using live suicidal-mutants of L.donovani in hamsters. Successful immunization with the DNA-encoding N-terminal domain of proteophosphoglycan (glycoprotein), suggests it to be a promising antileishmanial DNA vaccine candidate. She has been elected fellows of INSIA and IAS and is a well-funded and recognized researcher having published more than 150 papers and also mentored 16 Ph.D students.

Proposer : Prof Chhittar Mal Gupta, Seconder : Dr Shailja Bhattacharya

Ten Best Publications:


7. 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=26)


HOTI, SUGEERAPPA LAXMANAPPA (b 2011) Scientist ‘F’/ Deputy Director (Senior Grade), Regional Medical Research Centre (ICMR), Belgaum

Member of the NASI: No

(YON 2012, Animal Sciences)

His contributions to control of vector borne diseases are immense and outstanding. His basic research on gene expression during extrinsic cycle of filarial parasite, identified genes highly expressed in infective stage 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 nanosurfaces for surgical applications. He investigated several outbreaks of Dengue/Chikungunya and molecular epidemiology. Provided information to Public Health Authorities for control measures. Working Traditional Medicines has identified herbal drugs for reversing drug resistance in cancers, arthritis and diabetes and molecular mechanisms. He developed simple, cost effective technologies for highly mosquitocidal bacterial agents 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 (13) 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 Human Helminthiasis and 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 Member on Expert Panel of World Parasitologists. Editorial member of The Open Parasitology Journal, Journal of Bacteriology and Parasitology, and Tropical Parasitology.

Proposer : Dr. Vinod Prakash Sharma, Seconder : Prof. U.C. Srivastava

Ten Best Publications :
10. Karthikeyan S., Rajendra Prasad Hoti S.L., Resveratrol modulates expression of ABC transporters in non-small lung cancer cells: Molecular docking and gene expression studies, J Cancer Sci Therapy (Accepted), IF = 4.23, CI = 0
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 10Externally-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:


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:
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, **Seconder:** DR. APPA RAO PODILE

**Ten Best Publications:**

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)
NAPPAN VEETTIL, 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 ages of Indian Council of Medical Research (ICMR). Also he achieved a rare fact of establishing two animal models of obesity a fact 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, Seconder: Prof. B.K. Thelma

Ten Best Publications:

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)
NAQVI, SYED MOHAMMAD KHURSHEED (b 1958), Director, ICAR-Central Sheep and Wool Research Institute, Jaipur

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.

Proposer: Prof. Nirmal Kanti Bhattacharya, Seconder: Nirmal Kumar Lohiya,

Ten Best Publications:
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 27 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 (18 first attempts in ladybirds and chrysomelid beetles; 02 in insects) on sexual behaviour/activities, reproductive output and aging have elucidated that: (i) both sexes mate multiply but at different rates indicating sexual conflict, (ii) multiple matings are evolutionarily significant for they enhance reproductive output especially under polyandrous conditions; a benefit which is increased under mate choice, indicating intersexual selection, (iii) increased mating decreased longevity of adults (reproduction-longevity trade-off ), as a result of early onset of aging and not enhanced rate of aging, indicating regulation of aging gene through mating, (iv) rate of aging differed in both sexes, a difference reported for first time in insects using reproductive parameters, (v) differing rates can be synchronized to enhance reproductive output by varying and optimizing age differences, a first in insects, (vi) reproductive output, offspring development and survival are affected by parental age at mating, parental diet and size. Ladybird mothers safeguard their offspring by choosing safe ovipositing sites having reduced physical and chemical cues from con- and heterospecific predators. Surface alkanes promote recognition of kin and preference of cannibalism over intraguild predation as well of sexes. He has multiple citations (citation index:1220); 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:
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).

Ten Best Publications:

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 NASI: 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.

Proponent: Professor Shyam Kumar Sharma, Seconder: Professor CL Acharya

Ten Best Publications:


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=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=7.0, CI=0.938)


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

Member of the NASI: No (YON 2012, Animal Sciences)

Presently Prof. A. C. Varshney is working as Vice-chancellor, U.P. Pt. Deen Dayal Upadhyaya Pashu Chiktisa Vigyan Vishwa Vidyalaya Evam Go-Anusandhan Sansthan, Mathura since 20.02.2013. Before joining as Vice-chancellor of DUVASU, Mathura Prof. Varshney worked as Dean, College of Veterinary Sciences and Animal Husbandry, CAU, Aizawl, Mizoram, since 1st September, 2012. Earlier to that Prof. A. C. Varshney worked as Dean, College of Veterinary and Animal Sciences, CSKHPKV, Palampur w.e.f. 2nd June, 2007 to 31st August, 2012 where he has significantly contributed in terms of development of infrastructure and fulfilment of staff positions besides bringing number of prestigious research projects and involving the college in other developmental activities. He had a long record of distinguished service as teacher and research worker first at G.B. Pant University of Agriculture and Technology, Panchnagar for more than 10 years and then at Himachal Pradesh Agricultural University for about 22 years as Associate Professor, Professor and then as Dean of the College. More than 13 postgraduate theses and 166 research articles and handling 10 research projects, speak volumes of his contributions to the field of Veterinary Surgery. Several chapters to books and preparation of manuals are in his credit. He has visited a number of countries including Switzerland, Germany, China, Thailand and Pakistan with a wide international exposure. Several National and State level awards have been bestowed upon him. He is 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).

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

Ten Best Publications:


Impact factor according to NAAS rating.
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, Seconder: Prof. U.C. Srivastava

Ten Best Publications:
CHANDRA, AMAR KUMAR (b 1951), Professor, Dept. of Physiology, University of Calcutta, Kolkata

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 made significant contributions to these fields. His extensive epidemiological studies on IDD in Eastern and North Eastern India, sub-Himalayan tarai flat lands (in the foot hills of Himalayas) revealed that IDD is still prevalent in those regions in spite of adequate iodine intake. Based on in vivo and in vitro studies on animals and isolated cells, he showed region specific dietary factors e.g. cyanogenic constituents of bamboo shoots etc., flavonoid containing polyphenolic constituents of tea, excess calcium and magnesium of drinking water, even excess iodine in environment and salt other than iodine deficiency are responsible for the occurrence of thyroid disorders in those regions. The signaling pathways through which the goitrogenic bio-molecules cause thyroid disruption is the current interest of his laboratory. His group has also demonstrated the deleterious effects of heavy metals, calcium and magnesium (hard water constituents), excess iodine in edible salt, catechin in tea (flavonoids) etc. on gonadal functions and their amelioration by dietary or parenteral supplementation with antioxidants, zinc, testosterone. The biochemical details have been worked out. Dr. Chandra, in addition to publishing more than 70 articles in peer reviewed journals, book chapters has also mentored 18 PhDs and supervised many dissertations of PG students. At present, Dr. Chandra is the President, Physiological Society of India, General Secretary, Federation of Indian Physiological Societies (FIPS); Secretary General, South Asian Association of Physiologists (SAAP) and Member of ICMR Task-Force on IDD.

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

Ten Best Publications:

CHOUBISA, SHANTI LAL (b 1954), Assoc.Prof. & Head (Retd.), Dept. of Zoology, Govt. Meera Girls College, Udaipur-313001

Member of the NASI: Yes (YON 2011, Animal Sciences)

Dr. S. L. Choubisa is well known by worth of his outstanding contribution in the field of Fluorosis in man and animals. He has investigated diverse abnormalities in teeth, bones, and soft organs due to chronic fluoride intoxication. He has reported hydrofluorosis for the first time in camels and equines. He has detected cause of natural amelioration of fluorotoxicosis in browsers and also investigated, bovines are relatively more susceptible and sensitive to fluoride poisoning. Dr. Choubisa has also investigated ideal bio-indicators (bovine calves) for endemic fluorosis. He has also derived a scientific formula by which severity of fluorosis can be detected. Dr. Choubisa has also done a commendable research work on haemoglobinopathies and malaria and reported that tribal individuals of Rajasthan are naturally protected from malaria by the presence of sickle-cell, beta-thalassemic, and G-6-PD enzyme deficiency genes. He has detected Hb-C gene for the first time in India. He has also significantly contributed in the field of Trematodiases and reported the basic mechanism of histopathogenesis and parasitic castration by larval trematode parasites in aquatic snails. He has published >105 research papers in national and international journals and >180 scientific general articles in leading news papers and magazines. At national level Dr. Choubisa has been awarded twice by I.C.M.R. Awards on two different subjects, Fluorosis and Haemoglobinopathies. He is also Regional Editor of International journal, Fluoride and Fellow and Life member of many national and international academic societies. He was also speaker in many national and international conferences.

Proposer: Dr. V.P. Sharma, Seconder: Dr. G.V. Mishra

Ten Best Publications:

9. Choubisa SL (2013) Fluorotoxicosis in diverse species of domestic animals inhabiting areas with high fluoride in drinking waters of Rajasthan, India. Proceedings of National Academy of Sciences, India Section B: Biological Sciences 83(3): 317-321. (if=0.36, ci=8, recent)
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:
Dr. Garg's has been involved in unraveling the molecular mechanisms of infectious diseases to explore new drug targets and development of vaccines against pathogenic bacteria. His work on epsilon-toxin of Clostridium perfringens D, a major cause of veterinary enteric disease, has led to the development of vaccine against the pathogen (Appl. Microbiol. Biotechnol. 2010, Clin. Vaccine Immunol. 2010). Dr. Garg has been able to translate his basic research into a technology transfer to an industry and clinical trials are under progress. Using structure-function analysis, he has identified the amino acid residues crucial to the toxicity of the epsilon-toxin (Patent Application# 1577/DEL/2010 date 05-07-2010). 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 α1 helix of LTB is essential for its stability (PNAS, 2007). Yet another significant contribution of Dr. Garg has been in the area of recombinant proteins of therapeutic importance. He is the first one to deposit gene sequences to the data base from buffalo. In addition, he has successfully expressed buffalo and human growth hormones in large amounts using bacterial expression systems and transferred the technology for their industrial production to an industry (Gene, 1995; PEP, 2000). His seminal contribution has indeed advanced the knowledge of 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 (JBC, 1989; PNAS, 1987).

Proposer: Prof Avadhesha Surolia, Seconder: Dr. Sher Ali

Ten Best Publications:
Prof Antony Gomes (UGC-BSR fellowship recipient), a full time teacher of Calcutta University (since 1989) and a dedicated researcher in animal sciences of Pharmacology & Toxinology with special reference to animal venom & toxin. His major research interest is (1) development of herbal antagonists against snake venom (2) development of drug development clues (against cancer, arthritis, osteoporosis, etc) using snake/scorpion venom molecules (3) using nanotechnology in venom & toxin research. So far he has published 110 research articles in peer reviewed journals (H-index : 24), one book chapter (Elsevier) on scorpion venom research around the world, one text book chapter (Exp Pharmacology by Dr M N Ghosh, Hilton & Co), three patents, 28 Ph.D students (completed). Prof Gomes is fellow of four societies, founder general secretary of the Toxinological society of India, member of the task force on venoms & toxins, ICMR, New Delhi. He has completed more than 30 major research projects sponsored by several organizations (DRDO, ICMR, CSIR, DST, DBT,UGC, NTRF, etc). Prof. Gomes has proposed a new idea for the treatment of snakebite victims in the rural areas. The snake bite victims may take the help of identified herbal antidote before reaching the health centre, where antiserum may be given along with herbal antidote, thereby providing double protection [Alam & Gomes (1998), Toxicon 36, 1423]. He has identified many bioactive molecules against cancer, arthritis, osteoporosis from venoms. Delivering motivation lectures to school, college, university students is his passion, specially on research ethics & value education, snake venom. (250 w)

Proposer : Dr. Hemanta K Majumder, Seconder : Dr Syamal Roy

Ten Best Publications:


2. Viper venominduced inflammation and inhibition of free radical formation by pure compound (2hydroxy-4methoxy benzoic acid) isolated and purified from anantamul *Hemidesmus indicus* R. Br root extract. MI Alam, A Gomes. Toxicon 36 (1), 207215, 84 (1998). (I.F= 2.766) (Cit=90)


