

INFOSYS SCIENCE FOUNDATION
INFOSYS PRIZE 2021



SCIENCE AND SOCIETY

Arthur C. Clarke once said that any sufficiently advanced technology is indistinguishable from magic. And magic, he said, is simply science we cannot yet understand. As the visionary who, along with his bestselling works of science fiction and non-fiction, also conceptualized the revolutionary geostationary communications satellite, he would know.

At a time when humanity is facing several existential crises, it becomes apparent that the magical solutions that we seek, lie, in large part, in science. In the past 150 years, science and technology has progressed rapidly. In the 21st century, the speed of scientific progress and technological development has accelerated even more.

It is science that helped us find solutions for the latest pandemic to afflict the world. Just over a century ago, when the 1918 influenza pandemic hit, clinicians and scientists struggled to understand the disease, identify the pathogen, and find a cure. Flash forward to 2020, and the lightning speed with which the pathogen was identified, its genome sequenced, and several effective vaccines designed using discoveries old and new, is, if not magic, then certainly close to it.

As we deal with seemingly intractable problems, it is to science that we look to save us from ourselves. And we see increasingly that the 'doing of science' is not confined to institutions, public or private. Scientific papers and output are increasingly considered a 'public scientific good' and attempts made to make them accessible to all. Global collaboration is thriving. Scientists and science communicators are deeply involved in outreach. Social platforms are being used to crowd source data in fields such as biodiversity, astronomy, genetics, and nutrition, among others. Science is slowly becoming an inclusive pursuit.

It is easy to despair about rising seas, vanishing species, extreme weather, the proliferation of misinformation. But science helps us escape the gravitational pull of that despair and seek solutions. As we explore the world around us, the world within us, and the worlds beyond, it is science that feeds our curiosity and enables the quest. Perhaps, the true magic of science lies in how it helps us go beyond the limits of our mind and helps us find answers to the apparently unanswerable.



ENGINEERING AND COMPUTER SCIENCE

The Infosys Prize 2021 in Engineering and Computer Science is awarded to Dr. Chandrasekhar Nair for his development and large-scale commercialization of Truenat, a new point-of-care testing platform for PCR-based medical diagnostics. Dr. Nair's work has enabled testing for millions of COVID-19 cases across resource-limited settings in India and the diagnosis of multiple infectious diseases including tuberculosis all over the world.

Chandrasekhar Nair

Co-founder & Chief Technology
Officer, Molbio Diagnostics, India



I am pleased to congratulate Dr. Chandrasekhar Nair for winning the Infosys Prize in Engineering and Computer Science this year. Dr. Nair was chosen from among many outstanding nominations from both academia and industry by a jury of international experts. The jury chose him for the impact his work would have, and has already had, in the realm of rapid testing and early diagnosis of several diseases, including COVID-19 and tuberculosis, in resource-constrained countries. His development and successful deployment at scale of Truenat, a new point-of-care testing platform for PCR-based medical diagnostics, is the hallmark of innovation and true engineering.



Arvind

Bio

Dr. Chandrasekhar Nair is the Co-founder & Chief Technology Officer of Molbio Diagnostics, one of India's leading healthcare companies in the In-Vitro Diagnostics (IVD) segment and the manufacturer of the renowned molecular diagnostic platform Truenat® Real-Time PCR. He is also the founder of Bigtec Labs, a fully-owned subsidiary of Molbio Diagnostics.

Dr. Nair completed his B.E. (Hons) and M.E. in Chemical Engineering (1985-1991) from the Birla Institute of Technology and Science, Pilani. He obtained his Ph.D. in Bio-MEMS (Biomedical Microelectromechanical Systems) from the Vellore Institute of Technology in 2016.

A scientist at heart, Dr. Nair is deeply interested in the translational impact of technology on public health. Chandrasekhar Nair is an experienced team leader with a demonstrated history of translating laboratory research to commercial products during his stints at Vittal Mallya Scientific Research Foundation (1991-2000) and later at Bigtec and Molbio (2000-current).

In his spare time, Dr. Nair likes to read ancient Indian literature.

Chandrasekhar Nair



Scope and impact of work

PCR (Polymerase Chain Reaction) based testing is a Nobel Prize-winning technology that has become the gold standard for testing many infectious diseases such as tuberculosis, dengue, chikungunya, H1N1, and hepatitis. However, the cost and workflow complexity of PCR testing platforms have restricted their use to sophisticated labs. Dr. Chandrasekhar Nair has created a battery-operated, rugged, field usable PCR device that can be deployed at scale in resource-limited settings. The platform comprises a portable machine and disposable cartridges enabling point-of-care testing for early detection for many diseases. Dr. Nair has achieved what many global competitors have been struggling to do for over two decades.

