

The National Academy of Sciences, India

5, Lajpatrai Road, Allahabad - 211002

Fellows Elected for the year 2016

1. **Prof. Sanjay Kumar Agarwal** (b 1958) MD, Professor and Head, Department of Nephrology, All India Institute of Medical Sciences, New Delhi, for his significant research findings in Chronic Kidney Diseases in Adults & Children. He has published more than 200 research papers in the field of clinical nephrology.
2. **Dr. Abhey Ram Bansal** (b. 1968) Ph.D., Principal Scientist, National Geophysical Research Institute, Hyderabad, for his outstanding contributions in geophysical research, particularly aeromagnetic and gravity data, by developing scaling spectral methods and their applications to Indian data sets to locate source bodies causing the geophysical anomalies.
3. **Dr. Virendra Kumar Barnawal** (b. 1960) Ph.D., Principal Scientist & In-charge, Advanced Centre for Plant Virology, Indian Agricultural Research Institute, New Delhi, for his major contribution in developing assays for detection of viruses affecting wide range of crops. He has also been instrumental in developing microarray chip for detection of several plant viruses.
4. **Dr. Sanjay Batra** (b. 1965) Ph.D., Principal Scientist, Medicinal & Process Chemistry Division, Central Drug Research Institute, BS-10/1, Sector 10, Jankipuram Ext., Lucknow, for his significant contributions in the development of synthetic methods for the preparation of an array of N-, O-, and S-heterocycles for application in medicinal chemistry.
5. **Dr. Rupak Kumar Bhadra** (b. 1960), Ph.D., Senior Principal Scientist, Infectious Diseases & Immunology Division, Indian Institute of Chemical Biology, Kolkata, for his fundamental contribution in the field of molecular biology and epidemiology of *Vibrio cholerae*. He was the first investigator of the CTX phage integration into the two chromosomes of *V. cholera* and thus provided the first clue on the genesis of new variants of the pathogen.
6. **Dr. Rajendra Bhatia** (b. 1952) Ph.D., FNA, FASc, FTWAS, Distinguished Scientist, Indian Statistical Institute, Delhi, for his outstanding contribution to matrix analysis, with applications in diverse areas like numerical analysis and computation physics, image processing and machine learning. His research papers and monographs on perturbation bounds for eigenvalues and eigenvectors, geometric mean of several positive definite matrices, matrix equation and inequalities are recognized worldwide.
7. **Prof. Anindya Chatterjee** (b 1966) Ph.D., Professor, Department of Mechanical Engineering, Indian Institute of Technology Kanpur, Kanpur, for his contributions in developing new asymptotic solutions for nonlinear oscillations, novel Galerkin methods for delay differential equations, new approximation methods for fractional order integrodifferential evolution equations, an unconventional approximation for dissipation in high dimensional frictional systems, three dimensional modal projections for rotor dynamics (connecting gyroscopic terms and rotational prestress) and a new distributed restitution model for simultaneous rigid body impact.
8. **Dr. Ramaiah Danaboyina** (b. 1958) Ph.D., FASc, Director, CSIR-North East Institute of Science Technology, (Formerly RRL), Jorhat, for his important contributions in synthesizing NIR absorbing squarines, porphyrins, chlorins and aza-BODIPY dyes for studying these as sensitizers and photodynamic therapeutical (PDT) applications.
9. **Prof. Tanya Das** (b 1959) Ph.D., Senior Professor, Molecular Medicine Division, Bose Institute, Kolkata, for her contributions in demonstrating the role of stem cells in the pathogenesis and progression of breast cancers. Her work on the role of sprain and other inhibitors in alleviating the generation of post chemotherapy stem cell population as well as epithelial mesenchymal transition, has major implications for therapeutics.
10. **Prof. Gautam Kumar Dey** (b 1957) Ph.D., FASc, FNAE, FNA, Distinguished Scientist, Director, Materials Group (BARC), Dean-Academic, Engg. Sci (BARC), Professor, Homi Bhabha National Institute (HBNI), Mumbai, for his outstanding contributions in the field of phase transformations, namely microstructure evolution in two phase zirconium alloys during fabrications, early stage of precipitation in several nickel based alloys, etc.