6. Antony Gomes, Rinku Das, Sumana Sarkhel, Roshnara Mishra, Sanghamitra Mukherjee, Shamik Bhattacharya & Aparna Gomes, Herbs and herbal constituents active against snake bite Indian Journal of Experimental Biology, 48, 865-878 (2010), Impact factor 0.753 (Cit: 65)


10. Antony Gomes, Rinku Das, Sumana Sarkhel, Roshnara Mishra, Sanghamitra Mukherjee, Shamik Bhattacharya & Aparna Gomes, Herbs and herbal constituents active against snake bite. Indian Journal of Experimental Biology, 48, 865-878 (2010), Impact factor 0.753 (Cit: 48)
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, Seconder: 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)
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, Seconder : Prof. H.C. Agarwal

Ten Best Publications:


AGARWAL, SANJAY KUMAR (b 1958), Professor and Head, Department of Nephrology, AIIMS, New Delhi

Member of the NASI : No (YON 2015, Medical & Forensic Sciences)

Dr. SK Agarwal, Professor and Head, Department of Nephrology has contributed significantly in the field of nephrology in education, research and patient care in last three decades. He developed nephrology curriculum for AIIMS, National Board of Examinations and MCI. He has 24 chapters in nephrology books and chief guide for > 60 students. He is regular invited speaker for all the national conferences in nephrology and reviewer for more than 20 scientific journals. He pioneered high-quality clinical and research work in area of hepatitis, tuberculosis, clinical transplantation, CKD and renal replacement therapy in India. He has > 200 publications in index journal. He is member of editorial board to many journals. He has pursued 24 funded research projects as principal investigator. He was chief coordinator of Post Doctoral Certificate Course run by IGNOU and GOI, Chief coordinator of CKD Task Force Project by ICMR, member of the advisory group for NCD for Planning Commission, contribution in making guidelines for hospitals registration for renal transplantation, curriculum to train doctors for standalone dialysis units and course material for training of Renal Transplant Surgeons in India. He represented India in the conference on “Prevention of renal diseases: towards global health equity” organised by Rockefeller Foundation at Italy in 2004, and regional meeting of SEARO region of WHO for renal. He was the member of the delegation of MOHFW, GOI, who visited Spain for establishing NOTP in India. He was country Leader for Transplantation by the World Transplantation Society for five years.

Proposer : Prof. VK Paul, Seconder : Prof. Pramod Garg

Ten Best Publications :


 Member of the NASI: No  (YON 2015, Medical & Forensic Sciences)

Dr. Ruby John Anto began her work at RGCB on signal transduction pathways regulating curcumin-induced apoptosis (Anto et al, 2000). She expanded this work during her doctoral tenure at MD Anderson Cancer Centre, USA (Anto et al 2002a, Anto et al 2002b). On joining back at RGCB she continued to work on mechanisms regulating apoptotic pathways (Anto et al, 2003; Srinivas et al, 2003; Oommen et al, 2004; Venkatraman et al, 2005). Dr. Ruby currently focuses on elucidating the mechanism of action of chemosensitizers and chemopreventives. She has patented an effective combination of Taxol and curcumin (IPR- Patent number: 241416) for cervical cancer and the mechanism of action has been elucidated in vitro (Bava et al, 2005; 2011) and proved in vivo (Sreekanth et al, 2011). She has explored the possibility of using curcumin as a chemopreventive against nicotine-induced survival signaling (Vineshkumar et al 2010) and B[a]P-induced lung carcinogenesis (Under communication). She has identified two synergistic combinations effective in breast cancer chemotherapy: that of 5FU and curcumin (Vinod et al 2013b) and docetaxel and resveratrol. She has published an invited review (Vinod et al, 2013a) and three book chapters (Anto et al, 2008, Pharma Med Press; Sreekanth et al, 2014, Springer; Antony et al, 2014, World Scientific Publishing Co.) She is also actively involved in isolating new anticancer principles from medicinal plants and has isolated two novel formulations, one of which is filed for patent (Filing No. 2743/CHE/2010) and is under revision in 'Scientific Reports'. She has produced 5 PhDs.

*Proposer: Prof.C.C.Kartha, Seconder : Prof. P.N.Rangarajan*

Ten Best Publications:


5. Smitha V Bava, Chanickal N Sreekanth, Arun Kumar T Thulasidasan, Nikhil P Anto, Vino T Cherian, Vineshkumar T Puliyappadamba, Sajna G Menon, Santhosh D Ravichandran, and *Ruby John Anto, 2011: Akt is upstream and MAPKs are downstream of NF-κB in paclitaxel-induced survival signaling events, which are down-regulated by curcumin contributing to their synergism. Int J Biochem Cell Biol. 43, 331-341. (if=4.99, ci=30)


BHARADWAJ, MAUSUMI (b 1963), Scientist F (Sr. Deputy Director), Division of Molecular Genetics and Biochemistry, Institute of Cytology and Preventive Oncology (ICMR), Noida,

Member of the NASI: No

(YON 2015, Medical & Forensic Sciences)

Dr. Bharadwaj has already made several important contributions on the role of Human papilloma virus (HPV) in cervical cancer as an independent investigator at ICPO-ICMR, India. Her pioneering work showed for the first time that incidence of high-risk HPV infection may be associated with prostate cancer development or progression in India (Sci. Rep. 2015). Her group was also the first to establish the prevalence of HPV infection in India among healthy adolescents (ages 8-17 years) through self-urine sampling in addition to the assessment of their awareness of HPV, cervical cancer and also vaccine acceptability among their parents (PLoS One, 2014). This work also provided valuable insights into the mechanisms of development of cancer of the cervix, sporadic colorectal cancer and esophageal squamous cell carcinoma prevalent in Kashmir valley. Her work has led to development of cost-effective, chimeric vaccines against India specific HPV16 variants. Her group identified six major variations in E6 gene and showed their specific interaction with B-cell and T-cell epitopes of HLA complex in Indian population. This information will be crucial for development of new generation candidate vaccines in future. They also made the important discovery that some haplotypes in the TNF-α locus in the Indian population are associated either with high risk group or breast cancer group. Such haplotypes may serve as biomarkers for breast cancer predisposition in Indian population. Her earlier work during doctoral and postdoctoral periods also led to several publications in highly-rated journals.

Proposer: Prof. Sandip K Basu, Seconder: Prof. Debi P Sarkar

Ten Best Publications:


BHATTACHARYA, JAYANTA (b 1968), Principal Investigator, Translational Health Science & Technology Institute (DBT), NCR Biotech Science Cluster, Faridabad, Haryana

Member of the NASI: Yes  (YON 2015, Medical & Forensic Sciences)

The nominee’s primary research interests have been significant in understanding the mechanism of HIV-1 clade C entry with relevance in vaccine design. The nominee has identified regions and motifs in HIV-1 envelope protein that modulates the exposure of key epitopes on the envelope trimers targeted by the neutralizing antibodies. In addition, his group has identified HIV-1 clade C primary envelope clones using novel alternate coreceptors in natural infection. He published several papers in peer reviewed journals. At THSTI, in a major breakthrough, Dr Bhattacharya has lead a team of researchers at the HIV Vaccine Translational Research laboratory that through high throughput screening of HIV-1+ patient sera identified elite neutralizers whose anti-HIV-1 serum antibodies showed exceptional cross neutralizing breadth. His group is now working using this information to isolate broad and potent neutralizing antibodies from HIV-1 clade C infection using reverse vaccinology technology which will help clade C HIV-1 envelope based immunogen design with an aim to further into preclinical studies. In the same laboratory, an HIV-1 clade C primary envelope that Dr Bhattacharya’s group isolated previously has been extensively characterized which has shown potential to be taken forward for advanced clinical studies. As Principal Investigator, the nominee has received several research grants from the Department of Biotechnology and the Department of Science and Technology, Dr Bhattacharya is also a recipient of the prestigious DBT National Bioscience Award in 2013 and American Foundation for AIDS Research Fellowship, 2004. The nominee has successfully supervised five PhD students under his direct supervision.

Proposer: Prof. Sudhanshu Vrati, Seconder: Prof Shinjini Bhatnagar

Ten Best Publications:


5. Ringe, R., Thakar, M. and Bhattacharya, J.* (2010). Variations in autologous neutralization and CD4 dependence of b12 resistant HIV-1 clade 1 C env clones obtained at different time points from antiretroviral naive Indian patients with recent infection. Retrovirology 7:76 (if=4.77 , ci=12)


BHATTACHARYYA, MAITREE (b 1960), Professor, Department of Biochemistry, Calcutta University and Director, Jagadis Bose National Science Talent Search, Kolkata

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Prof. Maitree Bhattacharyya graduated from Presidency College with Honours in Physics and obtained M.Sc from Calcutta University. Started research career in Department of Biophysics and Molecular Biology, CU with PhD in 1991. Now she is Professor, Department of Biochemistry in University of Calcutta. Ten students have already been awarded PhD degree under her supervision and she is leading a group of ten research scholars which comprises of PhD and post doctoral students. Her major research interest is in the field of biomedical research. She worked on the oxidative and nitrosative stresses in thalassemia, arsenic toxicity, diabetes mellitus and in protein drug biomolecular interaction. Her major contribution lies in identifying the risk factors and biomarkers in the disease dynamics of diabetes and associated cardiovascular disease and dyslipidemia. She has also developed a kit for detection of Platelet shed Microparticles (MP) under Flow Cytometry Platform, for which the patent has been filed. This work has got immense significance as a diagnostic tool for prediction of cardiovascular disease in diabetes. She is also working to explore the microbial diversity in the coastal and estuarine area of Sunderban, Chilika and Gujarat. Apart from academic research and teaching she is passionate to develop scientific and technological sphere of India especially the human resource to the level of highest possible International Standard. To fulfill this ambition she has recently joined (on lien) as Director of Jagadis Bose National Science Talent Search, where young talents are nurtured and motivated to achieve the best quality human resource.

Proposer: Prof. Gobardhan Das, Seconder: Prof. Amitabha Mukhopadhyay

Ten Best Publications:


6. Arindam Saha, Sangeeta Adak, Subhankar Chowdhury, Maitree Bhattacharyya (2005), Enhanced Oxygen releasing capacity and Oxidative stress in Diabetes Mellitus and Diabetes Mellitus Associated Cardiovascular Disease: A comparative study, Clinica Chimica Acta,( Elsevier) 361,141-149 (if=2.748, ci=26)


8. Dibyendu Chakraborty & Maitree Bhattacharyya (2000), Deferiprone (LI) induced conformation change of Hemoglobin: A fluorescence and CD spectroscopic study, Molecular and Cellular Biochemistry, 204. 17-20. (if=2.388, ci=18)


CHAKRABARTI, SUBHABRATA  
(b 1972), Associate Director (Research), L.V. Prasad Eye Institute, Hyderabad

Member of the NASI: No  
(YON 2015, Medical & Forensic Sciences)

The major scientific contributions of Subhabrata Chakrabarti have been in understanding the molecular mechanisms of complex eye diseases. His work on the genomics of primary congenital glaucoma (PCG), has convincingly demonstrated the role of CYP1B1 and other genes (Mol Vis 2004; Clin Genet 2005; Invest Ophthalmol and Vis Sci, 2009) along with the evolutionary insights of disease-associated mutations (Invest Ophthalmol and Vis Sci, 2006, 2007). Current bilateral projects with Brazil, Tunisia and Australia, are unveiling the nature-nurture dialectics in PCG (PLoS One, 2015, under review). Functional genomics and genotype-phenotype correlation have provided clues for early intervention (Hum Mol Genet, 2010; Proc Natl Acad Sci, USA, 2012) and connected adult glaucomas with a common disease pathology (Invest Ophthalmol and Vis Sci, 2007, 2008, 2010; Proc Natl Acad Sci, USA, 2009), Identification of the complement genes in age-related macular degeneration (Invest Ophthalmol and Vis Sci, 2006, 2008, 2010) and discovery of TIMP3 (Proc Natl Acad Sci, USA, 2010) have provided indicators for predictive testing. Several clinical and genomic risk factors are currently being analyzed for disease progression through global consortiums (Am J Epidemiol 2011, 2012; Clin Exp Ophthalmol 2014). Thus, his contributions in ocular genomics have been significant in understanding the disease mechanisms and has been recognized worldwide. He currently holds very responsible positions in international bodies like the Association of Research in Vision and Ophthalmology, World Glaucoma Association, Editorial boards of reputed journals, and has been a young scientist/associate of all the science academies of India (INSA, NASI, IASc) and TWAS.