Dr. Nair's Truenat platform was originally developed for tuberculosis screening, where the platform made it possible to reduce the diagnosis window from six months to three weeks after appearance of symptoms, enabling directed treatment at the onset of infection and reducing community spread of a disease that claims one death every minute in India. When the COVID-19 pandemic hit, India was able to use Truenat to increase its testing capacity from 100 to over 4000 locations, primarily in states with poor access to medical infrastructure. By now eight million COVID tests have been performed on Truenat. It also leverages India's mobile network for automatic data rollup to National Programs and enables detection of areas where diseases first appear.

Truenat is currently being deployed in ten resource-limited countries across Africa, Latin America, and Asia. It represents the kind of innovative hardware product that will enable Indian technology companies to succeed on the global stage.

Chandrasekhar Nair



Citation by the jury

Dr. Chandrasekhar Nair has led the development of a platform technology that enables PCR testing at the point of care. The Truenat Real-Time PCR, is now the only point-of-care platform approved by WHO for tuberculosis detection, globally.

The primary technical innovations responsible for the success of the Truenat platform include the development of low-temperature cofired ceramic-based cartridges that allow for rapid thermocycling and fast PCR reactions, and plastic cartridges that allow for integrated sample preparation. Different diseases can be tested by just changing the cartridge and tests for more than 30 diseases have already been developed.

For 20 years Dr. Nair has worked with India's nascent medical device manufacturing ecosystem to eventually set up state-of-the-art facilities to manufacture high-precision plastic test consumables. The platform has been field validated in multiple countries by independent agencies like Foundation for Innovative Diagnostics, Switzerland and leading infectious disease centers.

Chandrasekhar Nair





HUMANITIES

The Infosys Prize 2021 in Humanities is awarded to the historian Dr. Ângela Barreto Xavier for her deeply researched and sophisticated analysis of conversion and violence in the Portuguese empire in India, especially Goa. Her extensive body of writings in both English and Portuguese have shown Dr. Xavier to be an important and original voice on colonial and imperial history.

Ângela Barreto Xavier

Research Fellow, Institute of Social Sciences, University of Lisbon, Portugal



My warmest congratulations to you, Dr. Xavier, on being awarded the Infosys Prize 2021 in Humanities. I want to express my great admiration for your contributions to our understanding of the history of Portuguese imperialism in India and its wider effects on religion, society, and culture with its fine archival research that uncovers the contributions of a range of groups to Catholic Orientalism and illuminatingly analyzes the receptive as well as resistant roles of a range of social classes in the 'making of Goa'.



Akeel Bilgrami

Bio

Born in Goa, Dr. Ângela Barreto Xavier was trained in history at the New University of Lisbon, before going on to complete her Ph.D. at the European University Institute in Florence in 2003. The greater part of her professional career has been spent at the Institute of Social Sciences of the University of Lisbon, while she has also held visiting positions in Paris, the US, and Goa.

Dr. Xavier has published scholarly works in English and Portuguese, but also in Spanish, Italian, and German. Her book *Religion and Empire in Portuguese India* is a profoundly researched and sophisticated analysis of conversion and violence in the Portuguese empire in India, especially Goa, in the sixteenth and seventeenth centuries. Her other main work in English is the co-authored book (with I. Zupanov) *Catholic Orientalism: Portuguese Empire, Indian Knowledge (16th-18th Centuries)*.

Dr. Xavier's works in Portuguese include a work on the history of political thought, *El Rey aonde póde e não aonde quer* (1998), and the jointly authored *D. Afonso VI* (2006), as well as a number of edited volumes. She has also published a number of scholarly essays in English in historical journals.

Ângela Barreto Xavier



Scope and impact of work

Dr. Ângela Barreto Xavier's contributions to the reshaping of the history of Portuguese colonialism in India are of great importance. Her books *Religion and Empire in Portuguese India* and *Catholic Orientalism* broke new ground in the social, political, and cultural history of conversion to Christianity in Portuguese India. Drawing on frameworks from historical sociology, Dr. Xavier considers the responses of different Goan groups to Portuguese secular and ecclesiastical power, through a close reading of sources and examination of a variety of concrete situations, both urban and rural.

Xavier's writings bring a breath of fresh air to the study of Portuguese colonialism in India, through the perspective of "the colonization of the imagination". Combining top-down and bottom-up perspectives with her deep knowledge of both state and ecclesiastical archives, as well as texts, she reveals the shifting political and ideological formulations in Portugal that lay behind the strategies of successive generations of its colonizers.

Dr. Xavier has also published a number of journal essays in such venues as the *Journal of Early Modern History*, and the *Journal of the Economic and Social History of the Orient*. She has directed, and continues to direct, several research projects involving international teams of scholars, and is at the forefront of studies of Portuguese colonial and imperial history.

Ângela Barreto Xavier



Citation by the jury

Dr. Ângela Barreto Xavier's work on Goa, in *Religion and Empire in Portuguese India*, and the jointly authored *Catholic Orientalism*, are significant contributions to the social and cultural history of Portuguese colonialism, with wider comparative and multi-disciplinary implications. These are works of notable theoretical sophistication combined with rigorous archival research.

