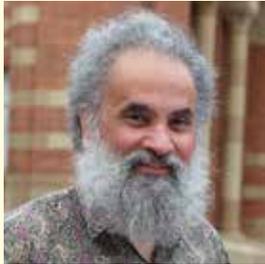




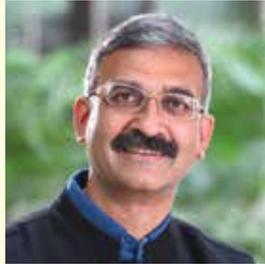
Dr. Ashish Lele  
Engineering and Computer Science



Prof. Sanjay  
Subrahmanyam  
Humanities – History



Prof. Amit Chaudhuri  
Humanities – Literary Studies



Prof. Satyajit Mayor  
Life Sciences



Prof. Manjul Bhargava  
Mathematical Sciences



Dr. A. Ajayaghosh  
Physical Sciences



Prof. Arunava Sen  
Social Sciences – Economics

INFOSYS SCIENCE FOUNDATION  
**INFOSYS PRIZE 2012**

“There are two kinds of truth: The truth that lights the way and the truth that warms the heart. The first of these is science, and the second is art. Neither is independent of the other or more important than the other. Without art science would be as useless as a pair of high forceps in the hands of a plumber. Without science art would become a crude mess of folklore and emotional quackery. The truth of art keeps science from becoming inhuman, and the truth of science keeps art from becoming ridiculous.”

Raymond Chandler  
1888 – 1959  
*Author*



**Dr. Ashish Lele**

Scientist,  
National Chemical Laboratories (NCL),  
Pune, India

## Engineering and Computer Science

The Infosys Prize for Engineering and Computer Science is awarded to Doctor Ashish Lele for his incisive contributions in molecular tailoring of stimuli responsive smart polymeric gels; exploring the anomalous behavior of rheologically complex fluids and for building the bridge between macromolecular dynamics and polymer processing.



Ashish Lele is a Scientist at the National Chemical Laboratories (NCL), Pune, India. He completed his B.E. in Chemical Engineering from the Institute of Chemical Technology (ICT), Mumbai (1988) and a Ph.D. in Chemical Engineering from the University of Delaware (1993).

Lele has received several awards including the CSIR Young Scientist Award (1996), the Indian National Science Academy Young Scientist Award (1998), and the Shanti Swarup Bhatnagar Prize in Engineering Science (2006). He is a Fellow of the Indian National Academy of Engineering and of the Indian Academy of Science.

He was a Visiting Professor at the I.S.I.T.V., Toulon, France (1996) and worked as a Research Associate at the University of Cambridge (2001). He is the President of the Indian Society of Rheology and a member of the editorial board of its prestigious journal, *Rheologica Acta*.

### Scope and impact of work

The thrust of Dr. Ashish Lele's research has been the deep probing of polymeric material microstructures at the molecular and mesoscopic length scales, and then relating these to their macroscopic dynamical and equilibrium properties.

His work on smart hydrogels – water swollen, cross-linked networks of polymers that respond to stimuli such as temperature and electrical field, and undergo volume phase transitions – demonstrated for the first time, macroscopic self-organization of these polymers. It revealed the process of how the hydrogel cylinder spontaneously self-organized into a coconut-like structure, which could be reversed. He showed that the metal ion complexation with specific functional groups attached to polymer chains could lead to the design of gels that mimic the behavior of the spontaneous healing of wounds in animals.

He provided the basis of molecular tailoring of such hydrogels, demonstrating how subtle changes in weak intermolecular forces can induce substantial changes in the volume phase transitions. His work has a profound significance on the use of hydrogels as sensors, soft actuators, etc.

His coarse-grained rigorous molecular model described the coupling between the dynamics of the chains that are tethered to the surface wall with the entangled bulk chains that flow past the wall. It unearthed the crucial role of a dynamic process, the 'convective constrained release,' in causing the stick-slip instability in extrusion