Proposer: Prof. Partha P Majumder, Seconder: Prof. D. Balasubramanian

Ten Best Publications:

CHANDAK, GIRIRAJ RATAN  
(b 1963), Senior Principal Scientist, Centre for Cellular and Molecular
The outstanding contribution of Dr G R Chandak demonstrating the genetic and mutational heterogeneity and gene-nutrient interaction in prevalent complex diseases, such as chronic pancreatitis, diabetes mellitus, neural tube defects, etc. in Indians can be seen from his regular contribution in journals of Nature group including Nature and Nature Genetics. He has identified two novel genes, SPINK1 and CTSB that predict susceptibility to chronic pancreatitis in Indians, which established genetic basis of tropical calcific pancreatitis and inclusion in the Online Mendelian Inheritance in Man (MIM#608819) and are being used for genetic testing of chronic pancreatitis. Dr Chandak has been the first to show that genetic susceptibility of type 2 diabetes in Indians is different than Europeans, especially for traits like central obesity and insulin resistance. He has established the causal role of maternal B12 deficiency and one-carbon metabolism in predicting low birth weight and adiposity in their children. Using animal models of B12 deficiency, he has demonstrated altered PPAR signalling pathway in explaining fetal programming of obesity, insulin resistance and altered lipid metabolism. His studies provide a possible link of differential epigenetic regulation of candidate type 2 diabetes genes with B12 deficiency that is widely prevalent in the Indians. In contrast to the globally established role of folate deficiency, his studies have conclusively established major role for maternal B12 deficiency in the risk of neural tube defects. He has also led the way in creating awareness about preventing monogenic genetic disorders by prenatal diagnosis and genetic counselling using cost-effective protocols.

Proposer: Dr Ch Mohan Rao, Seconder: Dr. R Sankaranarayanan

Ten Best Publications:


CHATTERJEE, MITALI  (b 1960), Professor, Dept. of Pharmacology, Institute of Postgraduate Medical Education & Research, Kolkata

Member of the NASI: No  (YON 2015, Medical & Forensic Sciences)

Dr Mitali Chatterjee’s research has focused on establishing clinico-immunological determinants for Indian Leishmaniasis especially Post Kala-azar Dermal Leishmaniasis, (PKDL) that occurs exclusively in South Asia and East Africa. Importantly, as PKDL has no animal model, Mitali being a clinical pharmacologist undertook this pertinent challenge, thus effectively blending her clinical skills with scientific knowledge. The group has delineated in PKDL the lesional absence of dendritic cells which along with an increased presence of anergic/exhausted CD8 T-cells, generated a pro-parasitic, immunosuppressive milieu, thus justifying development of therapeutic vaccines and or immunomodulatory chemotherapy. Clinical isolates from patients with visceral leishmaniasis (VL) and PKDL have helped identify biomarkers, which have been applied for developing diagnostic assays. In view of the increasing incidence of unresponsiveness to antimony in VL patients, Mitali undertook studies in field isolates from patients unresponsive to antimony, and delineated key factors/biomarkers for antimonial unresponsiveness. Additionally, considering the limited therapeutic armamentarium of anti-leishmanial compounds, Dr. Chatterjee’s group has developed semi-automated drug screening assays and screened plant-derived biomolecules that include Aloe vera, Artemisia indica, artemisinin, Berberine, malabaricones from Myristica malabarica and Piper betle along with some synthetic compounds. The group thus identified that compounds inducing oxidative stress trigger an apoptosis-like death in Leishmania parasites, thereby elucidating an important cell death modality and a new chemotherapeutic strategy for Indian Leishmaniasis. Taken together, the thrust of Dr Mitali Chatterjee’s work is ‘Translational research in Indian Leishmaniasis’ wherein she has identified disease specific biomarkers and new chemotherapeutic modalities for improved management and potential elimination of Leishmaniasis.

Proposer: Prof. Chitra Mandal, Seconder: Prof. Abhijit Chowdhury

Ten Best Publications:


Dr. Chattopadhyay's work on microbial drug-resistance, a major problem for antimicrobial chemotherapy, showed a new way to bypass it by using non-antibiotic phenothiazine that reversed bacterial resistance by altering membrane permeability of the resistant bacteria. As the available contraceptives have prohibitive side-effects including the development of carcinomas, contraception without side-effects is a major need. He identified a potent inhibitor of sperm motility from a medicine used by Onge for contraception. Another important field is the emerging and re-emerging pathogenic microbes for which the available drugs are functionally limited. So, finding new molecules is an urgent need. Using ethnomedicinal approach, he validated the traditional practices of Onge, Nicobarese, Shompens, Birhore, Kattabhai and Santal tribes, and identified molecules with antiviral, antimicrobial, and antiinflammatory activities. The most notable is the isolation and identification of an antiviral alkaloid that inhibit the immediate early transcription of Herpes Simplex Virus in vitro and animal model. The same approach helped to find new principle for typhoid from a plant used by Birhore tribes. Altogether, his ethnomedicinal approach is successful in settling the principles for the management of HSV, typhoid and contraception. This approach has a huge advantage as the extract/herbal formulation is already in use and therefore, does not require expensive clinical trials. Besides working out the new reverse pharmacology principles for shorter bench-to-bed tactics, Dr Chattopadhyay have disseminated the knowledge efficiently to common people. Therefore, the awareness for the use of herbal formulation from the age-old practices is led and fostered by him.

**Ten Best Publications:**


COLAH, ROSHAN BEHRAM (b 1952) Scientist G & Director-In-Charge, National Institute of Immunohaematology, Mumbai

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Dr. Roshan Colah is a prolific researcher in the field of red cell enzymopathy and haemoglobinopathy. Author of more than 170 articles in some of the finest journals in the field. Winner of several orations from National organization like Indian Society of Hematology, Mumbai Haemalology group. Recognition from ICMR through BGRC oration by Indian Council of Medical Research and Industrial Recognition by award for developing a prenatal diagnosis kit by molecular delcetion of B thal and other haemoglobinopathy mutatic. She mapped red cell enzyme deficiencies in this country along with haemoglobinopathies and modified or developed some of the techniques in this area. Holder of several patents. Dr. Roshan is eminently suited to be our fellow member and I hereby propose her name for the fellowship.

Proposer: Prof. Kanjaksha Ghosh, Seconder: Smita D. Mahale

Ten Best Publications:
Dr. Das has made significant contribution in cancer research specially in understanding the genetic susceptibility to breast (Valarmathi et al, 2003, 2004) and oral cancer (Jha et al, 2013; Karimi et al, 2013; Bharti et al, 2013; Gaur et al, 2011a, 2011b; Mittal et al, 2010; Gupta et al, 2008). In case with familial breast cancer his group detected about 20 novel mutations in BRCA1 and BRCA 2 gene while in oral cancer novel polymorphisms were reported in hMLH1 gene, TNF-alpha and TNF receptor genes, COX-2, TGF-beta, IL-4 and IL-6 genes and CTLA-4 genes that may be useful to screen population at a higher risk. Dr. Das was first to report abnormal expression of PI3K isoforms (Garg et al, 2013) and COX-2 (Kapoor et al, 2010) in oral cancer patients and showed that peptide inhibitors of COX-2 significantly inhibited tumour cell growth and proliferation. These findings may lead to development of peptide/biological inhibitors of PI3K and COX-2 for chemopreventive and chemotherapeutic strategy for oral cancer. Recently his group showed impaired population and functions of invariant Natural Killer T (iNKT) cell subsets in oral cancer patients (Singh et al, 2013, 2015). They further showed that selective activation of iNKT cells by its ligand along with tumour antigen via dendritic cells significantly reduced tumour cell viability and enhanced apoptosis. These observations will provide an efficient process of NKT cell-based vaccination of oral cancer patients in order to prevent development and recurrence of the tumours.

**Proposer**: Prof. Y. D. Sharma, **Seconder**: Prof. J. S. Tyagi

**Ten Best Publications:**


GAUR, DEEPAK  (b 1972), Associate Professor, School of Biotechnology, Jawaharlal Nehru University, New Delhi

Member of the NASI : No  (YON 2015, Medical & Forensic Sciences)

Dr Deepak Gaur’s outstanding research contributions have made a major impact on both our basic understanding of the molecular mechanisms that underlie the process of RBC invasion by the malaria parasite as well as on the applied front in translating these findings in the development of novel malaria vaccines. On the basic front, he has identified and functionally characterized a novel family of PfRH proteins as key determinants of RBC invasion through multiple pathways (MBP 2006; PNAS 2007; Cell Host & Microbe 2008; PNAS 2010; PLOS One 2011; PLOS One 2013; Infect. Immun. 2013, Infect. Immun. 2014). In his most recent and significant piece of work, Dr Gaur has discovered a novel multi-protein complex on the parasite surface that is essential for RBC invasion. This complex tethers a PfRH5, an essential ligand and potent vaccine target, on the parasite surface facilitates its interaction with its RBC receptor (PNAS 2015). On the applied front, Dr Gaur has screened the vaccine potential of numerous malaria antigens and has built a pipeline of promising vaccine candidates that elicit potent neutralizing antibodies against multiple parasite strains, a feature missing in previous vaccine candidates (PLOS One 2011, Infect. Immun. 2013, Cellular Microbiology 2013, PLOS One 2013, Infect. Immun. 2014, Clin. Vaccine Immunol. 2014). He remains a major contributor of the malaria vaccine program at ICGEB, where he has been funded to take two candidate vaccines into clinical trials. In summary, Dr Gaur is an excellent malaria researcher who has made great contributions to the field.

Proposer : Prof. Virander S. Chauhan, Seconder : Prof. Seyed E. Hasnain

Ten Best Publications :
HALDER, ASHUTOSH  (b 1961), Professor, All India Institute of Medical Sciences, New Delhi

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Dr. Halder is a well known authority on Medical Genetics and Reproductive Genetics in India. He has made significant contributions in Molecular Cytogenetic besides contribution in Reproductive Sciences (infertility, reproductive wastage, malformations, disorder of sex development, prenatal/preimplantation diagnosis/research, etc). He has developed Molecular Cytogenetic Specialty at AIIMS which is now reputed as National Resources in Molecular Cytogenetics for Teaching & Training manpower, characterizing results and confirming diagnosis for patient care, research and EQAS. He conducts national workshop on molecular cytogenetics annually to generate human resources in Molecular Cytogenetics since 2006. Dr. Halder is involved in teaching, training, research and patient care related work. He has published about 63 research papers in various national and international journals, edited three books/monograph/laboratory manual and several book chapters. Many of his publications are invited articles and well cited; total citations are over 600. He has also undertaken several significant research projects of national agencies. His areas of activities are on reproductive genetics, cancer genetics, dysmorphology and disorder of sex development besides prenatal as well as preimplantation diagnosis/research. He is expert member of various National Institutes/Government Organizations (ICMR, NII, NABL, Min Ag/pesticides), reviewer and editorial board member for various national & international medical journals. He has guided 9 PhD student as chief guide and over 25 as co-guide/as doctoral committee member besides guiding 6 DM student. He is the recipient of ICMR International Fellowship for Senior Bio-Medical Scientist, Fellow of National Academy of Medical Sciences, honor in pathology & silver medal in 3 national conferences.