Dr. Xavier has also organized a number of projects on comparative colonial history, resulting in illuminating volumes of writing such as *O Governo dos Outros* (2016) and *Monarquias Ibéricas em Perspectiva Comparada* (2018). She is one of the key figures today in helping to rethink the comparative history of empires in the Iberian world, with reference to South Asia.

Ângela Barreto Xavier





LIFE SCIENCES

The Infosys Prize 2021 in Life Sciences is awarded to Prof. Mahesh Sankaran in recognition of his pioneering work on the ecology of tropical savanna ecosystems, his contributions to highlighting the biodiversity of important Indian ecosystems such as the Western Ghats, and his input to international reports on climate change and biodiversity that have provided scientific evidence to policy makers.

Mahesh Sankaran

*Professor, Ecology and Evolution,
National Centre for Biological Sciences, India*



On behalf of the jury, I am delighted to congratulate you on being the winner of the Infosys Prize 2021 in Life Sciences. Your pioneering work on the ecology of tropical savannas in Africa and the Western Ghats of India has revealed their complexity and vulnerability. Your contributions to international reports on climate change and biodiversity loss are crucial for shaping national and international policy. We look forward to your continued leadership on these critical issues of our time.



Mriganka Sur

Bio

Prof. Mahesh Sankaran is Professor of Ecology and Evolution at the National Centre for Biological Sciences (NCBS) in Bengaluru. He gained his Ph.D. from Syracuse University, New York and carried out postdoctoral research in both the UK and the US before joining NCBS in 2006.

Prof. Sankaran is at the leading edge of a new wave of Indian ecologists and ecosystem scientists who are reshaping the way both India and the world view ecosystems and their relationship to climate change. He was a section lead for the recently released report, prepared by 50 of the world's leading climate and biodiversity scientists and co-sponsored by the Intergovernmental Program on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), on the importance of tackling the climate and biodiversity crises together while also addressing their combined societal impact.

Mahesh Sankaran's distinction has been recognized by election to the Fellowship of the Indian Academy of Science (2020) and the Indian National Science Academy (2021).

Mahesh Sankaran



Scope and impact of work

Ecology is often less celebrated than other areas of life science, yet it is critical to the future of our planet, especially now that human development is accelerating climate change and degrading previously wild ecosystems. Policy makers need to understand the impact of development plans on future biodiversity and carbon sequestration. Tropical savannas, which are dominated by tall grasses and sparse trees, cover large regions of Africa, Asia, South America and Australia and are celebrated for their biodiversity. Their ecology was relatively neglected until a team led by Prof. Mahesh Sankaran collected extensive data for African savannas and quantified the impact of precipitation and herbivores on biodiversity and tree cover. Prof. Sankaran's pioneering contributions revealed that tropical savannas are more complex than previously realized and that multiple factors beyond climate influence their ecological status. He went on to work with international teams that analyzed tropical savannas worldwide, with a particular focus on India.

The work of Indian teams, led by Mahesh Sankaran, revealed that the Western Ghats are not a “degraded forest”, as proposed in colonial times, but rather a unique ecosystem whose biome is shaped by herbivores and climate. It also quantified the importance of tropical savannas in preserving biodiversity and sequestering carbon. Prof. Sankaran is an important contributor to several influential international reports on biodiversity and climate change which have raised the dual crises of biodiversity loss and climate change to the top of the international agenda. This work is informing rational development policy in India and contributing to the preservation of critical biodiversity worldwide.

Mahesh Sankaran



Citation by the jury

Tropical savanna ecosystems play important roles in sustaining biodiversity and balancing the global carbon budget, but they are under pressure from development and climate change. Prof. Mahesh Sankaran's pioneering analysis of these ecosystems revealed the complexity and dynamics of these biomes. By combining modelling and field experiments he discovered that savannas exist in 'stable' and 'unstable' forms and that the switch between them is determined by rainfall. Importantly, he went on to show that the impact of different biotic and abiotic drivers on the maintenance of the savanna state varies across continents, meaning that conservation strategies also need to vary.

In India, Prof. Sankaran is especially recognized for his contributions to elucidating the ecology of the Western Ghats, which is informing rational conservation policy. Internationally, Mahesh Sankaran has played an important role in reports on biodiversity and climate change that are shaping policy worldwide.

Mahesh Sankaran





MATHEMATICAL SCIENCES

The Infosys Prize 2021 in Mathematical Sciences is awarded to Dr. Neeraj Kayal for his outstanding contributions to Computational Complexity. In particular, Dr. Kayal's extensive, innovative work on algebraic computation includes the development of deep lower bound techniques proving limitations of this natural model, as well as designing efficient algorithms for reconstruction and equivalence of such algebraic circuits.

Neeraj Kayal

Principal Researcher,
Microsoft Research, India



I would like to congratulate Neeraj for winning the Infosys Prize 2021. Neeraj's deep work in theoretical computer science tackles the hardest problems in the field. His work in algebraic complexity theory has been very impactful, and forges new connections with classical mathematical fields like Number Theory and Algebraic Geometry. He has worked with many of his young colleagues and senior researchers in India, making the country an important center in the field of algebraic complexity.