11. **Dr Ramesh Chand Dhiman** (b 1955) Ph.D., Scientist G, National Institute of Malaria Research (ICMR), Delhi, for his seminal work on effect of climatic change on mosquito vector density and malaria epidemiology in India.
12. **Prof. Anup Kumar Ghosh** (b.1956) Ph.D., Professor, Centre for Polymer Science & Engineering, Indian Institute of Technology Delhi, New Delhi, for his significant contribution in innovative development of orthotic knee joint for disabled people, with successful field trials on 1000 patients.
13. **Prof. Neeraj Jain** (b. 1960) Ph.D., Professor and Scientist VII, National Brain Research Centre, Manesar, for his key contributions in understanding the extensive plasticity and reorganization that occurs in the brain in response to spinal cord injuries. He has also developed a brain machine interface device prototype based on the integration of multidisciplinary inputs.
14. **Dr. Dinakar Kanjilal** (b. 1955) Ph.D., Director, Inter University Accelerator Center, Aruna Asaf Ali Marg, New Delhi, for his contributions to accelerator science and study of materials using energetic ions. He has designed and fabricated a novel Electron Cyclotron Resonance ion Source.
15. **Prof. Meenu Kapoor** (b. 1968) Ph.D., Professor, University School of Biotechnology, Guru Gobind Singh Indraprastha University, New Delhi, for her significant contribution in elucidating the role of DNA methylation machinery and polycomb repressor complex in plant growth and development.
16. **Dr Vinay Kumar Khanna** (b 1963) Ph.D., Principal Scientist, CSIR – Indian Institute of Toxicology Research, Lucknow, for his significant contribution to development of platelets-based biomarkers for Parkinsonism and other neuropsychiatric disorders. He has developed a high throughput neurotransmitter receptor screen for rapid screening of natural and synthetic psychoactive drugs.
17. **Dr. Alur Seelin Kiran Kumar** (b. 1952) FNAE, Secretary to GOI, Department of Space; Chairman, Indian Space Research Organization, Bangalore, for his contributions to planetary exploration in terms of the prestigious Chandrayaan-1 and Mars Orbiter Missions.
18. **Prof. Ramesh Chander Kuhad** (b. 1955), Ph.D., FNAAS, Professor, Department of Microbiology, University of Delhi, South Campus New Delhi, for his contribution to develop the processes for production of xylanase and laccase for bleaching of paper pulp. He has also developed a process for bioconversion of wheat straw as a nutritional and digestible animal feed.
19. **Prof. Anirban Kundu** (b. 1967) Ph.D., Professor, Department of Physics, University of Calcutta, 92, APC Road, Kolkata, for his significant contributions as extension of Standard Model like extra dimension, super symmetry with focus on experiments at LHC as well as the B factories.
20. **Prof. Goutam Kumar Lahiri** (b. 1960) Ph.D., FASc, Professor, Department of Chemistry, Indian Institute of Technology Bombay, Powai, Mumbai, for his significant contributions in understanding the intelligent design of molecules with mixed valency of metal and organic constituents elucidating the mechanism of energy transfer.
21. **Dr. Ashverya Laxmi** (b. 1974) Ph.D., Staff Scientist, National Institute of Plant Genome Research, Aruna Asaf Ali Marg, New Delhi, for her significant contribution in elucidating signal transduction cross-talk between various environmental and hormonal signals in regulating plant growth and development and stress responses.
22. **Prof. Susanta Mahapatra** (b. 1968) Ph.D., FASc, Professor, School of Chemistry, University of Hyderabad, Gachibowli, Hyderabad, for his significant contributions in understanding and developing theoretical models and algorithms in the area of non adiabatic quantum dynamics and chemical reactions.
23. **Dr. Gobinda Majumder** (b. 1967) Ph.D., Professor (H), Department of High Energy Physics, Tata Institute of Fundamental Research, Homi Bhabha Road, Mumbai, for his significant contribution in design and construction of detectors such as- CMS electromagnetic calorimeter at LHC energies, CLEO-RICH detector, and BTeV detectors.
24. **Dr. Mahitosh Mandal** (b. 1963), Ph.D., Associate Professor, School of Medical Science and Technology, Indian Institute of Technology, Kharagpur, for his outstanding contribution in developing newer targets for drug delivery in the treatment and prevention of cancer. He led a team of oncologists, physicist and engineers to determine specific molecular, biophysical and bioelectric changes which can go a long way in understanding the chemo-radio resistance.
25. **Prof. Hari Sharan Misra** (b. 1962), Ph.D., Head, Molecular Genetics Section, Molecular Biology Division, Bhabha Atomic Research Centre, Mumbai, for his outstanding contribution in the area of DNA damage, repair, identifying a novel antioxidant and radio protector.
26. **Prof. Sanjeev Misra** (b 1965) MS, MCh, FAMS, Director & CEO, All Indian Institute of Medical Sciences, Jodhpur, for his contributions on biomarkers and p-53 gene expression on carcinoma of gall bladder; and for defining the role of advisement chemotherapy and surgery in breast and ovarian cancers.
27. **Prof. Akambadath Keerthiyil Nandakumaran** (b. 1961) Ph.D., Professor, Department of Mathematics, Indian Institute of Science, Bangalore, for his outstanding contribution to the theory of PDEs involving homogenization and control theory. His significant contributions are also in the areas of non linear parabolic, elliptic equations, stokes and elasticity systems.
28. **Dr. Utpal Nath** (b. 1965) Ph.D., Assistant Professor, Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore, for his outstanding contribution in the field of plant developmental biology.