Proposer : Prof. Vinod Kumar Paul, Seconder : Prof. Ravinder Goswami

Ten Best Publications:


HUSAIN, NUZHAT (b. 1961), Director, Dean Dr.RMLIMS, Officer In-charge State Referral Centre for Lab Investigations, Professor and Head of Pathology, Dr. Ram Manohar Lohia Institute of Medical Sciences, Vibhuti Khand, Gomti Nagar, Lucknow

Member of the NASI : No (YON 2015, Medical & Forensic Sciences)

It is my pleasure to recommend NASI Fellowship for Prof. Nuzhat Husain who has outstanding academic and scientific profile. With her persistent hard work and devotion she has many Scholarships, medals and laurels to her credit. She has established Pathology department at RMLIMS with high-end equipments, has been a popular educator and enlightening guide of 30 PhD and more than 70 MD students. She has an excellent scientific profile depicted by 156 publications in National and International Journals. She has international research training on Molecular Neuro-Oncology and Gene Therapy, at Massachusetts General Hospital, Harvard University, Boston, USA. Her major research area has been Neuro pathology and Neuro-Oncology which has now further broadened to oncology. She is presently working on regulatory gene mutations, stem cells expression and liquid biopsies in various cancers. As director of RMLIMS she has an experience of government entrepreneurship, her major focus is providing high end medical care and education at an affordable cost, with the public health care system. She has innovatively established State Referral Centre for Lab Investigations, Telepathology and Telemedicine facilities at RMLIMS. Under Professor N. Husain’s leadership major expansion programs at the institute including MCI recognition and post graduate programs have been implemented. In view of her comprehensive leadership in science, academia and administration I strongly recommend her fellowship at NASI

Proposer : Prof. Chitra Sarkar, Secondee: Prof R.K. Gupta

Ten Best Publications:

KAKKAR, POONAM  (b 1959), Dy. TFM (In-charge) Toxicity Testing: GLP Test Facility; CSIR-Indian Institute of Toxicology Research, Lucknow

Member of the NASI: No  (YON 2015, Medical & Forensic Sciences)

Prof. Kakkar’s pioneering research showed mitochondrial damage by active oxygen species/oxidative stress as key phenomena in toxicity of drugs & chemicals and diabetes (Free Radic. Biol. Med., 1991). Her researches led to the development of a sensitive method for estimation of superoxide dismutase (Ind. J. Biochem. Biophys., 1984); the highest cited paper (2361 citations) in the history of CSIR. She demonstrated redox imbalance and calcium dependent mitochondrial permeability transition in nimesulide hepatotoxicity (Toxicology, 2010) and showed for the first time hepato-protection by probiotics in acetaminophen induced apoptosis (Food Chem Toxicol, 2011). Her novel approaches provided evidence for interventional capacity of phytochemicals/herbal extracts in redox mediated cellular signalling. Regulation of carbohydrate metabolism by Berberis aristata extract in diabetic rats (J. Ethnopharmacol, 2009) and prevention of apoptosis by nanotized berberine at a low dose gave new insights (PLoS One, 2014). Berberine also caused FoxO proteins’ nuclear retention, Bim induction, mitochondrial dysfunction and apoptosis in HepG2 cells (Free Radic. Biol. Med., 2014). More recently she reported essential role of PHLPP2 in suppression of redox sensitive transcription factor Nrf2 via modulation of Akt/GSK3β/Fyn kinase axis during oxidative hepatotoxicity (Cell Death & Disease, 2014). She was a key member for development of pharmacopoeial standards for Ayurvedic drugs (API, 2006). Her observation that decline in antioxidant capacity of herbal teas during storage (Food Res. Int., 2006) showed necessity for expiry date on herbal products. To rebut the U.S. report of heavy metal contamination in Ayurvedic drugs, Government of India cited her work on safety of herbo-mineral drugs and heavy metal content in medicinal plants.

Proposer: Prof. P. K. Seth, Seconder: Prof. C. S. Nautiyal

Ten Best Publications:

Dr S K Kar has devoted his entire career to medical research and made significant contributions to our understanding of tropical diseases and developed innovative chemotherapeutic and vaccine tools for the control and elimination of diseases of poverty. His 4 decades of research has influenced national and global policies of control and elimination of communicable diseases. Dr Kar has a brilliant academic track record winning national and state merit scholarships including Talent Search scholarship of ICMR. His research career spanning over 35 years in the ICMR includes over 20 years as Director at RMRI, Patna and RMRC, Bhubaneswar. Dr Kar has over 150 papers in national and international journals along with chapters in books. He received awards for his research contribution included FAMS, Royal Society of Tropical Medicine and Hygiene, International School of Lymphology, API and the ICMR MOT Iyengar Award. He received Rajiv Gandhi Sadbhabwana Award for Medical Sciences and KGF Samman on Gastroenterology. His major research contributions have been in the field of lymphatic filariasis including pioneering studies with Ivermectin and DEC (Kar et al, 1993, Acta Tropica 55: 21-31). Dr Kar’s studies on oral cholera vaccine identified the demand for the vaccine, defined community perceptions and developed surveillance systems to monitor vaccine coverage, compliance and its introduction (Kar et al, Hum Vaccin Immunother 3(10):2834-42). Dr Kar established a high quality mycobacteriology laboratory at RMRC Bhubaneswar that is a National Reference Laboratory for control of tuberculosis in eastern India (Satapathy et al, 2014, Int J Mycobacteriol, 3(4), 290).

Proposer : Dr S.K. Bhattacharya, Seconder : Dr T. Ramamurthy

Ten Best Publications:
KONDAIAH, PATURU (b 1954), Professor, Indian Institute of Science, Bangalore

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Prof. Kondaiah is an established investigator in Endocrinology and Cancer Biology to which he has made significant contributions. His group has demonstrated that the apparent increased expression of genes in rat ventral prostate following castration is due to enrichment of stromal cells rather than to release from androgen suppressed state. Activation of TGF-β1 by laser and a mechanism for faster healing of soft tissues was also an interesting demonstration by his group. Using micro arrays, for the first time, his group showed differential regulation of genes by TGF-β in normal and tumor cells and recently he demonstrated the differential activation of non canonical and MAPK signaling in tumor and non tumor cells by TGF-beta. His laboratory elucidated the mechanism of submucous fibrosis etiology involving TGF-beta pathway and demonstrated the role of areca nut in the etiology of Oral Submucous Fibrosis. His group identified several novel biomarkers for prognostic and therapeutic use in gliomas and proposed prognostic gene expression signatures of glioblastoma. A role for IGFBP 2.3 and 4 isoforms in glioma progression has been proposed in several recent publications. For the first time the role of IGFBP2 and S100A2 proteins has been proposed in the progression of breast and brain cancers based on a variety of clinical and in vivo experimental data. His group identified a small molecule which they demonstrated to act on mutant form of p53 resulting in wild type conformation and activate the p53 dependent apoptosis in tumor cells.

Proposer: Prof. A. Jagannadha Rao, Seconder: Prof. Rajan R. Dighe

Ten Best Publications:


KUMAR, ARUN  (b 1960), Professor, Indian Institute of Science, Bangalore

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Arun Kumar has made outstanding contributions in the area of human genetics and cancer biology. He has discovered the causative genes, STIL and LTBP2, for primary microcephaly (small brain) and isolated microspherophakia (small spherical lens), respectively (Am J Human Genet, 2009, 84:286-290; Human Genet, 2010, 128:365-371). He has investigated the nuclear function of a well-known tumor suppressor TSC2, which functions as a negative regulator of mTORC1 in complex with TSC1 in the insulin signaling pathway. He has shown that TSC2 also functions as a transcription factor and regulates the expression of epiregulin, a ligand for EGFR (Nucleic Acids Res, 2014, 42:6243-6255). He has further shown that the well-known tumor suppressor gene WT1 (Wilms tumor 1) functions as an oncogene in oral cancer and transcriptionally represses the expression of tumor suppressor CDC73 (cell division cycle 73) (J Biol Chem, 2014, 289:968-976). CDC73 as part of the Paf1 complex remains associated with RNA polymerase II and regulates global gene expression. His work has shown that the dramatic upregulation of oncogenic miR-155 is an exclusive mechanism for downregulation of CDC73, and the restoration of CDC73 levels by antagomir-155 may have an important role in therapeutic intervention of cancers (J Biol Chem, 2013, 288:608-618). Further, he has also shown that the ESRRa (estrogen-related receptor alpha) gene is upregulated in oral cancer and is regulated by miR-125a, and decreasing the level of ESRRa by a synthetic miR-125a mimic may have an important role in therapeutic intervention of oral and other cancers (J Biol Chem, 2014, 289:32276-32290).

Ten Best Publications:


He has contributed to advance the knowledge of pathogenesis of Reactive arthritis and Systemic lupus erythematosus. Reactive arthritis is triggered by gut or genitourinary infection and affecting young individuals. His excellently planned laboratory studies in have provided basic information ReA and related undifferentiated spondyloarthropathy (uSpA) . Using modern biology techniques he have shown that in 1/3rd of patients the synovial fluid T cells respond to low molecular weight fractions of outer membrane proteins of salmonella typhimurium and he has shown an increase in IL17 proinflammatory cytokines in the joints. The focus of his current work is to define the T cell epitope using recombinant outer membrane proteins. This has a translational role in developing a diagnostic test for this disease and pave the way for targeted therapy to IL-17. In SLE his studies showed the association of raised anticardiolipin antibodies with seizures, increased T cell apoptosis with lymphopenia and increased excretion of urinary Complement split product C3d as a biomarker of active lupus nephritis. His work on subclinical atherosclerosis in young subjects with Rheumatoid arthritis received an editorial comment by the prestigious J Rheumatology (2006: 33 : 201-203). Another outstanding contribution is the standardization of an internationally accepted validated instrument to measure disease activity in Takayasu arteritis (ITAS 2010). His group for the first time reported cohort of patients with Primary Sjogrens Syndrome, Mixed Connective tissue disease, and long term outcome of patients with lupus nephritis from our country. Further, he described that Juvenile idiopathic arthritis in India is of different phenotype.

Proposer : Prof. Rakesh Kapoor, Seconder : Prof. U K Misra

Ten Best Publications :
SACHDEVA, GEETANJALI (b 1967), Scientist E, National Institute for Research in Reproductive Health, Indian Council of Medical Research, Jehangir Merwanji Street, Parel, Mumbai

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

I strongly support the candidature of Dr Geetanjali Sachdeva as a fellow of the National Academy of Sciences, in recognition of her significant contributions to the areas of endometrial biology and steroid signalling. Her research endeavors have furthered our understanding of the determinants of endometrial receptivity (Sachdeva et al., 2001; Patil et al., 2005; Parmar et al., 2009). She along with her team also succeeded in developing a primate model (Macaca radiata) for very early pregnancy (Rosario et al, 2005) and identifying cell-type specific changes in the endometrium during embryo apposition and attachment (Nimbkar-Joshi et al, 2012;2015).Geetanjali recently generated a catalogue of human uterine fluid proteins and demonstrated the functional relevance of secreted proteins in endometrial receptivity (Bhutada et al, 2014). Further her group has developed a database of the receptivity associated genes in humans (Bhagwat et al, 2013), a valuable resource for those engaged in endometrial biology research. Her endeavors have led to identification of targets for management of infertility, caused by endometrial dysfunctions. She was also the first to demonstrate the presence of progesterone receptor (PR) transcript and its function in human spermatozoa (Sachdeva et al, 2000; Gadkar et al, 2002). Overall her research work has earned 602 citations and also Swaran Kanta Dingley Oration award, Royan International Research award and GP Talwar Mid-level Career award. She is also serving as an academic editor of PLOS One. Collectively, all this reflects the relevance and originality of her research work and also her commitment to excel in Science.

Proposer : Prof. V.P. Kamboj, Seconder : Dr. Smita D. Mahale

Ten Best Publications:
Dr Aman Sharma has been working in the area of Rheumatology, Uveitis and Extrapulmonary tuberculosis. His main interest has been in rare rheumatic diseases like relapsing Polychondritis where he described how the clinical manifestations are different in Indian patients with less larynotracheal involvement (Scan J Rheumatol 2007, Orphanet J Rare Dis. 2013). He was involved in developing Relapsing Polychondritis Disease Activity Index (RPDAI) (Autoimmun rev 2012). He validated the consensus methodology algorithm in patients with systemic vasculitis (Int J Rheum Dis 2013), described unknown manifestations (Int J Rheum Dis 2014) and relationship of histopathological classification of paucimmune GN with outcome (Rheumatol Int 2014). He is the local PI of the ongoing ACR EULAR study for development of diagnostic criteria of vasculitis (DCVAS, Clin Exp Immunol. 2011). He described the predictors of mortality in SLE (Lupus 2013) and Primary Pyomyositis (Clinical Rheumatol 2010). He showed that there is increased metabolic syndrome (Int J Rheum Dis 2013) and endothelial dysfunction in Indian patients with Psoriatic Arthritis (Int J Rheum Dis, in press).