Chandrashekhar Khare

Bio

Dr. Neeraj Kayal is currently a Principal Researcher at the Microsoft Research lab in Bengaluru, where he has worked since 2008. Dr. Kayal works in the areas of complexity theory, algorithms, and related areas of theoretical computer science.

Neeraj Kayal was born in Guwahati, India. As an undergraduate student at IIT- Kanpur, Dr. Kayal in joint work with his advisor Prof. Manindra Agrawal and Dr. Nitin Saxena, discovered the first deterministic polynomial time algorithm for primality testing. Their work won the authors the Godel Prize (2006) and the Fulkerson Prize (2006).

Neeraj Kayal received his Ph.D. from IIT-Kanpur and has held postdoctoral positions at the Institute for Advanced Study, Princeton and at DIMACS (Rutgers University). In 2012 he was awarded the Young Scientist Award from Indian National Science Academy (INSA). Dr. Kayal's recent work has been focused on algorithms and lower bounds in algebraic complexity theory.

Neeraj Kayal



Scope and impact of work

Proving that some natural problems require infeasible computational resources, exemplified by the famous P vs. NP question, is a major problem of mathematics and computer science. Its algebraic incarnation, the VP vs. VNP question, is equally wide open. For both, the natural program of proving hardness for stronger and stronger models, has seen extremely slow progress over the decades. Dr. Neeraj Kayal's new proof techniques are responsible for some of the leaps in this progress, significantly transforming the state-of-art. Beyond the obvious mathematical impact of adding powerful tools to the small arsenal we have to attack these problems, his work has had an important psychological effect, injecting enthusiasm (and attracting young people) into this difficult research area. Indeed, both his research and his mentoring of young students and postdocs in India, are central to India's leading presence in this field.

Neeraj Kayal



Citation by the jury

Numerous computational problems, arising both in the sciences and in industry, are inherently algebraic, namely manipulating elements of some underlying field. These include the solution of linear and polynomial systems of equations, the computation of natural polynomials like the determinant and natural transformations like the Fourier transform, and many others. Designing efficient algebraic programs or circuits for such problems is extremely important, as is understanding the limitations of this computational model.

Dr. Neeraj Kayal has made foundational contributions to both areas, focusing on lower bounds, the holy grail of computational complexity, namely showing that some natural problems cannot be solved by too small or too simple circuits. Towards this end he designed new ingenious proof techniques, some based on algebraic-geometric intuition, to prove such limitations, as well as efficiently uncover the structure of unknown circuits from their input-output behavior.

Neeraj Kayal





PHYSICAL SCIENCES

The Infosys Prize 2021 in Physical Sciences is awarded to Prof. Bedangadas Mohanty for his investigations of the nuclear force. At the Brookhaven National Laboratory and the European Organization for Nuclear Research Prof. Mohanty determined the transition temperature of the quark-gluon plasma to hadronic matter, observed heavy antimatter nuclei, nuclear spin-orbital angular momentum interactions, and other effects in quark-gluon plasma.

Bedangadas Mohanty

Professor, School of Physical
Sciences, National Institute of Science
Education and Research, India



The Infosys Prize recognizes your novel contributions to knowledge of the nuclear force. Your leadership and intellectual steering of the STAR (BNL) and ALICE (CERN) collaborations led to measurement of the transition temperature from quark-gluon plasma to hadronic matter. You observed the heaviest antimatter nucleus, searched for and observed spin-orbital angular momentum interactions and found re-scattering and collective effects in quark-gluon plasma. Congratulations, Prof. Bedangadas Mohanty.



Shrinivas Kulkarni

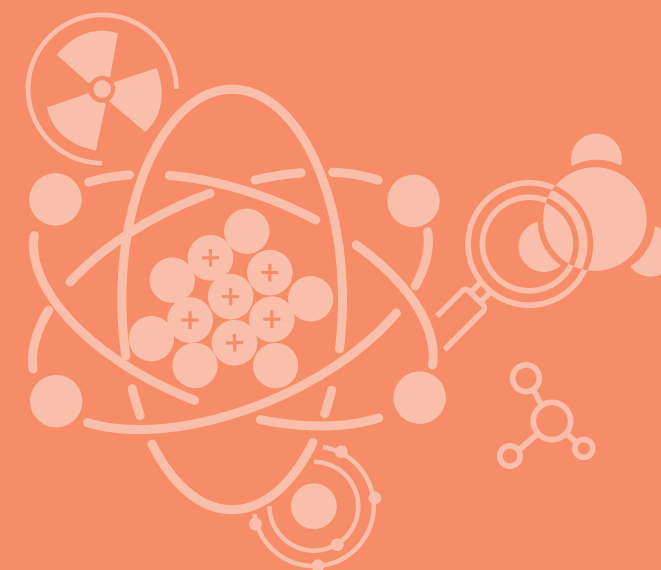
Bio

Prof. Bedangadas Mohanty is an experimental high energy physicist at the National Institute of Science Education and Research (NISER) in Bhubaneswar and at the Homi Bhabha National Institute in Mumbai. He earned his B.Sc. and his M.Sc. in Physics from Utkal University, Bhubaneshwar, placing first in both cases, and his Ph.D. from the Institute of Physics, Bhubaneswar.