His study has revealed the involvement of two different sets of regulatory genes in controlling the organ shape in *Arabidopsis*.

29. **Dr. Raghmani Singh Ningthoujam** (b. 1972) Ph.D., Scientific Officer (E), Chemistry Division, Bhabha Atomic Research Centre, Mumbai, for his significant contribution in understanding the chemistry of nanomaterials covering rare-earth doped nanomaterials and application of nanomaterials to cancer therapy.
30. **Prof. Amlan Jyoti Pal** (b. 1960) Ph.D., FNA, FASc, FNAE, Senior Professor, Department of Solid State Physics, Indian Association for the Cultivation of Science, Jadavpur, Kolkata, for his contributions in the development of devices based on organic semiconductors and inorganic quantum dots.
31. **Dr. Rahul Pal** (b. 1960), Ph.D., Staff Scientist VI, Immunoendocrinology Lab, National Institute of Immunology, New Delhi, for his primary contribution in the area of the biology of human chorionic gonadotropin, especially towards the understanding of mechanisms involved in gonadotropin mediated chemoresistance. His work has also provided evidence for the heightened efficacy of immunotherapy and immunochemistry.
32. **Dr. Vajayachari Paluru** (b 1962), Ph.D., FAMS, Director (Scientist G), Regional Medical Research Centre (Indian Council of Medical Research), Port Blair, for his several seminal contributions in the areas of medical microbiology and molecular biology. He has contributed to the elimination of infectious diseases viz. lymphatic filariasis, malaria and TB in marginalized communities of A & N islands. His major contribution includes development of DNA constructs encoding leptospiral proteins as immunogens.
33. **Prof. Girdhar Kumar Pandey** (b. 1972) Ph.D. Professor, Department of Plant Molecular Biology, University of Delhi, South Campus, New Delhi, for his significant contributions towards establishing links between calcium and lipid signaling pathways, as well as abscisic acid, under abiotic stress conditions in plants.
34. **Prof. Himanshu Pathak** (b. 1965) FNA, FNAAS, FAvH, FFAST, Principal Scientist & Professor, Center for Environment Science & Climate Resilient Agriculture, Indian Agricultural Research Institute, New Delhi, for his contribution in preparing inventories of green house gases (GHGs) emission from Indian agriculture and developing mitigation technologies for management of GHGs emission from agriculture.
35. **Prof. Bhushan Keshav Patwardhan** (b 1959) Ph.D., FAMS, Professor, Interdisciplinary School of Health Sciences, Savitribai Phule Pune University, Pune, for his original evidence based contributions to medicine, traditional medicine, ethnopharmacology, drug development and integrative medicine. He has innovatively used modern scientific concepts as evidence for *Ayurvedic* medicine.