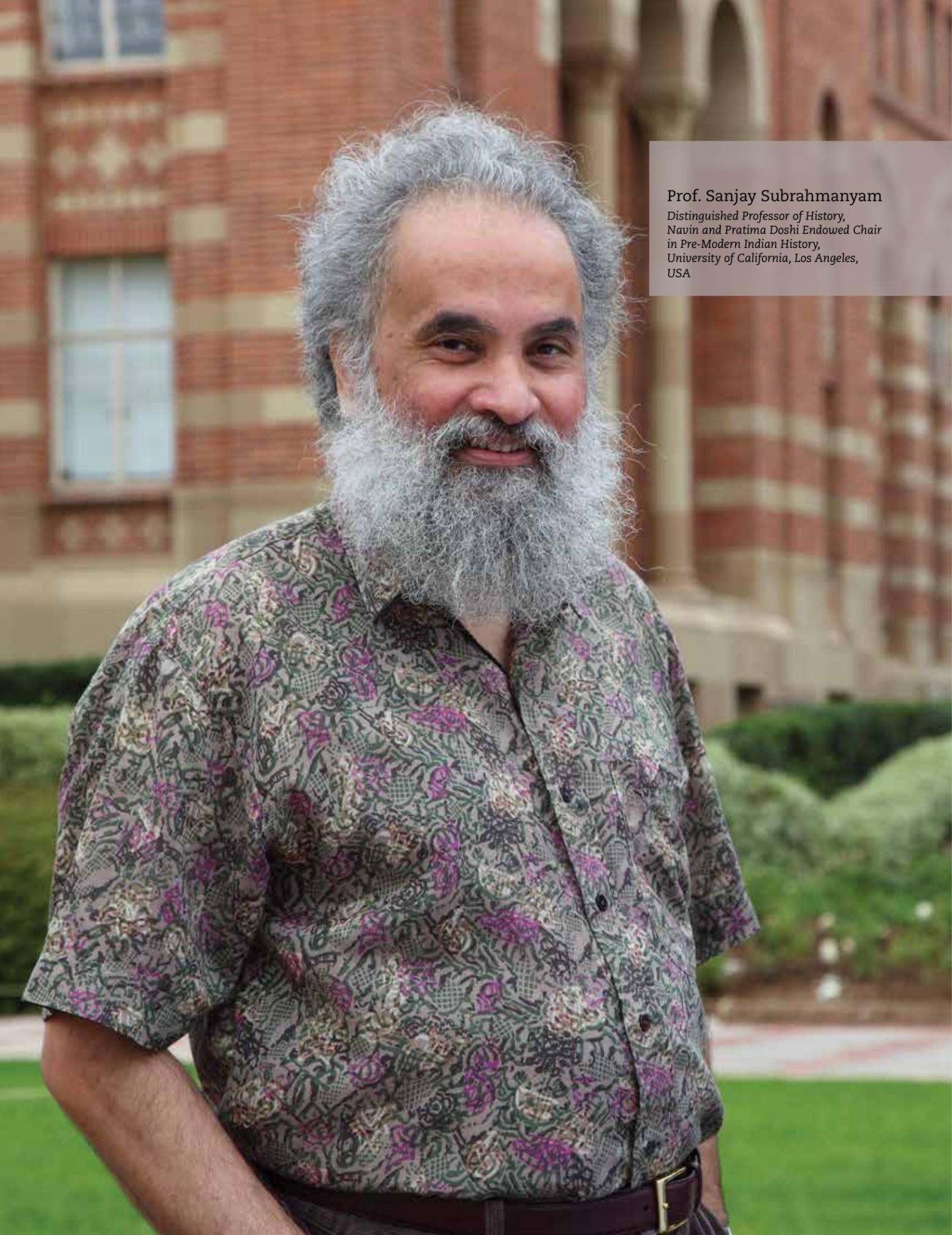
processes, which often limits industrial production.

His pioneering research on polymer-nanoclay composites showed that the melt viscosity of these materials drops precipitously due to flow-induced orientation and breakage of the nanoclay network. He showed how micro composite models could be used to predict the macroscopic mechanical properties of the polymer-nanoclay composites.

### Citation by the jury

Dr. Ashish Lele has made many novel and impactful contributions to polymer science and engineering. These include molecular tailoring of stimuli responsive smart hydrogels, new insights into the anomalous rheological behavior of complex fluids and the coupling of macromolecular dynamics and polymer processing.

He has many firsts to his credit. The experimental discovery of novel macroscopic self-organization in stimuli responsive gels and the discovery of self-healing gels were important breakthroughs. His theoretical firsts include, laying the foundations of a mean field theoretical framework of specific weak molecular interactions in gels; elucidation of the unusual amoeba-like dynamics of ring polymers; new insights into the role of convective constrained release of polymer chains in causing the industrially important stick-slip instability in flows of polymer melts, and the exploration of the critical role of flow-induced orientation of nanoclays.



**Prof. Sanjay Subrahmanyam**

*Distinguished Professor of History,  
Navin and Pratima Doshi Endowed Chair  
in Pre-Modern Indian History,  
University of California, Los Angeles,  
USA*

## Humanities – History

The Infosys Prize for Humanities – History, is awarded to Professor Sanjay Subrahmanyam, an outstanding scholar of early-modern (1500-1800) South Asian history. He has developed a new genre of ‘connected history,’ involving persons, products, and social and political processes stretching, on two sides of India, from Melaka in the East to Portugal in the West.



Sanjay Subrahmanyam is Distinguished Professor of History, and Navin and Pratima Doshi Endowed Chair in Pre-Modern Indian History at the University of California, Los Angeles, USA (since 2004). He got his M.A. in Economics (1982) from the University of Delhi and his Ph.D. (1987) from the Delhi School of Economics (DSE).

His past appointments include Chair in Indian History and Culture at the University of Oxford (2002-04), Directeur d'études at the Ecole des Hautes Etudes en Sciences Sociales (1995-2002) and Professor of Economic History (1993-95) at DSE. He was the founding Director of UCLA's Center for India and South Asia (2005-2011).

He was elected to the American Academy of Arts and Sciences in 2009. Bryn Mawr College in Pennsylvania selected him as the 2009 Mary Flexner Lecturer. He is the Joint Managing Editor of the *Indian Economic and Social History Review* and is on the editorial board of the *Cambridge History of the World*.

### Scope and impact of work

Prof. Sanjay Subrahmanyam has had a transformative influence in the field of early modern history for South Asia, and for much of the rest of the world. His geographical reach extends from South Asia to Southeast Asia, West Asia, Europe and Latin America. He has contributed to a wide array of historical sub-disciplines (economic, social, intellectual and literary history). He has published or co-published 25 books and about 200 articles, which have been influential. He writes in three languages, lectures in five, and his research material comes from nearly a dozen languages.

An important contribution of Subrahmanyam was to demonstrate the need to transcend the walls that have separately incarcerated histories of Asian nations for the past century. In his two-volume book, *Explorations in Connected History*, Subrahmanyam demonstrates, through an array of striking examples, how thinking beyond boundaries can uncover the linkages that have historically joined the countries of Eurasia together.

In *Penumbra Visions*, he explores the world of power of early modern South Asia, showing how political structures and cultures were transformed. He has also used the individual life as a window onto major movements of history.

His *Career and Legend of Vasco da Gama* deploys powerful archival research to separate myth from legend and offer a new, global view of European expansion. Subrahmanyam's recent publication, *Three Ways of Being Alien*, demonstrates

how foreigners, despite their possible prejudices and misgivings, could move through unfamiliar cultures with skill and success.