Prof. Mohanty is an elected Fellow of the Indian National Science Academy, New Delhi; the Indian Academy of Sciences, Bengaluru; the National Academy of Sciences, India; and the American Physical Society.

Mohanty has held fellowships and post-doctoral positions at the Variable Energy Cyclotron Centre (Kolkata) and at the Lawrence Berkeley National Laboratory (USA). He has won the INSA Young Scientist Medal (2003), the Swarna Jayanti Fellowship (2010-11), and the Shanti Swarup Bhatnagar Award (2015).

Bedangadas Mohanty



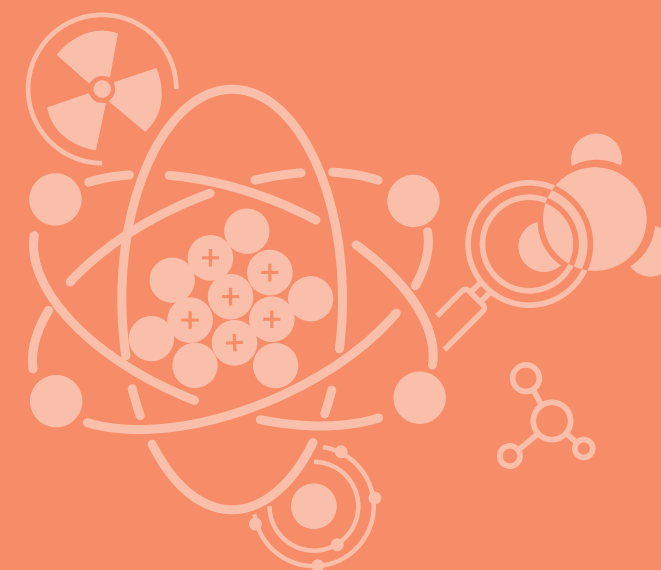
Bedangadas Mohanty

Scope and impact of work

Prof. Bedangadas Mohanty's contributions have pushed the frontiers of our knowledge of the strong nuclear force. Known as an energetic leader, he has driven the programs in the STAR experiment at Brookhaven National Lab (USA) and at the ALICE experiment at the European Organization for Nuclear Research (CERN, Switzerland) where he directed efforts towards elucidating important physics results. The quark-gluon plasma (QGP) formed at high nuclear densities and high temperatures cools down to ordinary hadronic matter via a phase transition. By studying, for instance, swings in the net baryon number at the critical point, Prof. Mohanty measured the temperature (around a trillion Kelvin) at which this happens. The implications of this measurement are far-reaching and go beyond nuclear physics, particularly in astrophysics and cosmology.

Mohanty's work that demonstrated various aspects of the QGP is likely to be emulated by experimenters who follow. His observations of nuclei made of antimatter that are heavier than hydrogen, specifically anti-helium and anti-hypertriton, provide conclusive evidence for these exotic particles after earlier results from experiments in satellites in orbit. Similarly, the uniquely powerful suggestion from Prof. Mohanty to exploit the very high magnetic fields in high-impact parameter nuclear collisions has undoubtedly paved the way for a new class of experiments.

Finally, Mohanty has established new techniques in his studies of particle-production mechanisms, and in his contributions to searches for fractionally charged particles and Disoriented Chiral Condensates.

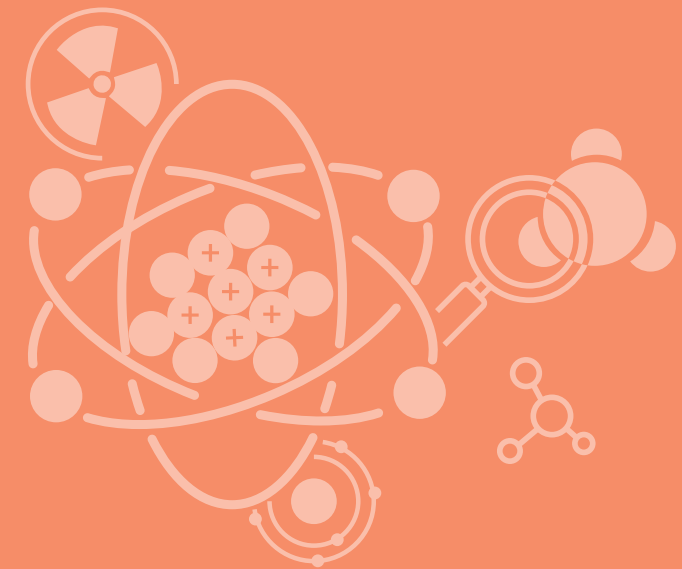


Citation by the jury

Prof. Bedangadas Mohanty expanded our understanding of the strong nuclear force. He is a leader in the STAR experiment at the Brookhaven National Laboratory and the ALICE experiment at the European Organization for Nuclear Research. When a quark-gluon plasma (QGP) is formed in high energy nuclear collisions, it “coagulates” into ordinary hadronic matter via a phase transition. From these experiments Prof. Mohanty measured the temperature at which this happens and elucidated various other properties of the QGP.