He has also been closely associated in collaborative research in uveitis [description of clinical signs of TB uveitis (Am J Ophthal 2010), Spectral OCT findings (Am J Ophthal 2009), Classification of ocular TB (Ocular Immunol Inflamm 2014), TB serpiginoid choroiditis (Ophthalmology 2012), detection of TB genome in ocular fluid (Ophthalmology 2015)] and molecular diagnosis of extrapulmonary tuberculosis (J Neurol 2010, Int Ortho 2010).

**Proposer**: Prof. Arunaloke Chakrabarti, **Secounder**: Dr. Javed N Agrewala

**Ten Best Publications:**

1. Sharma A 2007 Relapsing polychondritis in North India Scand J Rheumatol 36 (6) 462-5 (if=2.61, ci=17)
2. Sharma A 2010 Ocular signs predictive of tubercular uveitis Am J Ophthal 149(4) 562-70 (if=4.02, ci=75)
3. Sharma A 2010 Clinical characteristics and predictors of mortality in 67 patients with Primary pyomyositis: A study from North India. Clin Rheumatol 29(1) 45-51 (if=1.774, ci=21)
4. Sharma A 2010 Successful treatment of hypertrophic pachymeningitis in refractory Wegener's granulomatosis with rituximab Clin Rheumatol 29(1) 107-10 (if=1.774, ci=21)
5. Sharma A 2011 Multiplex PCR for rapid diagnosis of tuberculous meningitis J Neurol 258(10) 1781-7 (if=3.841, ci=41)
7. Sharma A 2012 The Relapsing Polychondritis Disease Activity Index: development of a disease activity score for relapsing polychondritis Autoimmun rev 12(2) 204-9 (if=7.1, ci=16)
8. Sharma A 2013 Causes of mortality among inpatients with systemic lupus erythematosus in a tertiary care hospital in North India over a 10-year period Lupon 22(2) 216-22 (if=2.481, ci=7)
10. Sharma A 2014 Relapsing Polychondritis: Clinical presentations, disease activity and outcomes Orphanet J Rare Dis. 9(1) 198 (if=3.96, ci=-)
SINGH, SUNIT KUMAR (b 1971), Associate Professor, Molecular Biology Unit, Institute of Medical Sciences, Banaras Hindu University (BHU), Varanasi-221005, U.P

Member of the NASI : No (YON 2015, Medical & Forensic Sciences)

Dr. Sunit K. Singh has completed his Ph.D in the area of Infection Biology from University of Wuerzburg, Wuerzburg, Germany and postdoctoral trainings from Yale University School of Medicine, New Haven, USA and University of California, Davis, USA. Dr. Singh served as faculty member (Scientist) at CCMB, Hyderabad. Currently, Dr. Singh is working as Associate Professor (Molecular Immunology) at the Molecular Biology Unit, Institute of Medical Sciences, BHU, Varanasi. My interest in Dr. Singh reflects his ability to work across different types of viruses, including retroviruses (HIV-1), alphaviruses, and flaviviruses. Dr. Singh has published excellent papers in internationally reputed peer reviewed journals in the area of molecular virology. Dr. Singh has published excellent research papers in the peer reviewed international journals such as “Lancet Infectious Diseases”, “The Journal of Neuroscience”, BMC Neurosciences, Annals of Rheumatic Diseases “Journal of Neuroinflammation” and many others. He has received FEB5 Top cited Paper Award” by the peer reviewed journal “The FEBS journal”. Dr. Singh has edited four important books titled : Neuroviral infections (two volumes), book titled “Viral Hemorrhagic Fevers” and book titled “Human Respiratory Viral Infections” published by CRC/Taylor & Francis publication, USA and fourth book titled “Viral Infections and Global Change” by Willey Blackwell, USA. Dr. Singh has excelled with fundamental leadership quality in his area of work, which is very much related to the health and well-being of the population of this country. Therefore, I strongly nominate Dr. Sunit Kumar Singh for fellowship of the National Academy of Sciences of India.

Proposer : Dr. Lalji Singh, Secondor : Dr. Anirban Basu

Ten Best Publications :

8. Vaishnavi Jadhav; Karl-Heinz Krause; Sunit K. Singh, 2014, HIV-1 Tat C modulates NOX2 and NOX4 expressions through miR-17 in Human Microglial Cells, J Neurochem. 2014 Dec;131(6) : 803-15. (if=4.244, ci=Paper published in year 2014 therefore citations yet to received)
SINHA, SANJEEV  (b 1965), Professor, Department of Medicine, AIIMS, New Delhi

Member of the NASI : No  (YON 2015,  Medical & Forensic Sciences)

Dr Sanjeev Sinha has made major scientific contributions in areas of HIV/AIDS, HIV drug resistance, HIV & Cancer, tuberculosis & pulmonary medicine. He is doing several clinical research projects in the above mentioned specialties. Dr Sinha has demonstrated that plasma nevirapine levels and antiretroviral efficacy of treatment in HIV-TB co-infected Indian patients receiving highly active antiretroviral therapy along with rifampicin based antituberculosis drugs (Sinha et al. AIDS Research and Therapy 2011 8 : 41). Dr Sinha has also done extensive research on proton magnetic resonance spectroscopy. Recently he has published his research work on assessment of brain metabolites changes in Indian patients with Type-2 diabetes mellitus using proton magnetic resonance spectroscopy (Sinha et al. BMC Research Notes. 2014, 7 : 41. DOI : 10.1186/1756-0500-7-41). He has also extensively worked on HIV drug resistance in the antiretroviral treatment-naive and population after failure of the first line antiretroviral therapy in HIV-infected Northern India population (Sinha et al. AIDS Res Treat. 2012;2012 : 905823 and Sinha et al. Curr HIV Res. 2012, 10 (6), 532-53). Dr Sinha has worked in the area of Nevirapine versus Efavirenz-based highly active antiretroviral therapy regimens in antiretroviral-naive patients with HIV and Tuberculosis infection (Sinha et al. BMC Infectious Diseases, 2013, 13 : 482. doi : 10.1186/1471-2334-13-482). Recently he has been awarded two prestigious R01 international projects by NIH, USA as Principal investigator, e.g. Asha improving health and nutrition of Indian women with AIDS and their children & Reducing AIDS stigma among health professionals in India. Dr Sinha has more than 150 national and international publications.

Proposer : Prof. S.K. Sharma, Secondor : Prof. N.R. Jagannathan

Ten Best Publications :
3. Sinha S, Misra A., Hathi M, Kumar V, Jagannathan NH, Pandey HM. (2009) Proton MH Spectroscopy (MRS) and biochemical investigation of type 2 diabetes mellitus in Asian Indians : Observation of high muscle lipids and C-reactive protein (CRP) levels. Magn Reson Imaging. 27(1) : 94-100. (if=0.222, ci=13)
TOTEJA, GURUDAYAL SINGH (b 1958). Director, Desert Medicine Research Centre (ICMR), Jodhpur; Scientist-‘G’ & Head (Nutrition), Indian Council of Medical Research, New Delhi and Head, Centre for Promotion of Nutrition Research and Training (ICMR), 3 Red Cross Road, New Delhi

Member of the NASI: No (YON 2015, Medical & Forensic Sciences)

Dr. Toteja has been working in ICMR since 1984 (30 years). During this period, he has contributed significantly to several issues of National importance including scientific activities, which are of public health interest. He has worked extensively in Tribal, North-east and slum population. His work on Primitive tribes in 14 districts in 7 States of the country has added in evolution of ASHA worker under NRHM. He played key instrumental role in establishment of Model Rural Health Research Unit (under Department of Health Research, Ministry of Health & Family Welfare, Government of India) at Bhanpurkala, Jaipur with an aim to create infrastructure at the periphery for transfer of technology to the rural level for improving the quality of health services. He also addressed many issues of public health importance such as Aflatoxin contamination of PAU-201 variety of rice (saved food grains of worth Rs. 4,000 crores); safety of consumption of Khesari Dal; safety of consumption of lauki juice; fixing maximum limits of pesticide residues in carbonated water etc. His recent publication in Lancet on administration of Vitamin A to reduce mortality in infancy has manifold implications on Vitamin A supplementation policy of Govt. of India. He has also established a clinical biochemistry laboratory at ICMR, New Delhi, which is NABL accredited and is a great support to scholars/ researchers in this region of the country.

Proposer: Prof. Ravinder Goswami, Seconder: Prof. Yagya Dutta Sharma

Ten Best Publications:
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. Jagannadhha Rao, Seconder : Prof. Polani B Seshagiri

Ten Best Publications:
Though Indian Science has resulted in several seminal advancements in the field of basic biology, achievements in medical research have been fewer. In this respect, the nominee’s pioneering contributions in the field of translational cancer research deserve to be recognized. His efforts identified a) non-canonical tumorigenesis pathways in early-onset rectal cancer, the predominant but least understood CRC subtype in India and b) mismatch repair (MMR) expression proficient Lynch Syndrome associated colorectal cancer despite presence of MMR gene lesions. Distinct oncogenesis pathways driving esophageal squamous (common in India) and adeno (common in the West) carcinomas were shown to be replicated in respective components of esophageal adenocarcinomas. Unique clinical and molecular features in oral tongue cancer distinct from other forms of head and neck cancers were identified. Thus his discoveries highlight the caution to be exercised before replicating patient treatment and management regimes developed in the West. Genome-wide DNA and RNA profiling, methylation and tissue microarray analysis, and functional studies identified novel pancreatic cancer genes providing efficient options for targeted therapy. The nominee has made significant contributions in the field of medical genetics as well. He performed the first ever molecular characterization of several genetic disorders from the Indian population including but not limited to phenylketonuria, farber disease, ectodermal dysplasia and maple syrup urine disease that not only revealed a unique mutation profile distinct from other world populations but also resulted in a paradigm shift from mutation analysis of the expressed protein to that of the gene transcript.

**Proposer:** Dr J Gowrishankar, **Seconder:** Dr Ranjan Sen

**Ten Best Publications:**

1. HSH Adduri, H Katamoni, H Pandilla, SN Madanana, AK Paripati, V Kotapalli, MD Bashyam. TP53 Pro72 allele is enriched in oral tongue cancer and frequently mutated in esophageal cancer in India. Plos One, 2014, in press. (if=3.5, ci=nil)


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

Member of the NASI: Yes (YON 2014, Medical & Forensic Sciences)

**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 rTSH 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 : Dr. Kanjaksha Ghosh, Seconder : Dr. Shree Kumar Apte

Ten Best Publications:
Dr. Chakraborty and his group, in active collaboration with the clinicians, works on the disease progression of chronic myeloid leukemia and the role of post translationally modified oncogenes in leukemogenesis. His group reported that a combination therapy of CML drug Imatinib and JAK inhibitor killed CML progenitor's cells more efficiently than Imatinib alone. The lab reported that the proto-oncogene EVI1 is expressed in the initial phase of CML 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, SIRT1 and ΔNp63 which was reported by the lab for the first time as direct targets of EVI1. 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 modified form of the protein protects the cells from apoptosis and thus can accumulate more mutations. Recently they also observed drastic changes in the localization pattern of EVI1 and SUMO1 when EVI1 positive cells were treated with arsenic trioxide, which eventually degrades EVI1. This finding may someday pave a way to understand the significance of arsenic trioxide (Trisenox) that was used in a clinical trial 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, **Secondor**: Dr. Sharmila A. Bapat

**Ten Best Publications:**

5. 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=11)
CHAUDHURI, SWAPNA (b 1954), Emeritus Medical Scientist, ICMR, Dept of Laboratory Medicine, School of Tropical Medicine, Kolkata

Member of the NASI: No (YON 2014 , Medical & Forensic Sciences)

Prof. Chaudhuri’s research team first evidenced the disease relevance of the biomolecule T11TS, isolated from sheep RBC which was 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; leading to glioma specific cell apoptosis, sparing normal cells; inhibition of the glioma cell cycle though intracranial immune cells showed survival and proliferation. The immune synapse and downstream signaling of glioma induced anergic lymphocytes were rejuvenated; lastly, it also retarded neo-angiogenesis in the glioma, hindering glioma growth, and also preventing invasion and metastasis. Acute and sub acute Toxicological studies with T11TS proved it to be totally non-toxic.T11TS also showed its efficacy on in vitro human glioma samples.T11TS acting in such multimodal fashion can be denoted as an ideal Anti-Cancer agent. Studies on arsenic-induced carcinogenesis in mouse models showed that T11TS was able to revert to the immune state from carcinogenic to normal state (17). Steps are being taken to clone T11TS and revealing the functions of the cloned product T11TS will pave the way for the therapeutic intervention and a large scale product development for the treatment of cancer. The above components will be tested for their anti tumor activity in vitro and in vivo using the most translatable animal model (primary tumor xenografts). This novel molecule on translation can act as a remedy for various types of cancer and other immunosuppressive diseases.