### Citation by the jury

Prof. Sanjay Subrahmanyam is an outstanding scholar of early-modern (1500-1800) South Asian history. His ground-breaking work recaptures the real dynamism that marked an epoch, which had often been wrongly viewed by earlier historians as ‘stagnant.’

He brings to his research work unparalleled command of archives in Europe, the Middle East, and India, along with vast readings of primary and secondary texts in nearly a dozen languages.

Subrahmanyam's numerous books and articles have been translated into Portuguese, Spanish, French, Italian, Chinese and Japanese. The impact of his far-reaching work has been felt across disciplines.



**Prof. Amit Chaudhuri**

Author and Professor of Contemporary Literature, University of East Anglia, Norwich, UK

## Humanities – Literary Studies

The Infosys Prize for Humanities – Literary Studies is awarded to Professor Amit Chaudhuri for his imaginative and illuminating writings in literary criticism that reflect a complex literary sensibility, and great theoretical mastery, along with a probing sense of detail. This Prize recognizes and celebrates the intellectual reach and a deep humanity in his extraordinary writings.



Amit Chaudhuri is an author and Professor of Contemporary Literature at University of East Anglia, Norwich, UK. He completed his B.A. from the University College, London (1986) and Ph.D. from Balliol College, Oxford (1993).

Some of his past appointments include, the Samuel Fischer Guest Professor of Literature at the Freie University, Berlin (2005-2006), Visiting Professor at the School of the Arts, Columbia University (2002) and Leverhulme Special Research Fellow at the Faculty of English, Cambridge University (1997-99).

Chaudhuri has received many awards including the Rabindra Puraskar (2012), the Sahitya Akademi Award (2002), the Los Angeles Times Book Prize for Fiction (2000), the Commonwealth Writers' Prize (1991) and the Society of Authors' Betty Trask Award (1991). He has authored several widely praised novels: *The Immortals*, *Afternoon Raag*, *A New World*, *Freedom Song*, and *A Strange and Sublime Address*. He was made Fellow of the Royal Society of Literature in 2009. He is an acclaimed Hindustani classical vocalist, with many splendid albums to his credit.

### Scope and impact of work

Apart from being a well-known novelist and a fine musician, Prof. Amit Chaudhuri is one of India's best literary and cultural critics.

His literary research ranges from an early book on D.H. Lawrence to a recent book on Rabindranath Tagore, and a large number of critical essays on Indian and English literature.

*D.H. Lawrence and Difference* has been described by one of Britain's most illustrious literary critics as 'ground-breaking'. The book is a reading of Lawrence's poetry through the lens of certain critical categories in post-structuralist and post-colonial literary theory, bringing fresh and illuminating insights to it.

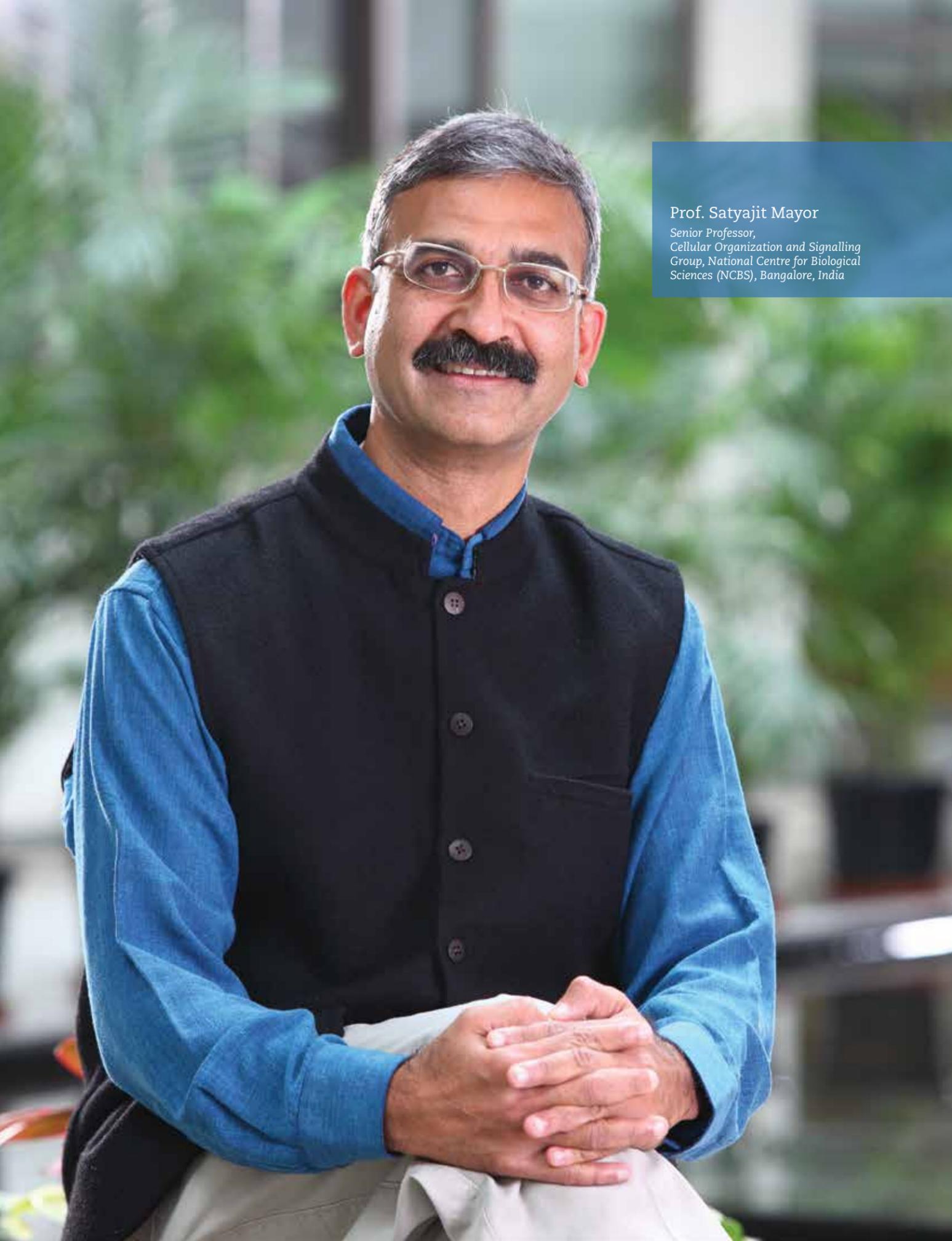
Chaudhuri's recently published, *On Tagore: Reading the Poet Today*, steers past a number of clichés about Tagore and relates his thought and poetry to notions of 'tradition' and 'modernity.' It also explores Tagore's ideas of history and of nature, while situating him in the context of global literature. His collection of essays, *Clearing A Space: Reflections on India, Literature, and Culture*, contains engaging and penetrating reviews and discussions of a vast span of writers including Salman Rushdie, V.S. Naipaul and Arun Kolatkar. These essays portray a complex literary sensibility, and a remarkably accomplished critical and acute mind.