Additionally, Mohanty was the first to observe heavier-than-hydrogen nuclei made of antimatter, the first to observe the formation of a QGP fluid with the largest known vorticity, and to study the physics of particle-production mechanisms, fragmentation processes and parton energy loss in the QGP medium. Finally, we note Bedangadas Mohanty’s contributions to searches for fractionally charged particles and Disoriented Chiral Condensates.

Bedangadas Mohanty





SOCIAL SCIENCES

The Infosys Prize 2021 in Social Sciences is awarded to Dr. Pratiksha Baxi for her pioneering work on sexual violence and jurisprudence. Dr. Baxi's extraordinary ethnographic research and meticulous analysis reveal how gendered violence is reproduced by juridical practice. Her work brilliantly combines legal studies, sociology, and anthropology and has profoundly influenced a growing field of inquiry into the social life of law.

Pratiksha Baxi

Associate Professor, Centre for the
Study of Law and Governance,
Jawaharlal Nehru University, India



Pratiksha Baxi's work spans multiple disciplines and exemplifies social science research at its best. Her command over sociology, history and the law, and her effort to bring these to bear on some of the most urgent issues of our time, such as sexual violence and the systemic biases that victims have to contend with, have been deeply influential, both for research and in correcting some of the inequities of society. Dr. Baxi is one of the most creative social scientists living and working in India. I congratulate her and wish her all the best in her future endeavors.



Kaushik Basu

Bio

Dr. Pratiksha Baxi is an Indian sociologist and feminist legal scholar whose research has focused on courtroom procedures, ethnography and sexual violence against women. Dr. Baxi has been teaching at the Jawaharlal Nehru University Centre for the Study of Law and Governance since 2006.

She has a Ph.D. in Sociology from the Delhi School of Economics and founded the Law and Social Sciences Research Network (LASSnet) at Delhi University, which hosts an annual interdisciplinary conference on law and social sciences research. Her book, *Public Secrets of Law: Rape Trials in India*, was published by the Oxford University Press in 2014.

Baxi has been awarded fellowships by the Kate Hamburger Center in Bonn, the University of Warwick, the University Grants Commission in India, and the Herme's postdoctoral fellowship in Paris. Pratiksha Baxi was the founder member of the Gender Study Group (1992–1997) and Forum against Sexual Harassment (1998–2002) at Delhi University, which primarily raised the issue of sexual harassment in academia.

Pratiksha Baxi



Scope and impact of work

Dr. Pratiksha Baxi's pioneering work employs an innovative interdisciplinary approach to elucidate how sexual violence is reproduced within juridical practice. By bringing formidable forensic skills to bear upon superbly observed ethnography and closely read documents, it exemplifies how the legal and sociological fields can be combined to great analytical effect.

Dr. Baxi's magisterial book, *Public Secrets: Rape Trials in India*, derives its power from unique sources of ethnographic evidence and a profound understanding of their historical, legal, and sociological context, marshalled towards a critique of what she calls the "phallocentric norms" that inhere in rape trial jurisprudence. Her analysis of the legal term, *habitue*, signaling a victim's sexual history, reveals the unsaid "secrets" that inform legal defenses and re-traumatize rape victims. As she reads the gaps and silences within official records, Pratiksha Baxi's interpretive prowess is as revelatory as her evidence. With its attention to the enduring legacies of colonial law-making and contemporary social inequalities as they inform the practice of law, this research sets new standards in feminist legal sociology, legal anthropology, and historical studies of jurisprudence. This pathbreaking study and other influential articles have shaped a growing field of interdisciplinary inquiry into the social life of law.

By establishing LASSnet, the Law and Social Sciences Research Network, Pratiksha Baxi has nurtured a vibrant and valuable dialogue between academics, activists and lawyers. She has the rare distinction of being a sociologist whose writings have been cited in court judgments, legal textbooks, and landmark judicial commission reports.

Pratiksha Baxi



Citation by the jury

Dr. Pratiksha Baxi's outstanding scholarship illuminates the difficult and complex issue of sexual violence with courageous fieldwork, meticulous analysis, and innovative conception. In her book, *Public Secrets: Rape Trials in India*, a superb ethnography of courts and communities involved in adjudicating rape, Dr. Baxi combines acute observation with a formidable understanding of the historical, legal, and sociological context. This landmark study and other influential articles set a new standard in feminist legal sociology and anthropology, as well as historical studies of jurisprudence.