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

Ten Best Publications:


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, Ahmedabad; 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 Aggarwal**

**Ten Best Publications:**


7. CHAUDHURY N. Transfusion Medicine in year 2025: Facts or fantasy? 2007. Asian J Transfusion Science. 2 (1); 1-2. *(if=Low (indexed))*

8. CHAUDHURY N. Can there be blood units of high and low quality? 2009. Asian J Transfusion Science. 3 (1); 1-2 *(if=Low (indexed))*


10. CHAUDHURY N, Tulsi 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))

331
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 anticancer 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 osteogentic 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-Tesla) 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 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-Tesla) 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, Seconder: Prof. Jitendra P Khurana

Ten Best Publications:

GARG, RAVIDRA 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 370 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, Seconder : Prof Rakesh Kumar Gupta

Ten Best Publications:
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. 2)

B. During his arsenic susceptibility studies, for the first time Dr. Giri has been able to demonstrated that the GSTM2 gene can perform the function of GSTM1 gene in the GSTM1 null group (Publ No. 3)

C. He has been able to show that arsenic exposure can leads to senescence and alteration of telomere length in humans (Publ No. 1).

D. 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. 8)

E. 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. 4, 10).

F. Dr. Giri has identified the significant genetic variants that may be responsible for arsenic susceptibility by genetic and genomic approaches (Publ. No. 5,7,9).

G. 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. 6)

Proposer: Prof. Samir Bhattacharya, Seconder: Dr. Pijush K. Das

Ten Best Publications:


JAMIL, KAISER  (b 1941), Dean, School of Life Sciences, & Director, Centre for Biotechnology and Bioinformatics, Jawaharlal Nehru Institute of Advanced Studies,(JNIAS), Hyderabad

Member of the NASI: No  (YON 2014, Medical & Forensic Sciences)

Dr. Kaiser Jamil, worked in prestigious Institutes of the country like CCMB & IICT (CSIRs’ Premier Institutes) published 270 papers; guided 28 scholars for PhD degree and 100 graduate and PG students from various Universities for project work. Her research at Sydney University (Australia) on mammalian reproduction and ultra structure of the nuclear envelop has many citations, further trained in electron microscopy in Japan (Tokyo) she unravelled the membrane structures by freeze fracture EM during her visit to University of Paris- France under the CSIR-CNRS scientist exchange program, work published in Impact factor Journals with many citations. As a CSIR-Emeritus Scientist she continued research on projects related to Cancer biology, contributing in the field of Biomarkers in Breast cancer, Leukemia, and Head and Neck cancer. Her work on SNPs of drug metabolizing genes in cancers, unfolds the mechanisms of networking of the proteins as new therapeutical targets, elucidated Drug-Gene interactions. Presently she is busy elucidating the role of signaling pathways such as tyrosine kinase inhibitors (TKI) and MAPK in hematological malignancies and breast cancer. She was one of the top 20 Scientists of the country to be honoured with Award of “Modern Medicare” for Pharmacogenomics. She was Task force member at Department of Biotechnology (DBT), and DNES, and Advisor at Union Public Service Commission (UPSC)- Govt. of India-. She was honoured with the Lupin Visiting Fellowship Award by ICT-Mumbai- Jan2011, and Distinguished Scientist Award from Pentagram Research Centre in Feb 2012 and elected as FELLOW of EMSI in July2012.

Proposer: Prof. Kasturi Datta, Seconder: Prof. Sudha Bhattacharya

Ten Best Publications:
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 investiga
tor 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:


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 Prof. Kaur’s experimental studies in rats have scientifically validated benefits of late onset short term intermittent fasting DR regimen. Seminal articles, employing robust experimental designs focusing on neurobehaviors in relation to molecular mechanisms warrant clinical applications of this lifestyle intervention in patients (15, 20, 24, 26, 29, 30, 33, 38). Experimentally, such practices prevented loss of cognitive functions and improved motor co-ordination through synaptic plasticity. Prof. Kaur 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 physiological and pathological conditions, thus establishing a direct role of PSA-NCAM, the brain plasticity marker as facilitator of neuron-glia communication processes (4, 8, 9, 19, 25, 28, 31, 34, 35). Prof. Kaur’s laboratory presented the first ever evidence for herbal water extracts to act as potential neuroprotective herbal drugs with capability for neuronal differentiation, an attractive supplementary therapeutic approach for the treatment of neurodegenerative diseases. Evidently, further work has provided solid proof for the use of low-dose-drug combination with these herbal extracts for certain brain cancers that aid in neuronal differentiation without causing apoptotic-neuronal death, which often complicates in vivo toxicity mechanisms (3, 13, 14, 17, 21, 27).

Proposer: Dr. K. P. Mohanakumar, Seconder: Prof. PK Seth

Ten Best Publications:
KHULLAR, MADHU  (b 1953), Professor, Department of Experimental Medicine and Biotechnology, PGIMER, Chandigarh

Member of the NASI: No  (YON 2014, Medical & Forensic Sciences)

I have known Prof Madhu Khullar for twenty five years, first as a young faculty member later blossoming into a mature, internationally known research worker, an excellent teacher and an efficient group leader. She has made significant contributions in the field of cardiovascular diseases (genetics and pharmacogenomics of coronary heart disease, genetics of Idiopathic cardiomyopathy, genetics of Diabetic nephropathy, epigenetics of diabetic cardiomyopathy and dilated cardiomyopathy, Hypertension and environmental basis of head and neck cancer. Her current research projects include next generation sequencing as diagnostic tool for idiopathic cardiomyopathies. She has published nearly 160 papers in high impact factor journals including co-authoring in Nature Genetics. She has authored 2 books, monographs and contributed chapters in books which have been appreciated nationally and internationally. High quality research has been possible because of well-deserved funding from different National (ICMR, DBT, DST, CSIR) and International (NIH) agencies. Dr. Khullar is viewed as a leader in her subject area and is sought after speaker at National and International meetings on heart research. She has great organizational ability and is credited with organizing several International and National meetings on Cardiovascular Research at PGIMER, Chandigarh. She is also heading Cardiomyopathy Research Group at PGI. On a personal note, I find in her a sincere and hard-working researcher with leadership qualities and a good team worker with necessary intellectual potential of handling scientific matters. Scientists of her stature involved in molecular medicine are few. I would strongly recommend her for the Fellowship of the National Academy of Sciences.

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

Ten Best Publications:


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, Seconder : Prof. Arvind Mohan Kayastha

Ten Best Publications:
8. Sukla KK, Tiwari PK, Kumar A, Raman R. 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 2013; 8:e 71587. (if=3.370, ci=7)
MEHROTRA, RAVI (b 1956), Scientist G & Director, Institute of Cytology and Preventive Oncology (ICMR), 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 Institute of Cytology and Preventive Oncology (ICMR), he has the distinction of spearheading the long-awaited school of cytopathology. He is also responsible for starting ‘Health promotion Clinic’ at ICPO, Noida which mainly focuses on screening and early diagnosis of three major cancers namely, oral, breast and cervix in Noida and nearby places. He is the nodal person for formulating the uniform screening strategies in India and updating the guidelines on cancer. He has recently co-authored the recommendations for cancer screening strategies for the country (Lancet Oncology, 2015).

**Proposer**: Prof. Chitra Sarkar, **Seconder**: Dr V.M.Katoch

**Ten Best Publications:**


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 enudem’ 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:

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)
PALURU, VIJAYACHARI (b 1962), Director (Scientist G), Regional Medical Research Centre (Indian Council of Medical Research), Port Blair

Member of the NASI: No (YON 2014, Medical & Forensic Sciences)

Dr. P. Vijayachari is specialized in medical microbiology and molecular biology. He has made significant contributions towards elimination of infectious diseases viz. lymphatic filariasis, malaria and tuberculosis among the marginalized communities of A & N Islands. One of his major contributions is the generation of information on traditional health care practices prevalent among the primitive tribes with a perspective of protecting the intellectual property of these health care practices through the development of Community Biodiversity Registers. He was instrumental in commencing a BSL3 and viral diagnostic laboratory. He was involved in identifying the first ever outbreak of chikungunya and documented unusual clinical manifestations such as acute flaccid paralysis, mimicking Guillain Barre Syndrome that was identified due to perivascular edema and Schwan Cell necrosis. He was instrumental in the detection of first outbreak of H1N1 influenza in A & N Islands and successfully controlled the infection without any fatality. Detection of G12P8 as unusual genotype of rotavirus was identified for the first time, emphasizing the need for the inclusion this genotype in vaccine strategy. He has successfully developed recombinant plasmids and established immunogenicity which can be used as DNA vaccine against chikungunya and leptospirosis. He has implemented a novel application of biofertilizers in controlling the leptospirosis. His works highlighted the role of biofilm formation in the environment has implications in the transmission dynamics of leptospirosis. As a member of the LERG, he has assisted the WHO and successfully established leptospira reference laboratories in Indonesia, Nepal, Bhutan and Sri Lanka

Proposer: Dr. T. Ramamurthy, Seconder: Dr. Amit Ghosh

Ten Best Publications:
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 anxiogenesis 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, Seconder : Prof. Rup Lal

Ten Best Publications:

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, 2005). 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; ATV, 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, Seconder : Prof. Asis Datta

Ten Best Publications:


Professor Shukla, Vice Chancellor Jiwaji University, Gwalior, an inspiring teacher, has wide experience of research in the field of Reproductive Biology, Biochemical Pharmacology and Environmental Toxicology. In the area of health sciences, the nominee has made notable contributions in the area of toxicology and pharmacology relating to hepatic disorders, therapeutics for occupational health hazards. She introduced the concept of mechanistic toxicology for assessing risk associated with toxic substances and the need to identify the target molecules to serve as markers for detoxification of chemicals. Her studies led to the understanding of the mechanisms of detoxification by therapeutic evaluation of chelators along with co-therapy with trace elements (Se, Zn, Fe, Ca and Mg) with special reference to Beryllium, Lead, Mercury, Vanadium and Aluminum. Her work in the area of toxicology has won her international accolades and she was awarded with the UNESCO satellite centre of trace elements study (France) which is the only centre in India. She has effectively mapped silicosis in occupationally exposed workers of the region, identifying Jaggery as an therapeutically and cost effective drug for chronically exposed patients. She has pursued hypothesis based research and has effectively utilized the modern tools to isolate and identify of potential active substances from natural resources for the treatment of liver diseases and cancer. She generated a database for 10 Unani drugs for hepatoprotection for AYUSH. She addressed the mechanism of action of natural products on DNA repair, signalling pathways and Cell cycle regulation related to hepatic disorders. Development of a liver drug has resulted in the filing of a patent. Her work is widely cited and about 30 students have received Ph.D under her supervision. She has contributed to science education and human resource development.

Proposer: Prof. Vani Brahmachari, Seconder: Dr. Kiran Katoh

Ten Best Publications:
7. Experimental and Toxicologic Pathology 63, 671-676 2011 Impact Factor: 2.781 Cited:42
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-4502d22 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:


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 70 scientific papers in indexed journals with cumulative impact factor of 125.64 and total citation of 1769 with h-Index 20. 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 developed the inflammation lab in the department and a certified OECD-GLP Inspector of NGCMA, Department of Science & Technology, Govt. of India. He has guided 28 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. He is a Fellow of Royal Society of Chemistry (FRSC), United Kingdom and Fellow of International Medical Science Academy, India (FIMSA). 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, Seconder : Prof. N. R. Jagannathan

Ten Best Publications:
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-specialties—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, Seconder : Prof. Soniya Nityanand

Ten Best Publications:

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)
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)
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, Seconder : Prof. TP Singh

Ten Best Publications:


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)


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 aetiology and pathogenesis 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 many 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. He had now 334 publications.