### Citation by the jury

Prof. Amit Chaudhuri's writings in literary criticism reflect a complex literary sensibility, and great theoretical mastery, along with a probing sense of detail. These virtues are powerfully manifest in his highly original reading of D.H. Lawrence. He transcended the routine interpretations of Lawrence to a sober yet startlingly illuminating post-modern and even post-colonial understanding of his poems.

His personal and intellectual engagement with Tagore's works has recast a widely familiar corpus of writing, and has placed it in a dialectical relation with a long tradition of Western thought and literature.

These accomplishments have been steadily supplemented with a series of thoroughly engaging reviews of Indian and English literature, all done with an eye alert to subtle connections between critical theory, literary text, and cultural context.



### Prof. Satyajit Mayor

Senior Professor,  
Cellular Organization and Signalling  
Group, National Centre for Biological  
Sciences (NCBS), Bangalore, India

## Life Sciences

The Infosys Prize for Life Sciences is awarded to Professor Satyajit Mayor whose work provides new insights into regulated cell surface organization and membrane dynamics, necessary for understanding self-organization and trafficking of membrane molecules in living cells, and in signaling between cells.



Satyajit Mayor is Senior Professor of Cellular Organization and Signalling Group at the National Centre for Biological Sciences (NCBS), Bangalore, India. He did his M.Sc. in Chemistry from the Indian Institute of Technology (IIT), Mumbai and his Ph.D. in Life Sciences from the Rockefeller University, New York.

He has worked in the Department of Pathology at Columbia University and has taught at the Woods Hole Microscopy course and is a faculty of the Woods Hole Physiology course (2011-12). He was a Post-Doctoral Fellow at Columbia University (1991-95). He is on the editorial boards of several international journals such as *Cell*, *The Biochemical Journal*, *Journal of Cell Science*, and *Biochimica et Biophysica Acta*.

He has received several awards and accolades including the TWAS (The World Academy of Sciences) Prize in Biology (2010), the J.C. Bose Fellowship (2006-2011) and the Swarnajayanti Fellowship (2003-08) by the Department of Science and Technology and the Shanti Swarup Bhatnagar Prize (2003). He is the Wellcome Trust International Senior Research Fellow (1999-2004), a Fellow of the Indian Academy of Sciences (2001), and of the Indian National Academy of Sciences (2004).

### Scope and impact of work

Cells sense their extracellular environment via a wide range of membrane receptors, and continuously communicate this vital information internally. Many of these membrane receptors are located in the outer membrane of the living cell, and require special localized lipid and protein environment to function.

Current models of the cell membrane suggest that it is organized as a 'fluid' bilayer, made up of hundreds of lipid and protein species. It is hard to understand how such a fluid environment is able to provide a means to control the local composition of lipids and proteins.

Prof. Satyajit Mayor has proposed a mechanism that could both generate specialized domains and at once provide local control on membrane protein and lipid composition. He envisages short filaments of actin coupling to molecules at the cytoplasmic aspect of the cell surface. In this mechanism, short actin filaments undergo energy (ATP)-dependent movement mediated by their intrinsic treadmilling capacity and ability to associate with motors. This energy-fueled movement causes actin filaments to naturally assemble (and break up) into aster-like patterns. If membrane molecules couple to this type of dynamic actin, they would be driven into nanoscale clusters, which in turn, reflect the formation and break-up of these aster-like patterns.

Mayor and his colleagues have classified membrane components into three general classes: inert, passive and active, based on the ability of these molecules to interact (passive) or not (inert) with the active actin filaments.

While inert molecules do not sense dynamic actin filaments, passive molecules are organized at the nanoscale into clusters and into cluster-rich regions dictated by the density of aster-like patterns in a given region of the membrane. In contrast, active molecules not only interact with actin, but also modify the organization and dynamics of actin to help dictate the local membrane composition in the vicinity of the receptor.

### Citation by the jury

Prof. Satyajit Mayor's earliest independent contributions were to define the nanoscale organization of GPI-linked proteins using fluorescence anisotropy, showing that these proteins exist in small clusters, fundamentally clarifying the way in which membrane 'rafts' are now understood. He showed that these microdomains are organized by actin and are endocytosed by a novel pathway that is clathrin and dynamin independent and regulated by *cdc42*. This pathway is responsible for a significant fraction of the micropinocytosis by cells. He did a broad-scale analysis of the mechanisms of several different pathways of endocytosis of different classes of membrane proteins. This work has implications for endocytosis of immune regulators and modulation of immune responses.

