Brief Profile of the awardees

Dr. Siddhesh S. Kamat, Indian Institute of Science Education & Research Pune in life science: Hestudies the biological mechanisms of lipid signaling pathways in the mammalian nervous and immune system. Heaims to provide new insights and therapeutic paradigms for orphan and/or emerging human neurological and immunological diseases.

Dr. SridharanDevarajan, Indian Institute of Science, Bengaluru in life science. His area of work is Cognition, Computation and Behaviourencompassing 'how does our brain enable us to pay attention selectively to some things, and to ignore others or what happens in the brain when we make important decisions'. His research focuses on understanding the neural basis of cognitive phenomena such as selective attention and decision making.

Dr. Niti Kumar,CSIR-Central Drug Research Institute, Lucknow,in life science. Her research is focused towards understanding protein quality control machinery in human malaria parasite for exploration of alternative drug targets for malaria intervention. She is also involved in antimalarial screening for identification of scaffolds effective against drug-resistant malaria

Dr. Nitin Gupta, Indian Institute of Technology, Kanpur inlife science. He works to understand the remarkable capabilities organized by the brain — from seeing to singing, from remembering to running.His research involves the electrical activity of neurons help them interact forming circuits which encode innate behavioral preferences.

Dr. Modhu Sudan Maji,Indian Institute of Technology Kharagpur, Kharagpurin Chemical Science. His research areas are Cobalt-catalyzed C-H bond functionalizations, sequential catalysis, design, synthesis and application of tunable nano grapheme and total synthesis of alkaloids.

Dr. SakyaSingha Sen,CSIR - National Chemical Laboratory, Punein Chemical Science. He and his team is exploring main group compounds in homogeneous catalysis as surrogates for precious metals for developing greener, safer, and more cost-effective chemical processes.

Dr. ChandramouliSubramaniam isfrom Indian Institute of Technology BombayinChemical Science. He works on understanding of the structure-property relations of nano-form of carbon allotropes - Carbon nanotubes (CNTs), graphene and related doped nanocarbons such as nitrogen and boron-doped CNTs and grapheme. He usesnanocarbon based functional composites for developing sensors and actuators, especially related to biological systems.

Dr. Atul Abhay Dixit, Indian Institute of Technology Gandhinagar,in Mathematical Seicnce. His research is at the interface of analytic number theory and special functions. His work in number theory has led him to discover new interesting special functions such as generalised modified Bessel and Hurwitz zeta functions.

Dr. Mousomi Bhakta,Indian Institute of Science Education and Research Pune inMathematical Science. She studies the existence, multiplicity of positive and sign-changing solutions to local

and nonlocal elliptic equations applying tools from nonlinear analysis and to study various qualitative properties of solutions e.g. radial symmetry, regularity, apriori estimate, etc.

Dr. Ujjwal Koley,TIFRinMathematical Science. His areas of work are Hyperbolic PDEs, Conservation Laws, Numerical Analysis, Dispersive Equations and Stochastic Balance Laws. The main aim of his research has been to design mathematical tools and robust numerical algorithms and to apply them to interesting problems that arise in the physical sciences.

Dr. Arvind Singh, Physical Research Laboratory, Ahmedabadin Earth & Atmospheric Science. His area of work is marine nitrogen cycle, ocean biogeochemistry, marine C:N:P stoichiometry, anthropogenic impacts on marine nitrogen cycling, climate change and isotopic fractionation processes. His expertise lies in using the stable isotopes of carbon (13C) and nitrogen (15N) to understand the oceanic processes with a strong focus on biological nitrogen fixation and primary production.

Dr. SubhroBhattacharjee, International Centre for Theoretical Sciences- TIFR, BengaluruinPhysical Science. He works on quantum many-body physics and focuses on magnetism (Frustrated magnets, quantum spin liquids),topological phases of condensed matter and physics of transition metal oxides (Interplay of spin-orbit coupling and electron correlations),strongly correlated metals and Many-body Chaos.

Dr. Pabitra Kumar Nayak,Tata Institute of Fundamental Research, Hyderabad inPhysical Science. His area of work is soft semiconductor materials development, photovoltaics, optoelectronic devices, defect management and electronic doping of soft semiconductor.

Dr. Shamik Banerjee is from Institute of Physics, Bhubaneswar inPhysical Science.

Dr. Rishi Raj is from Indian Institute of Technology Patna inEngineering Science. His major fields of interest areenergy, boiling, condensation, micro-/nano-Scale Thermal and fluidic transport, colloidsand interface science, microgravity science.

Dr. MayankShrivastava, Indian Institute of Science, Bengaluruin Engineering Science. He works on science and technology of electron devices focusing on power semiconductor devices as well as nanoscale / beyond Si CMOS for SoC applications. He also works on a multitude of science threads like physics of semiconductor device reliability, electro-thermal/electron – phonon interaction in beyond Si materials/devices, thermometry and thermal/phonon transport in these materials/devices.

Dr. Amartya Mukhopadhyay, Indian Institute of Technology,Bombay in Engineering Science. He works on materials for electrochemical energy storage and advanced structural ceramics/compositeslike electrode materials and electrode/electrolyte interfaces for Li/Na/K-ion batteries,solid electrolytes Li-ion and Na-ion batteries, electrochemical energy storage devices, development of bulk polycrystalline ‘ceramic alloys’,carbon nanotube reinforced ceramic composites and ultra-high temperature ceramics/composites.

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