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

Ten Best Publications:
Phage therapy and anti-virulence approaches are being investigated in Prof. Chhibber’s laboratory in a pursuit to develop novel drugs as alternatives to traditional antibiotics. The research on isolation, characterization and therapeutic potential of bacteriophages against respiratory and wound infections in normal and diabetic mice has shown promising results. Their entrapment in nano lipoidal delivery vehicles, in order to increase their availability in vivo, counter neutralization by specific antibodies and facilitate their entry into macrophages has yielded encouraging results. These antibacterial agents with narrow activity are recommended for oral, topical and parenteral administration for the treatment of both gram negative and positive bacteria. The observations made in the laboratory also suggest their use in a prophylactic fashion as decolonizers for eradicating nasopharyngeal carriage and preventing bacterial contamination of orthopaedic implants. Currently the focus is on phage lysins, highly potent enzymes degrading bacterial cell wall. These have been cloned, expressed and being developed to take care of infections caused by Staphylococcus aureus and Streptococcus pneumoniae. Targetting bacterial virulence is another attractive option and studies in the laboratory on Gingerone, a phytochemical, have shown it to be inhibitor of quorum sensing in Pseudomonas aeruginosa, directly suppressing virulence of this pathogen including biofilm formation. On the basis of these results and docking studies it is being recommended as a drug candidate having an anti virulence and anti inflammatory property. Currently an attempt to develop and evaluate the potential of conjugate vaccine containing either acyl homoserine lactone or anti yersiniabactin reuptor protein approach is being made in the laboratory.

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

Ten Best Publications:
GHOSH, SANKAR KUMAR (b 1963), Professor, Department of Biotechnology, Assam University, Silchar

Member of the NASI: Yes

(YON 2013, Medical & Forensic Sciences)

Dr. Sankar Ghosh has made significant contributions in the area of cancer research, particularly pertains to NE-region of India. After a very successful stint at Cleveland Clinic, USA where he learned about the various facets of cancer molecular biology, he continued his research on cancer genomics. In the process, he has not only established a state of art facilities in NE but also contributed in the upgradation of molecular diagnostics in different medical colleges in NE acting as resource person. His centre has played a leadership role in the National consortium of nasopharyngeal cancer. In the area of cancer research alone published 20 papers in last three years. His group was first to reports on:

1. Mondal R, Ghosh SK*, Talukdar FR, Choudhury JH, Singh AS, Kundu S, Dhar D, Mondal R, Ghosh SK* (2013): Association of mitochondrial DNA copy variations and novel mutation in oral cancer (Oral Oncology 49: 345-35; Plos one 15: 8(3): e57771; Mitochondrial DNA 24(4):432-9) and dysfunction in NPC among Nagas, Mizos and Manipuris (Tumor Biology 35:7:6715-24). Starting from scratch, Sankar has established one of the finest molecular biology laboratories in the country in a remote place like Silchar and has been successful in imparting first-rate training to a large number of students. In recognition of his outstanding abilities, he has been opted as the member in UGC,ICMR, DBT task forces in Healthcare/Biotechnology. In my opinion, Sankar eminently deserves to be elected to the Fellowship at the NASI.

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

Ten Best Publications:

1. Kundu S and Ghosh SK* (2015): Trend of different molecular markers in the last decades for studying human migrations GENE Feb 10 556(2) 81-90 - Corresponding Author (if=2.1, ci=0)


5. Ghosh SK*, Mondal R, Singh, AS, Kapfo W, Khamo V and Singh YI (2014): Dysfunction of Mitochondria due to environmental carcinogens in nasopharyngeal carcinoma in the ethnic group of Northeast Indian population. Tumor Biology 35:7:6715-24 - Corresponding Author (if=2.84, ci=2)


7. Talukdar FR, Ghosh SK*, Laskar RS, Mondal R (2013): Epigenetic, Genetic and Environmental Interactions in Esophageal Squamous Cell Carcinoma from Northeast India. PLOS ONE 8(4): e60996 - Corresponding Author (if=4.1, ci=20)


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:
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. Exposure to monocrotophos and lambda-cyhalothrin, extensively used pesticides and arsenic, a metalloid resulted in long lasting neurobehavioral alterations in developing rats. Recently, he developed a novel analytical method to analyse 3,4,18,R2,R3,R4 Phe, Val and Met metabolizing cytochrome P450s. PLoS One 6(3): e17757. doi:10.1371/journal.pone.0017757; 1 Ten Best Publications:

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

Member of the NASI: No (YON 2013, Medical & Forensic Sciences)

Prof. Mandal’s outstanding research has contributed in the development of better and safer drug using natural resources against ROS-induced various degenerative diseases like cancer while avoiding the detrimental side effects of conventional therapies involving synthetic drugs. His group explored 29 medicinal plants/algae/lichen for potent antioxidant and free radical scavenging efficacies (23 publications), out of which 12 are safe and orally-administrable drug to release iron in iron-overload-induced hepatotoxic condition (12 publications). Moreover, among these, 9 have shown in vitro anticancer effects in various cancer cell lines by inducing apoptosis and/or regulation of cell cycle, while being nontoxic to the normal cells (5 publications). For the first time, his group explored a lichen extract as a better and safer drug against breast cancer where its individual phytochemicals lost this selectivity (Ghate et al., 2013) and was highly appreciated in 9 different news media. His group, through multivariate analysis from case control study, has shown that ratio of different apolipoproteins and LDL particle size along with distribution of ABO blood group are potent biomarkers of CHD among Asian Indian population in Eastern part of India. He also found the association of E4 allele with CAD and the ratio of anti- to pro-inflammatory cytokine with Acute Myocardial Infarction. From the prevention point of view these will play a pivotal role to develop biometric chip for early prediction of CHD (5 publications). He has also addressed the very fundamental questions in translation regulation from the structure-function study of protein synthesis initiation. He also characterized Cholera virus encoded t-RNAs (7 publications).

Ten Best Publications:

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 Cardiomyopathy, 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 86 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. 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 and could identify new candidate genes and novel mutations in Indian Cohort, funded internationally by GlaxoSmithKline, UK. Her collaboration with Sick Kids Hospital, Toronto for carrying out Exome analysis of ARVD/C samples revealed various nuclear and mitochondrial genes in the etiology of ARVD/C which are the stepping stones for developing diagnostic kits/potential drug targets. Recently she has identified drug responsive genotypes and biomarkers in the etiopathogenesis of LQT syndrome, a rare SCD disorder, funded by DBT (New Delhi 2014).

Proposer: Dr. Bhanu Prakash Reddy, Seconder: Dr. Dashavantha Reddy Vudem

Ten Best Publications:


5. Gayatri Ramachandran & Manoj Kumar, Deepa Selvi Rani, Ananthapup Venkateswari, Calambur Narasimhan, Pratibha Nallari, Punit Kaur. (2013) "An In silico Analysis of Troponin I Mutations of Indian Origin in Hypertrophic Cardiomyopathy" PLoS ONE, 8(8); 1-8.(if=3.73, ci=2)


Member of the NASI: No (YON 2013, Medical & Forensic Sciences)
PARTHASARATHY, SATISHCHANDRA (b 1953), Professor of Neurology and Director/Vice Chancellor, National Institute of Mental Health and Neurosciences, Bangalore

Member of the NASI: No (YON 2013, Medical & Forensic Sciences)

Prof. Satish Chandra, Director/Vice Chancellor NIMHANS, is an internationally recognized Epiloptologist and contributed to the characterization of different unique entities like Hot Water Epilepsy and Myoclonic Epilepsy common to South India. He bridged the clinical knowledge to electrophysiology, pathology, genetics and management thus offering a comprehensive knowledge to the world and to patient care. He is an expert in the field of Neuro-infections with special reference to HIV/AIDs and studied the HIV dementia in the longitudinal follow up and associated opportunistic infections and Immune Reconstitution Syndrome. He has numerous widely quoted national and international publications in these fields. He lead two prestigious RO1 projects supported by NIH, USA in collaboration with Miami University and John Hopkins Medical Centre. He is involved in the cause of National Mental Health Programme as an advisor to Govt of India and disseminate the knowledge to the general public. He is instrumental in getting Institute of National Importance status to NIMHANS by pursuing with the Govt of India. He has been championing human rights by establishing a Free Legal Aids Centre at NIMHANS for the first time in India. Under his leadership a Centre for Well Being has been established to promote positive mental health in the society. Prof.Satish Chandra is respected as a compassionate and professional neurologist and a teacher. He is an academician and an administrator par excellence and a benevolent leader enrolling the faculty in the decision making and promoting the growth of NIMHANS, leading from the front.

Proposer: Prof. Devika Nag, Seconder: Prof. S.K. Shankar

Ten Best Publications:
7. Satishchandra, P; Nalini, A; Gourie-Devi, M; Khanna, N; Santosh, V; Ravi, V; Desai, A; Chandramuki, A; Jayakumar, PN; Shankar, SK. Profile of neurologic disorders associated with HIV/AIDS from Bangalore, south India (1989-96), Indian Journal of Medical Research. 2000, 111:14-23. (if=1.661 (2014), ci=81)
Ten Best Publications:


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, her 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 leukemia 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 Honorable President of India for developing low cost diagnostic assay for STD which is under field trial and is proposed to be launched soon. In addition she is interested to understand the mechanism of altered gene expression in cancer cells. They have identified new isoforms of human Sin3B and shown their selective expression in lungs, placenta and oral carcinoma. Her pioneering work has shown that Sin3B interacts with p53 under stress and repress the target gene expression through hypermethylation. Her scopus citation index is 744 (81 citations in 2014, 74 in 2013).

Proposer : Prof. B C Das, Secondor : Prof. K Muralidhar

Ten Best Publications:


360
TRIPATHI, ANIL KUMAR (b 1958), Professor & Head, Department of Clinical Hematology, King George’s Medical University, Lucknow

Member of the NASI: No  (YON 2013, Medical & Forensic Sciences)

Dr. A.K. Tripathi is Professor and Head, Department of Clinical Hematology and Faculty in-charge, Center for Advance Research at King George’s Medical University, Lucknow. He has an exceptional record as a medical student having received gold medals in all subjects during MBBS. He worked as a Scientist in the field of Hematology at National Institutes of Health, USA. He has received prestigious oration awards of Association of Physicians of India, Indian Society of Hematology, and Indian Academy of Clinical Medicine. He is Fellow of National Academy of Medical Sciences. Dr. Tripathi has credit of initiating and establishing new department (Department of Clinical Hematology) and the HIV unit. He has been Director of the NACO Regional Training Institute at the University. Dr. A.K. Tripathi has done extensive research work in the field of Hematology, Cancer biology and HIV which are published in reputed journals like J. Immunology, Cellular Immunology, Leukemia Research, Leukemia & Lymphoma, PLoS one, Platelets and JAPI. His original contributions are in Antibody mediated cellular toxicity, HIV induced anemia, Immune Mediated Thrombocytopenia and Chronic Myeloid Leukemia (a patent filed along with CDRI, Lucknow) He has written a text book “Essentials of Medicine for Dental students” which is widely read by students all over India and in neighbouring countries. He has been Editor- in chief of an indexed journal “Indian J of Hematology & Blood Transfusion” published by Springer. Dr. Tripathi has received prestigious award “Vigyan Ratna” and “Vigyan Gaurav” by the Government of UP for his outstanding scientific contributions.