Baxi's pathbreaking work has profoundly influenced a growing field of interdisciplinary inquiry into the social life of law. By establishing LASSnet, the Law and Social Sciences Research Network, Pratiksha Baxi has nurtured a vibrant and valuable dialogue between academics, activists and lawyers. For its critical and brilliant analytic eye, and its commitment to gender justice, Dr. Baxi's work richly deserves the Infosys Prize.

Pratiksha Baxi



JURY CHAIRS

Engineering and Computer Science



ARVIND
Jury Chair

Prof. Arvind is the Johnson Professor of Computer Science and Engineering, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology. His work was instrumental in the development of dynamic dataflow architectures and associated parallel programming languages. He developed the Bluespec language for the synthesis and verification of large digital systems. Prof. Arvind has received numerous awards and honors and they include - IEEE Charles Babbage Outstanding Scientist Award (1994); Distinguished Alumnus Award, I.I.T. Kanpur (1999); Outstanding Achievement Award, University of Minnesota (2008); and IEEE Computer Society Harry H. Goode Memorial Award (2012).

Jurors

Dhananjaya Dendukuri

CEO & Co-Founder, Achira Labs Pvt. Ltd., India

Jayathi Y. Murthy

Dean, Henry Samueli School of Engineering and Applied Science and Distinguished Professor, Department of Mechanical and Aerospace Engineering, University of California, Los Angeles, USA

Sudhir Jain

Director, Indian Institute of Technology, Gandhinagar (IITGN), Ahmedabad and Professor, IIT Kanpur, India

Jitendra Malik

Arthur J. Chick Professor Department of Electrical Engineering & Computer Science, University of California, Berkeley and Director of Research, Facebook AI Research, Menlo Park, USA

Kaushik Bhattacharya

Howell N. Tyson, Sr., Professor of Mechanics and Materials Science; Vice Provost Department of Mechanical and Civil Engineering, California Institute of Technology, USA

Humanities



AKEEL BILGRAMI
Jury Chair

Akeel Bilgrami is the Sidney Morgenbesser Professor of Philosophy and Professor, Committee on Global Thought, Columbia University. He is the author of the books Belief and Meaning, Self-Knowledge and Resentment, and Secularism, Identity, and Enchantment and is currently writing a book on Gandhi’s philosophy as well as a longer work on the nature of practical reason. At Columbia he has been the Chairman of the Philosophy Department from 1994-98, the Director of the Heyman Centre for the Humanities from Dec 2003-2010, and the Director of the South Asian Institute from 2013-2016. He was elected Cullman Fellow at the New York Public Library, held the Radhakrishnan Chair in India, visiting professorships at Oxford University and Yale University, and has been the recipient of fellowships and grants from the Mellon Foundation, Ford Foundation, National Endowment of the Humanities, as well as the Luce Foundation. He is also the President of the Trustees and the Executive Editor of The Journal of Philosophy.

Jurors

Sanjay Subrahmanyam

Distinguished Professor and Irving and Jean Stone Endowed Chair in Social Sciences, University of California, Los Angeles, USA

David Shulman

Professor Emeritus, Hebrew University, Jerusalem and a member of the Israel Academy of Sciences and Humanities, Israel

Janet Gyatso

Barbara Stoler Miller Professor of Indian and South Asian Art, Department of Art History and Archaeology, Columbia University, USA

Partha Mitter

Emeritus Professor, History of Art, University of Sussex, UK

Life Sciences



MRIGANKA SUR
Jury Chair

Mriganka Sur is the Newton Professor of Neuroscience; Director, Simons Center for the Social Brain; and Investigator, Picower Institute for Learning and Memory, at the Massachusetts Institute of Technology. He was head of the MIT Department of Brain and Cognitive Sciences for 15 years. The McGovern Institute for Brain Research was founded under his leadership. At MIT, Sur received the Hans-Lukas Teuber Scholar Award in the Brain Sciences (1997), the Sherman Fairchild Chair (1998), and the Newton Chair (2008). He is an elected Fellow of the Royal Society (UK), the US National Academy of Medicine, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, The World Academy of Sciences, and the Indian National Science Academy.

Jurors

Shubha Tole

Senior Professor and Dean Graduate Studies, Tata Institute of Fundamental Research, India

Akiko Iwasaki

Waldemar Von Zedtwitz Professor of Immunobiology and Molecular, Cellular and Developmental Biology and Professor of Epidemiology, Yale School of Medicine, USA

Vishva M. Dixit

Vice-President, Discovery Research, Genentech, USA

Jane Langdale

Professor of Plant Development, University of Oxford, UK

Timothy Mitchison

Hasib Sabbagh Professor of Systems Biology, Harvard University, USA

JURY CHAIRS

Mathematical Sciences



CHANDRASHEKHAR KHARE
Jury Chair

Professor & David Saxon Presidential Term Chair in Mathematics, University of California, Los Angeles, USA. Chandrashekhar Khare was born in Mumbai, and after finishing his higher secondary education there, studied for the Mathematical Tripos at Trinity College, Cambridge. After a year of study at Oxford, he moved to Caltech and obtained his Ph.D. in 1995. He returned to India to work for almost a decade at the Tata Institute of Fundamental Research in Mumbai. He moved thereafter to the University of Utah, and has been since 2007 at the University of California at Los Angeles.