He developed and applied fluorescence microscopic methods to an important problem, the analysis of gradients of morphogens important in pattern regulation in development and in cancer, such as Hedgehog and Wnt signaling. This provided fundamental insights into the detailed mechanisms involved, and opened up possible routes to intervention in such diseases.



### Prof. Manjul Bhargava

R. Brandon Fradd Professor of Mathematics, Princeton University, New Jersey, USA

## Mathematical Sciences

The Infosys Prize for Mathematical Sciences is awarded to Professor Manjul Bhargava for his extraordinarily original work in algebraic number theory. His work has revolutionized the way in which various fundamental arithmetic objects, such as number fields and elliptic curves, are understood.



Manjul Bhargava is the R. Brandon Fradd Professor of Mathematics at Princeton University, New Jersey, USA. He earned his A.B. in Mathematics from Harvard University (1996) and Ph.D. from Princeton University (2001). He joined Princeton University as a Professor of Mathematics in 2003. He was the first five-year Research Fellow of the Clay Mathematics Institute (2000-05). His primary research interests lie in number theory, representation theory, and algebraic geometry.

He has received numerous awards, including the Prix Fermat (2011), the AMS Cole Prize for number theory (2008), the SASTRA Ramanujan Prize (2005), which he shared with Prof. Kannan Soundararajan, the Blumenthal Award (2005), the Packard Foundation Fellowship in Science and Engineering (2004), the MAA Merten M. Hasse Prize for Exposition (2003), the Hoopes Prize for Excellence in Scholarly Work and Research from Harvard University (1996) and three Derek Bok Awards for Excellence in Teaching (1993-95). He was the 2011 Simons Lecturer at the Massachusetts Institute of Technology.

An accomplished tabla player, he studied with Pandit Prem Prakash Sharma and Ustad Zakir Hussain.

### Scope and impact of work

Prof. Manjul Bhargava is an eminent algebraic number theorist. He has developed novel techniques to count objects that were previously considered completely inaccessible. His research focused on the counting of number fields of fixed degree by discriminant.

An important theme in number theory has been how various objects of interest are distributed. An archetypal example is the prime number theorem, which tells us how the prime numbers are distributed among all integers. The theorem states that the number of prime numbers less than  $x$  is asymptotically  $x/\log x$ . Results for cubic fields had been obtained about 40 years ago in the classical work of Davenport and Heilbronn, but no progress was made on higher degree number fields until Bhargava's work opened up the subject. For example, using elementary but ingenious generalizations of Gauss' composition law for binary quadratic forms, which had been missed for 200 years, he was able to count the number of quartic and quintic number fields with absolute discriminant less than  $x$ , as  $x$  tends to infinity. He showed that about 83% of quartic fields and 100% of quintic fields had the full symmetric group as the Galois group.

Recently, he provided information about the average number of rational points on certain curves. Elliptic curves (cubic equations in two variables) have been a major subject of study by number theorists for over 300 years. The basic measure of the number of rational points is called the rank. Empirically, it is conjectured that 'most' elliptic curves have a rank of either 0 or 1, but nothing

definite was known until recently. Stunningly, Bhargava and his student Arul Shankar showed that for a positive proportion of elliptic curves the rank is 0. They also showed that the average rank of all elliptic curves is bounded and in fact is less than 1.

Bhargava and Prof. Benedict Gross showed that a positive proportion of hyper-elliptic curves of genus greater than 1 with a rational Weierstrass point have at most 3 rational points.

### Citation by the jury

Prof. Manjul Bhargava has made several highly original contributions to algebraic number theory. He has introduced brilliant new ideas which have turned a subject that had been largely stuck for 40 years, into one of the most active areas in number theory today. He has also proved a series of beautiful theorems that greatly enhance our understanding of number fields and algebraic curves, two of the most studied topics in number theory. In particular, he showed how to count quartic and quintic number fields, and proved that the average rank of elliptic curves over the rational numbers is less than 1.

## Physical Sciences

### Dr. A. Ajayaghosh

Senior Scientist, National Institute for Interdisciplinary Science and Technology (NIIST), CSIR, Thiruvananthapuram, India

The Infosys Prize for Physical Sciences is awarded to Doctor Ayappanpillai Ajayaghosh for his pioneering development of methods for the construction of supramolecular functional materials, which can be employed as components in organic electronic devices and in powerful substance selective optical sensing and imaging.



A. Ajayaghosh is a CSIR-Outstanding Scientist at the National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, India. In addition, he is the Dean of Chemical Sciences, Academy of Scientific and Innovative Research (AcSIR), CSIR, New Delhi.

He did his M.Sc. (1984) from Kerala University and Ph.D. (1988) from the Calicut University. He joined the Regional Research Laboratory, CSIR, as a Scientist in 1988. He was the Alexander von Humboldt Fellow at the Max Plank Institute for Strahlen Chemie, Germany (1994-96).

He has received several awards including the Thomson Reuters Research Excellence Award (2009), the Outstanding Researcher Award of the Department of Atomic Energy (2009) and the Shanti Swarup Bhatnagar Prize for Chemical Sciences (2007).

He has published several articles, book chapters and filed patents. He is a Fellow of the three Science Academies of India, and is on the international advisory board of the publication, *Chemistry – An Asian Journal*.

### Scope and impact of work

One of the grand challenges in chemistry, in the 21st century, is to understand the role of relatively weak noncovalent bonds in the construction of functional supramolecular architectures.

Dr. A. Ajayaghosh has done brilliant work in advancing the field of supramolecular chemistry, especially in the design and synthesis of molecular assemblies called pi-gels, a new class of materials formed out of organic pi-systems with great potential for photonic and electronic applications.