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

Ten Best Publications:
1. Tripathi AK, Taplits M, Puri J, and Hoffman T:1991: Down-Regulation of Surface FcRI and Decrease in Antibody-Dependent Cellular Cytotoxicity of Cultured Monocytes: Reversal by Monensin or Cytochalasin-D. J. Immunology : 146(4); 1309-1315. (if=5.362, ci=15)
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,  Seconder: Prof. BK Thelma

Ten Best Publications:
JAIN, AMITA (b 1960), Professor, Department of Microbiology, King George’s Medical University, UP, Lucknow

Member of the NASI: No (YON 2012, Medical & Forensic Sciences)

Prof. Amita Jain is involved in diagnosis, outbreak investigation, research and training in field of Virology and tuberculosis, with capacity of diagnosing more than 25 human pathogenic viruses by serological, molecular, sequencing and viral culture methods. She invented novel methods for detection of Hepatitis viruses, Herpes viruses and Parovirus 4 with build in controls and filed 3 patents for the same. She executed large scale studies related to drug resistance in Tuberculosis using advanced methods like sequencing. Her studies focus on epidemiology, mechanisms of emergence/ development and transmission of drug resistance, evaluation and invention of cost effective phenotypic and genotypic methods for diagnosis, detection of drug resistance and looking at treatment options (adjuvant therapy). She published first report on XDR tuberculosis and Pre XDR Tuberculosis from India. She executed several large multicentric studies on drug resistance in other pathogens like Pneumococci, H. influenza, Staphylococci etc. She has established and serves as officer in charge of Virus research and diagnostic laboratory of Indian Council of Medical Research and Intermediate Reference tuberculosis laboratory, Revised National Tuberculosis Control Program, at Department of Microbiology, King George’s Medical University, Lucknow, UP. She has published 157 research articles, 17 reviews, 9 monographs, 4 book chapters, and 936 nucleotide sequences, with total author citations of 2205, H index of 24 and i10 index of 52. She has successfully completed 25 research projects and is guiding six projects currently. She has guided 109 MD/ MS/ MDS/ DM/ MCH students and 27 Ph. D. students.

Proposer: Prof. Asha Mathur, Seconder: Prof. U C Chaturvedi

Ten Best Publications:


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, PPARγ, neuroprotectants, bioflavonoid including antioxidants, 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, Seconder : 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 bulbectomuly induced depression. PLOS, 8(4), e61052, 1-11 (if=4.01, ci=2)
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)
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 in the areas of inflammopharmacology, pleiotropic effect of drugs and plant derived preparations especially the latex of Calotropis procera. Her specific research interests are to identify and characterize the latex constituents exhibiting anti-inflammatory properties and to elucidate their mechanism of action in in vivo models of various diseases. Through her research she has demonstrated that the non-protein and protein constituents of latex are effective in ameliorating arthritic dysfunction by inhibiting edema formation, neutrophilic influx, release of mediators, COX-2 expression and associated hyperalgesia. She has also shown that the explant cultures of germinating seeds of C. procera could be used as an alternate source of proteins with a therapeutic potential in various inflammatory conditions. Not only she has validated the traditional use of this plant but she has also developed simple method to separate the toxic constituents of latex. Using strategies developed in her lab she has developed simple models for the preliminary screening of compounds exhibiting anti-inflammatory, antiarthritic and cytotoxic properties. Earlier she has been working on the expression and regulation of steroid and growth factor receptors and their implications to hormone dependent cancers of endometrium, breast and prostate. Her research has shown that androgenic deprivation brings about up-regulation of androgen receptor in prostate that has clinical relevance in prostate cancer. She has also demonstrated the presence of estrogen receptor splice variants in breast cancer and suggested that a composite analysis of receptor and its variants would be a better predictor of hormone responsiveness of breast cancer.

Proposer: Prof. Y.K. Gupta, Secconder: Dr. Sunil K. Lal

Ten Best Publications:
Mahitosh Mandal has made outstanding contribution in cancer biology as evidenced by his several publications in high impact journals such as Nature, PNAS, Cancer Research, JBC, Oncogene, EMBO, etc. with a total citation of 5380 and an H index of 38. He has cloned and characterized a naturally occurring MTA1 gene that contains an ER-beta-binding motif which stimulates malignant phenotypes. He established a direct link between telomerase activity and cancer progression. His findings provide a first biochemical evidence of possible role of the COX-2 pathway in the mitogenic action of NDF in colorectal cancer. Dr. Mandal established a new Division and a Cancer Biology group at IIT, Kharagpur. He has made significant contribution to the study of programmed cell death using various natural products, which may help in developing new/better targets for treatment and prevention of cancer. He showed that the incorporation of an anti-EGFR plus VEGFR strategy with chemotherapy can be highly effective in treating patients with locally advanced or metastatic breast cancer than either approach alone. He is now engaged in developing nanoparticle mediated drug delivery wherein he developed a celecoxib-loaded Hap-Chit nanoparticle for an effective delivery of drugs to colon cancer patients.

Proposer: Prof. Bhudev C. Das, Seconder: Prof. S. C. Kundu

Ten Best Publications:
MEHROTRA, DIVYA (b. 1968) Professor, Dept of Oral & Maxillofacial Surgery, King George 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 five books, of which she is co-editor in one. Her chapter on TMJ Ankylosis being published in the book by Brunnen P 2e, Elsevier 2014 in UK.

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 five books, of which she is co-editor in one. Her chapter on TMJ Ankylosis being published in the book by Brunnen P 2e, Elsevier 2014 in UK.

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 : Prof. Mahdi Hasan, Seconder : Prof. CL Khetrapal

Ten Best Publications:


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

### Ten Best Publications:


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

Member of the NASI: Yes (YON 2012, Medical & Forensic Sciences)

Prof. Prakash Babu’s lab has been working in the area of cerebral malaria induced cell death. 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. 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. 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 and in rat. Earlier his lab reported that differential PARP cleavage is an indication of heterogeneous form of cell death during ischemia and the involvement of multiple apoptogenic proteins in the cell death. Further, this lab is currently focusing on the ER stress, oxidative stress, mitochondrial dysfunction following acute CNS injuries. In another studies his lab reported that Wnt/b-catenin/Tcf Signaling Pathway is activated in Rat Gliomas and in human astrocytomas. In another studies his group demonstrated that Mustard NPR1 protein, a mammalian IκB homologue inhibits the NF-kB activation and proliferation in human U373 GBM cells. Recently his lab reported on the Novel antiproliferative and antioxidant role of BjAnn1, a mustard annexin protein in human glioblastoma cell lines.

**Proposer**: Prof. Seyed E. Hasnain, **Seconder**: Dr. Shahid Jameel

**Ten Best Publications:**


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:**

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

Member of the NASI: Yes (YON 2012, Medical & Forensic Sciences)

Prof. Singh has made major scientific contributions in areas of nanomedicine and nanopharmacology. He has demonstrated reduction in 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). Dicarbin 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 completed and three ongoing projects in this area. He has 105 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 Sundar, Seconder : Prof. A.M. Kayastha

Ten Best Publications:
BAHADUR, RAJ  (b 1951), Vice Chancellor, Baba Farid University of Health Sciences, Sadiq Road, Faridkot

Member of the NASI: No  (YON 2011, Medical & Forensic Sciences)

During his 36 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 planting 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 in orthopaedics in general and spine surgery in particular. As an administrator, he established the department of orthopaedics at Government Medical College & Hospital and later served as its Director Principal, as well as HOD orthopaedics PGI. He established state of the art Regional Spinal Injury Centre at Mohali, for Punjab Government. 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. Recently he has been appointed by Govt. of Punjab to serve Baba Farid University of Health Sciences, Faridkot as Vice-Chancellor.

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

Ten Best Publications:
2. Sarvdeep Dhatt, Naveen Tahasildar, Sujit Kumar Tripathy, Raj Bahadur Sharma, Mandeep Dhillon, December 2011, Outcome of spinal decompression in cauda equina syndrome presenting late in developing countries-case series of 50 cases, European Spine Journal, 20(12): 2235-2239 (If=2.473)
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:
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 BioI. 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(2):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 T1 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'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:
Our major efforts in research have been to understand how epigenetic changes control two major phenomena: 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 individuals 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) Orthotopic 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.

**Ten Best Publications:**

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- 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- gene may develop predisposition towards Coronary Heart Disease. He also not only showed for the first time that LXR- 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, Seconder: Prof. Kasturi Datta**

**Ten Best Publications:**

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

Member of the NASI: Yes (YON 2011, Medical & Forensic Sciences)

Kewal Krishan, PhD, FIALFS, MAAPA is a renowned forensic anthropologist of India. He immensely contributed to the advancement of scientific methods in forensic anthropology pertaining to human morphology and overall development of the discipline of forensic anthropology in India. This scientific advancement is reflected in his 100 publications in most reputed journals of forensics. On the basis of these outstanding publications, he contributed five invited chapters to the most coveted Encyclopedia of Forensic Sciences and Encyclopedia of Forensic and Legal Medicine published by Academic Press, Elsevier USA and UK respectively. He is the only anthropologist from India who contributed to these popular encyclopedias. His novel contributions to the forensic literature include the development of the science of footprints and their relationship with body weight of individuals and its interpretation and analysis in criminal cases, evaluation of limb asymmetry in a population of India and its effect on estimation of stature in forensic examinations, innovation of a novel index known as Heel-Ball in sexing the human remains, and sex determination from palmprint and footprint ridge density in crime scene evaluation. Due to these vast contributions, he has been elected as the fellow of reputed International Association of Law and Forensic Sciences and has been a member of 20 reputed academic/professional organizations. The worldwide appreciation of his research work has been reflected by 1200 citations during the last few years; on the panel of editors and editorial boards of more than 40 journals and reviewer/referee board of 50 international journals/proposal evaluations of international research agencies. Besides, he received many international awards and travel grants.

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

Ten Best Publications:

I hereby take this opportunity to nominate Prof.(Dr.) Raj Kumar, Director, AIIMS Rishikesh for the fellowship of NASI for his contribution of developing pediatric neurosurgery in UP and North India, Dr.Kumar, well known to me for the last 19 years, is doyen in the field of Pediatric Neurosurgery. He is a recognized teacher of International Society of Pediatric Neurosurgery. Dr.Kumar has developed a highly specialized trauma centre at SGPGI for the injured patients of UP neighbouring states. He has started new AIIMS at Rishikesh where presently major surgeries are being performed.

Dr.Kumar studied many congenital brain, spinal malformations over the years and laid down several guidelines for their management as per Indian Circumstances. He wrote more than 386 articles (research, book chapters) in various international, national journals, books and represents Asia in few International journals as a member in editorial board (Child CNS, J Ped Infectious diseases) or as an Asian Editor in J. Pediatric Neurology. He wrote 6 books in pediatric neurosurgery, brain haemorrhage, head injury, pineal tumor, neurosurgery review and 2 small booklets in Hindi on Head Injury, while his 1 book is under process. Dr.Kumar received National awards i.e. National Ambedkar Excellency award, Neuroscientist of year, Shalya Shree national honor, Vigyan Gaurav, Vigyan Ratan (Council of Science and technology 2007), U.P.Ratan (2009), Uttarakhand Ratan (2014), Certificate of Recognition by international society of Pediatric neurosurgery (ISPN at Morocco). He has been awarded by Sir Sri Ram Memorial Award for Best Publication by National Medical Academy (2010) itself. He was elected as Fellow of NAMS & Fellow of NSSI in 2013 & 2015 respectively.

**Proposer:** Prof. Chunni Lal Khetrapal, **Seconder:** Prof. Rakesh Kapoor

**Ten Best Publications:**


SARKAR, BANWARILAL  (b 1955), Deputy Director (Scientist F), National Institute of Cholera & Enteric Diseases, 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. 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; Sarkar et al, 1994). The emergence of toxigenic V. cholerae O139 led him to further develop the phage typing scheme (Chakrabarti et al, 2000). 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. 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 (Sarkar et al, 2011). 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 on phage therapy using cocktail phage which has shown great significance in the light of the emergence of multidrug resistant bugs (Bhowmick et al 2009; Jaiswal et al, 2014). Our ultimate goal of this study is to establish phage therapy efficaciously through a study in human volunteers as an alternative therapy against the multidrug resistant V. cholerae.

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

Ten Best Publications:

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 BRCA1/2 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, **Seconder**: 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)*


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 HINI 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, Seconder: Prof. Susarla K. Shankar

Ten Best Publications:
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, hypoimmunogenecity 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 team 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. Seyed E Hasnain, **Seconder**: Dr Sharmila Bapat

**Ten Best Publications:**