He is a number theorist and works on the connection between modular forms and Galois representations. (Such a connection plays a key role in Wiles’s solution of Fermat’s Last Theorem.) Prof. Khare’s work with Jean-Pierre Wintenberger gave a proof of a celebrated conjecture of J.-P. Serre in the subject. The conjecture had motivated much work in this central area of number theory and had remained unresolved for more than three decades after it was first formulated.

Prof. Khare has received a number of honors and awards in recognition of his work. He received the Humboldt Research Award in 2011, Cole Prize in 2011, Infosys Prize in 2010, Guggenheim fellowship in 2008, Fermat prize in 2007, and the INSA Young Scientist Award in 1999. He was an invited speaker at the International Congress of Mathematicians, held at Hyderabad in August 2010. In 2012, he was elected as a Fellow of the Royal Society.

Jurors

Akshay Venkatesh

Professor, School of Mathematics, Institute for Advanced Study, Princeton, USA

Avi Wigderson

Herbert H. Maass Professor, School of Mathematics, Institute for Advanced Study, Princeton, USA

Parimala Raman

Arts & Sciences Distinguished Professor of Mathematics, Emory University, USA

Rajeeva Karandikar

Distinguished Professor and Former Director, Chennai Mathematical Institute, India

Terence Tao

James and Carol Collins chair, Professor of Mathematics at the University of California, Los Angeles, USA

Physical Sciences



SHRINIVAS KULKARNI
Jury Chair

Shrinivas Kulkarni is the George Ellery Hale Professor of Astronomy and Planetary Science at the California Institute of Technology (Caltech), USA. His primary interests are the study of compact objects (neutron stars and gamma-ray bursts) and the search for extra-solar planets through interferometric and adaptive techniques. He serves as the Interdisciplinary Scientist for the Space Interferometry Mission (SIM) and is co-Principal Investigator of the Planet Search Key Project (also on SIM). He has been awarded the Alan T. Waterman Prize of the NSF, a fellowship from the David and Lucile Packard Foundation, a Presidential Young Investigator award from the NSF and the Helen B. Warner award of the American Astronomical Society and the Jansky Prize of Associated Universities, Inc. He was also elected a Fellow of the American Academy of Arts and Sciences (1994), Fellow of the Royal Society of London (2001) and Fellow of the National Academy of Sciences (2003) and foreign member of the Royal Netherlands Academy of Arts and Sciences (2016). In 2017, he won the Dan David Prize for his contribution to the emerging field of Time Domain Astronomy.

Jurors

Tejinder Singh Virdee

Professor of Physics, Imperial College London, UK

Ajay K. Sood

DST Year of Science Professor, Department of Physics, Indian Institute of Science, India

Milind Purohit

Dean of Faculty Affairs, Okinawa Institute of Science and Technology Graduate University, Japan

Rana Adhikari

Professor of Physics, California Institute of Technology, USA

Subir Sachdev

Herchel Smith Professor of Physics, Harvard University, USA

Social Sciences



KAUSHIK BASU
Jury Chair

Kaushik Basu is Professor of Economics and the C. Marks Professor of International Studies at Cornell University. He is a former Chief Economist and Senior Vice President of the World Bank. Prior to joining the World Bank, he served as Chief Economic Adviser to the Government of India. A Fellow of the Econometric Society, he has published widely in the areas of Development Economics, Industrial Organization, Game Theory and Welfare Economics. His books include Analytical Development Economics (1997), Prelude to Political Economy: A Study of the Social and Political Foundations of Economics (2000), Of People, Of Places: Sketches from an Economist’s Notebook (1994), Beyond the Invisible Hand: Groundwork for a New Economics (2011) , An Economist’s Miscellany (2011), and The Republic of Beliefs (2018). In May 2008, he was awarded the Padma Bhushan by the Government of India.

Jurors

Amita Baviskar

Head of the Department of Environmental Studies, Professor of Environmental Studies and Sociology & Anthropology, Ashoka University, India

Andrew Willford

Professor of Anthropology, Cornell University and Chair of Cornell’s Institutional Review Board (IRB), USA

Gopalkrishna Gandhi

Professor of Political Science, History, and Indian Civilizations, Ashoka University, India

Rajeev Bhargava

Political theorist and Director, Institute of Indian Thought, Centre for the Study of Developing Societies, India

Niraja Gopal Jayal

Former Professor at the Centre for the Study of Law and Governance, Jawaharlal Nehru University, India

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*General Manager
Infosys Science Foundation*

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