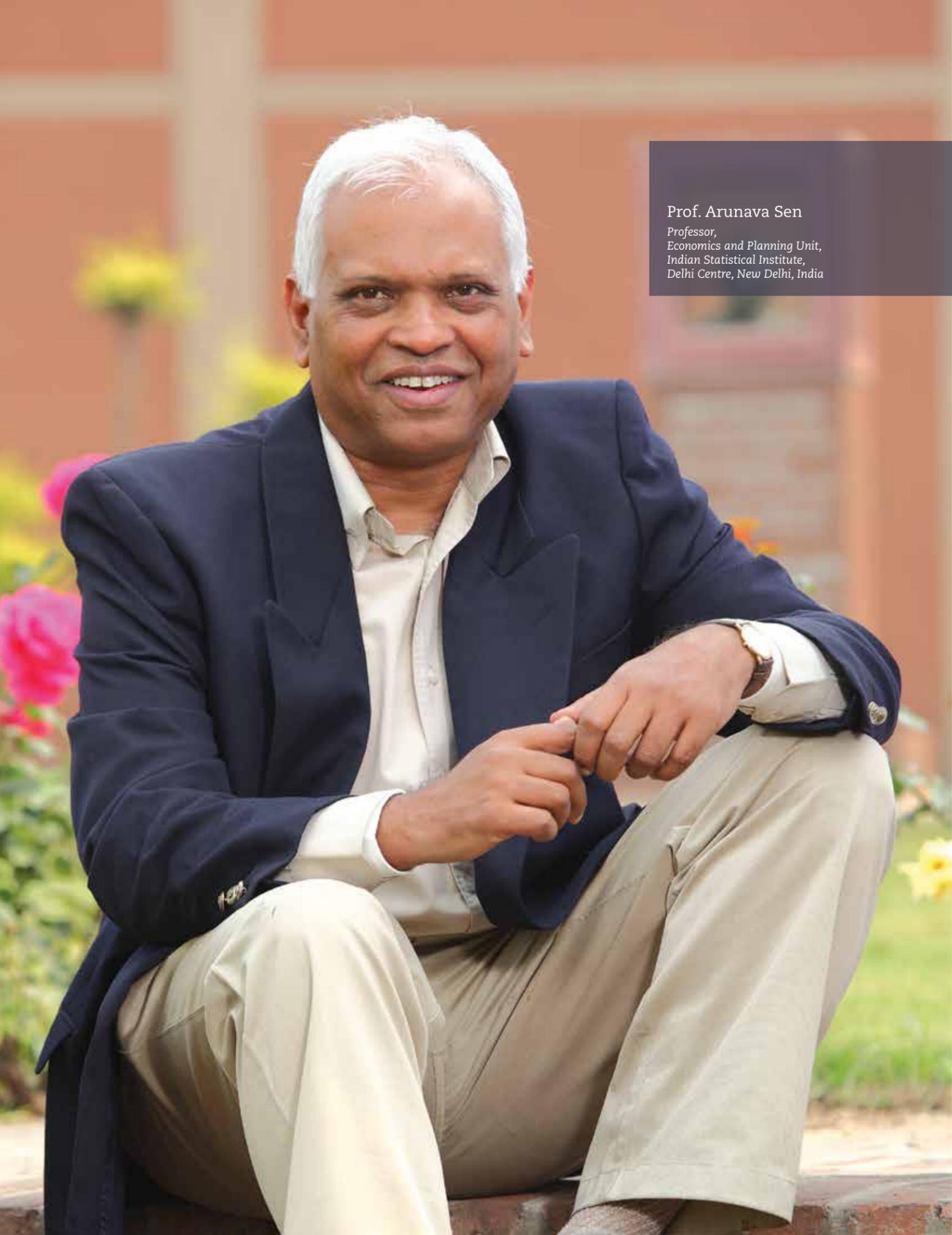
To control the size and shape of these soft nanomaterials, he designed hydrogen bond functionalities into fluorophores called phenylenevinylenes, to optimize weak noncovalent attractive interactions between the aromatic cores of the monomer units. These cleverly designed molecules self-assemble to nanoscale supramolecular architectures through hydrogen bond / aromatic-aromatic attractive interactions.

He was the first investigator to make functional phenylenevinylene organogels from designed building blocks. He has shown that these self-assembled nanomaterials can be used as a soft scaffold to control electronic energy transfer processes, paving the way for the development of superior light harvesting devices. His 2001 paper in the *American Chemical Society (J. Am. Chem. Soc. 2001, 123, 5148-5149)* cleared the way for the systematic exploration and exploitation of the properties of these designer organogels. He built on this early work in the construction of aesthetically appealing, functionally useful nanomaterials that can be used for energy conversion and in optical

sensors to detect tiny amounts of TNT and many other molecules of relevance. He is a leader in this exciting new area of materials chemistry.

### Citation by the jury

Dr. A. Ajayaghosh has done landmark work that has advanced supramolecular chemistry, especially in investigations that have led to the design and synthesis of molecular assemblies called organogels (pi-gels), a new class of materials with great potential for photonic and electronic applications. He has demonstrated that these self-assembled nanomaterials can be used to control the electronic energy transfer processes, paving the way for the development of superior light harvesting devices. He has synthesized and characterized nanomaterials that can be employed in organic electronic devices and in optical sensors to detect tiny amounts of TNT and many other biologically relevant substances.



### Prof. Arunava Sen

Professor,  
Economics and Planning Unit,  
Indian Statistical Institute,  
Delhi Centre, New Delhi, India

## Social Sciences – Economics

The Infosys Prize for Social Sciences – Economics is awarded to Professor Arunava Sen for his game-theoretic analyses of mechanism design for implementing social choice rules, when individuals have diverse information and incentives.