36. **Prof. Ashok Kumar Pradhan** (b 1967) Ph.D., FNAE, Professor, Department of Electrical Engineering, Indian Institute of Technology Kharagpur, Kharagpur, for technically solving different power system issues of Damodar Valley Corporation Kolkata, Electric Supply Company Kolkata, Odisha Distribution System etc.
37. **Prof. Rudra Pratap** (b 1964) Ph.D., FNAE, Professor & Chairperson, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore, for his outstanding work on energy dissipation in dynamic MEMS devices.
38. **Prof. Komaranapuram Navaneetham Raghavan** (b. 1964) Ph.D., FASc, Professor H, Institute of Mathematical sciences, Chennai, for his very important and remarkable contributions in the area of Algebraic Groups and Representation Theory. He has extended the work of C.S. Seshadri, Laxmibai and Musili on Standard Monomial Theory which led to the solution of several conjectures of Verma, Laxmibai – Kreinman and others.
39. **Dr. Madhavan Nair Rajeevan** (b. 1961) Ph.D., FASc, Secretary to the GOI, Ministry of Earth Sciences, New Delhi, for his outstanding contributions on monsoon variability and predictions. The advanced statistical models developed by him for seasonal monsoon prediction are being used in the country. He has generated climate data products for precipitation and temperature over India and showed multi-decadal variation of extreme events.
40. **Prof. Sukhdev Roy** (b 1966), Ph.D., FNAE, Professor, Department of Physics & Computer Science, Dayalbagh Educational Institute (Deemed University), Agra, for his contributions in designing of a Simple Fiber-Optic Sensor for detecting adulteration in fuels and edible Oils.
41. **Dr. Sabyasachi Sanyal** (b. 1973) Ph.D., Principal Scientist, Lab LSS007, Central Drug Research Institute, Lucknow, for his contribution in discovering a small molecule Adipo R₁ agonist, having potent anti-diabetic activity as well as has excellent profile for bone health. This molecule is licensed to Kemxtree LLC.
42. **Prof. Anjan Ananda Sen** (b. 1971) Ph.D., Professor, Center for Theoretical Physics, Jamia Millia Islamia, Jamia Nagar, New Delhi, for his significant contribution to cosmology, especially dark-energy, within the scalar full model and early inflation.
43. **Prof. Surajit Sengupta** (b. 1962) Ph.D., FASc., Professor H, TIFR Centre for Interdisciplinary Sciences, 21, Brundavan Colony, Narsingi, Hyderabad, for his significant contribution in path defining work to obtain elastic parameters from strain fluctuation, for delineation of phase diagram of the vortex liquid in high T_c superconductors; and also for his work on chromosome positioning from activity based segregation.
44. **Prof. Vinay Sharma** (b. 1957) Ph.D., Professor & Head, Department of Bioscience & Biotechnology, Banasthali University, PO Banasthali Vidyapith, Rajasthan, for his significant contribution in the area of plant stress biology highlighting the role of membrane bound ATPases. He has shown the role of salt/drought tolerant proteins in adaptation of sorghum.