Arunava Sen is the Professor, Economics and Planning Unit at the Indian Statistical Institute, Delhi Centre, New Delhi, India. He received his Ph.D. from Princeton University (1987) and M.Phil. from Oxford University (1982). He is a globally-recognized economic theorist and has published several papers in leading international journals including *Econometrica*, *Journal of Economic Theory*, *Social Choice and Welfare*, *Games and Economic Behavior*, *Review of Economic Studies*, *Journal of Mathematical Economics*, and *the Journal of Mathematical Psychology*.

He is a Fellow of the Econometric Society (2003). He has several awards to his credit such as the Mahalanobis Memorial Medal of the Indian Econometric Society (2000) and the Koc University Prize (1995) for the best paper in *Economic Design*.

### Scope and impact of work

Prof. Arunava Sen's research encompasses mechanism design, social choice, auction design and game theory. He is a globally-recognized authority on mechanism design.

Mechanism design, Sen's primary research field has large implications on designing real-world policy, and its importance has been recognized through the Nobel Prize for Economic Sciences that was awarded to Leo Hurwicz, Eric Maskin and Roger Myerson in 2007. His work builds on the earlier research on Social Choice Theory, which effectively took off with Kenneth Arrow's seminal research and the fundamental contributions of Prof. Amartya Sen.

The theory of mechanism design can be applied to sort practical problems such as structuring auctions for resources (from oil to the telecommunications spectrum), setting rules for voting in elections, and making decisions on the level of public goods that governments should provide. While Sen's major contributions have been at the level of fundamental theory, he has discussed the potential application of mechanism design theory to an important policy question in the Indian context, namely, the issue of land acquisition for Special Economic Zones (SEZs) or for other industrial developments. He outlines how the requirement of voluntary participation, efficiency and incentive compatibility may be difficult or impossible to achieve simultaneously. His theory raises the possibilities for 'second-best' alternatives and the role of the government in setting rules to implement these possibilities.

Sen has been a major source of inspiration for students in India and has played a significant role in nurturing interest in economic theory among young economists.

### Citation by the jury

Prof. Arunava Sen's research recognizes that information pertinent to economic policy design is held by individuals who may benefit by misrepresenting it, and that policy implementation is constrained by the freedom of individuals to act. Therefore, it has large implications on real-world policy-making. His main contribution (in joint work with Prof. Dilip Abreu) shows that any social choice rule can be approximated by one that is a Nash equilibrium of such individual interaction.

## Engineering and Computer Science

### Jury Chair



#### Prof. Pradeep K. Khosla

Pradeep K. Khosla is the Chancellor, University of California (UC), San Diego, USA. He also serves as the Chief Executive Officer for UC, San Diego. He has received several awards including the Light of India Award (2012), the ASME Computers in Engineering Lifetime Achievement Award (2009), and the inaugural Pan IIT American Leadership Award for Academic Excellence (2009). He was awarded the Philip and Marsha Dowd Professorship in 1998 at the Carnegie Mellon University, Pittsburgh, USA. He has been elected as Member, National Academy of Engineering; Fellow of the Institute of Electrical and Electronics Engineers (IEEE) and Fellow of the American Association of Artificial Intelligence (AAAI).

### Jurors

#### Dr. R.A. Mashelkar

CSIR Bhatnagar Fellow at the National Chemical Laboratory in Pune, and President of Global Research Alliance.

#### Prof. Venkatesh Narayanamurti

Benjamin Peirce Professor of Technology and Public Policy, and Professor of Physics, Harvard University, Cambridge.

#### Prof. Arun Majumdar

Former Founding Director, Advanced Research Projects Agency – Energy, and Former Acting Undersecretary of Energy, Department of Energy, Washington DC.

#### Prof. Randal E. Bryant

Dean and Professor, School of Computer Science, Carnegie Mellon University, Pittsburgh.

## Humanities

### Jury Chair



#### Prof. Amartya Sen

Amartya Sen is the Thomas W. Lamont University Professor and Professor of Economics and Philosophy, Harvard University, Cambridge, USA. He is a Senior Fellow at the Harvard Society of Fellows. His research ranges over social choice theory, economic theory, ethics and political philosophy, welfare economics, theory of measurement, decision theory, development economics, public health, and gender studies. He won the Nobel Prize in Economics in 1998. His other awards include the George C. Marshall Award (2005), the Brazilian Ordem do Merito Cientifico, Grã-Cruz (2000); the Presidency of the Italian Republic Medal (2000); the Eisenhower Medal (2000); Honorary Companion of Honour, UK (2000); the Bharat Ratna (1999), the Edinburgh Medal (1997); and the Senator Giovanni Agnelli International Prize in Ethics (1990).

### Jurors

#### Prof. Akeel Bilgrami

Johnsonian Professor of Philosophy, Columbia University, and Faculty Member of the Committee on Global Thought, New York.

#### Prof. Homi K. Bhabha

Anne F. Rothenberg Professor of the Humanities in the Department of English; Director of the Mahindra Humanities Center and Senior Advisor on the Humanities to the President and Provost at Harvard University, Cambridge.

#### Leila Seth

Retired Chief Justice of Himachal Pradesh.

#### Prof. Sheldon Pollock

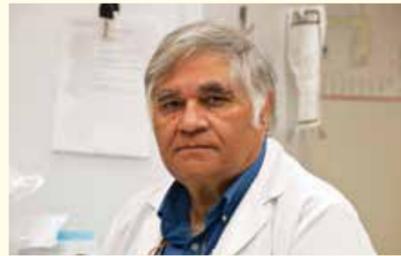
Arvind Raghunathan Professor of South Asian Studies, Columbia University, New York.

#### Prof. Upendra Baxi

Professor of Law, University of Warwick, Coventry.