45. **Dr Dheer Singh** (b 1966) Ph.D., Principal Scientist, Animal Biochemistry Division, ICAR-National Dairy Research Institute, Karnal, for his outstanding contribution in identifying molecular markers associated with estrus leading to improved conception and increased milk production in buffaloes.
46. **Prof. Krishna Nand Singh** (b. 1962) Ph.D., Professor of Organic Chemistry, Department of Chemistry, Institute of Science, Banaras Hindu University, Varanasi, for his excellent contribution in developing conceptually new methodology for synthesizing important synthetic scaffolds.
47. **Prof. Rajiv Sinha** (b. 1965) Ph.D., Professor, Department of Earth Sciences, Indian Institute of Technology, Kanpur, for his outstanding contributions to fluvial Geomorphology and river science that include work on dynamics of flooding, source area based classification of Himalayan river systems, paleoclimatic reconstructions of alluvial basins related to large river systems, stratigraphic modeling of regional aquifer systems etc.
48. **Prof. Sanjeev Sinha** (b 1965), MD, Professor, Department of Medicine, All Indian Institute of Medical Sciences, New Delhi, for his major contribution in the areas of research on HIV, TB and HIV drug resistance.
49. **Dr. Rajagopal Subramanyam** (b. 1970) Ph.D., Associate Professor, Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad, for his significant contributions in the field of chloroplast bioenergetics. He has provided a fundamental understanding of abiotic stress tolerance with emphasis on adaptations of photosynthetic apparatus.
50. **Dr Renu Tripathi** (b. 1962) Ph.D., Senior Principal Scientist, Division of Parasitology, CSIR-Central Drug Research Institute, Lucknow, for her excellent contribution in the development and understanding of the mode of action of artemisinin as anti malarial drug.

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51. **Dr. Papiya Sengupta Nandy** (b. 1945) Ph.D., Member Scientist, Centre for Interdisciplinary Research and Education, 404 B Jodhpur Park, Kolkata, for her substantial contribution in scientifically managing the human resource to nurture the creativity in 13 selected states of India.
52. **Dr. Prakashkumar Raveendran Pillai** (b. 1962) Ph.D., Director, Malabar Botanical Garden and Institute for Plant Sciences, Post Box No.1, Kozhikode, Kerala, for his significant contributions to science & technology management and science popularization over the past decade in Kerala. He played an admirable role in implementing a scheme known as "Sastraposhini", which was unique in India for establishing model science laboratories in the Government High Schools of the State.
53. **Mr. Anant Darshan Shankar** (b. 1951) Vice-Chancellor, Institute of Transdisciplinary Health Science & Technology, C/o Foundation of Reutilization of Local Health Traditions (FRLHT), # 74/2, Jarakabande Kaul, Attur, Bangalore, for his contribution to launching the Health Security Program, in 40 villages in the Karjat Tribal Block, Raigad District, Maharashtra to demonstrate how communities could be made self-reliant in primary health care through the use of locally available medicinal plants and also for the creation of a world class knowledge institution called FRLHT which in 2013 has been legislated by the Government of Karnataka into a State University.

Foreign Fellows Elected for the year 2016

1. **Dr. Stefan Dimitrov** (b. 1951) Centre de Recherche INSERM-UJF, Institute Albert Bonniot, Grenoble, France, for his many crucial contributions to the understanding of chromatin structure as well as in the area of epigenetics. His area of work encompassed chromatin remodeling nanomachines, regulation of histone variants etc. His contributions are at the interface of physics, chemistry and biology; therefore, very unique in nature.
2. **Dr Sunil Kaul** (b. 1959) Ph.D., Chief Senior Research Scientist, National Institute of Advanced Industrial S&T, Japan, for his significant contribution in understanding the mechanism of aging and age related disorders. He has integrated Ayurvedic knowledge with modern molecular technologies, which has led to the development of anti aging products.
3. **Prof. Roderic Ivan Pettigrew** (b. 1950) Ph.D., MD, Director, National Institute of Biomedical Imaging & Bioengineering, US, National Institute of Health, Bethesda, USA, for his contribution as pioneer in the field of MR imaging. He has developed 4-D MRI for spatiotemporally visualization of tissue motion. His contribution in the field of biomedical engineering and clinical imaging. He has also trained many Indian Scientists.