## Life Sciences

### Jury Chair



#### Prof. Inder Verma

Inder Verma is Professor, Laboratory of Genetics, American Cancer Society Professor of Molecular Biology, and Irwin and Joan Jacobs Chair in Exemplary Life Science at the Salk Institute for Biological Studies, San Diego, USA. He is a leading authority on the development of viruses for gene therapy vectors. He is a member of the National Academy of Sciences (USA), Institute of Medicine, American Academy for Arts and Sciences, American Philosophical Society and the Third World Academy of Sciences. A Foreign Fellow of the Indian National Academy of Sciences, he was appointed Editor-in-Chief of *Proceedings of the National Academy of Sciences* (PNAS) in 2011. He is the recipient of the 2010 Spector Prize by Columbia University and the 22nd Annual Cancer Research Award (2010) of the Pasarow Foundation.

### Jurors

#### Prof. Cornelia I. Bargmann

Investigator, Howard Hughes Medical Institute and Torsten N. Wiesel Professor in the Lulu and Anthony Wang Laboratory of Neural Circuits and Behavior at Rockefeller University, New York.

#### Prof. Joanne Chory

Professor and Director, Plant Molecular and Cellular Biology Laboratory, Howard H. and Maryam R. Newman Chair in Plant Biology, Salk Institute for Biological Studies and Adjunct Professor of Biology at the University of California, San Diego.

#### Prof. Richard O. Hynes

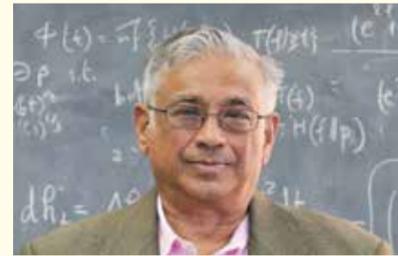
Investigator, Howard Hughes Medical Institute and Daniel K. Ludwig Professor for Cancer Research, The David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, Cambridge.

#### Prof. Venkatraman Ramakrishnan

Head, Division of Structural Studies, Medical Research Council Laboratory of Molecular Biology, Cambridge University, Cambridge.

## Mathematical Sciences

### Jury Chair



#### Prof. Srinivasa S.R. Varadhan

Srinivasa S.R. Varadhan is Professor of Mathematics and Frank J. Gould Professor of Science at the Courant Institute of Mathematical Sciences, New York University (NYU), New York, USA. He was awarded the National Medal of Science (2011) by the government of USA and the Padma Bhushan (2008) by the Government of India. He is a winner of the Abel Prize (2007), the Leroy Steeple Prize (1996), the Margaret and Herman Sokol Award of the Faculty of Arts and Sciences, NYU (1995) and the Birkhoff Prize (1994). He holds honorary degrees from the Université Pierre et Marie Curie in Paris (2003), the Indian Statistical Institute in Kolkata, (2004) and the Chennai Mathematics Institute (2008).

### Jurors

#### Prof. Gopal Prasad

Raoul Bott Professor of Mathematics, University of Michigan, Ann Arbor.

#### Prof. Ingrid Daubechies

James B. Duke Professor of Mathematics, Duke University, Durham.

#### Prof. Persi Diaconis

Mary V. Sunseri Professor of Statistics and Mathematics, Stanford University, Stanford.

#### Prof. Ravindran Kannan

Principal Researcher at Microsoft Research and Adjunct Professor at the Department of Computer Science and Automation, Indian Institute of Science, Bangalore.

#### Prof. Richard Taylor

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

## Physical Sciences

### Jury Chair



#### Prof. Shrinivas Kulkarni

Shrinivas Kulkarni is the John D. and Catherine T. MacArthur Professor of Astronomy and Planetary Science at the California Institute of Technology (Caltech), Pasadena, 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 is the Interdisciplinary Scientist for the Space Interferometry Mission and co-principal investigator of the Planet Search Key Project. He was awarded the Jansky Prize of Associated Universities, Inc. (2002), the Alan T. Waterman Prize (1992), the Helen B. Warner Award (1991), a fellowship from the David and Lucile Packard Foundation (1990-1995) and the Presidential Young Investigator Award (1988-1993). He was elected Fellow, of the National Academy of Sciences (2003), the Royal Society of London (2001) and the American Academy of Arts and Sciences (1994).

### Jurors

#### Prof. T.V. Ramakrishnan

Distinguished Associate, Centre for Condensed Matter Theory, Indian Institute of Science, Bangalore; Hindustan Lever Research Professor, Emeritus Professor of Physics, Banaras Hindu University, Varanasi.

#### Prof. Ramesh Narayan

Thomas Dudley Cabot Professor of the Natural Sciences at Harvard University, Cambridge.

#### Prof. Harry B. Gray

Arnold O. Beckman Professor of Chemistry and Founding Director of the Beckman Institute, California Institute of Technology, Pasadena.

#### Prof. Goverdhan Mehta

National Research Professor and Jubilant-Bhartia Chair Professor, School of Chemistry, University of Hyderabad, Hyderabad.

## Social Sciences

### Jury Chair



#### Prof. Kaushik Basu

Kaushik Basu is the Chief Economist and Senior Vice President, World Bank, Washington DC, USA. He is on leave from the post of the Professor of Economics and the C. Marks Professor of International Studies, Cornell University, Ithaca, USA. The former Chief Economic Advisor to the Government of India, he was awarded the Padma Bhushan in 2008. He is the President of the Human Development and Capabilities Association. He has held advisory posts with the International Labour Organization, World Bank, and the Reserve Bank of India. Among the books he has authored are *Beyond the Invisible Hand: Groundwork for a New Economics* (2011, Princeton University Press and Penguin) and the *Prelude to Political Economy: A Study of the Social and Political Foundations of Economics* (2000, Oxford University Press).

### Jurors

#### Prof. Avinash K. Dixit

John J. F. Sherrerd '52 University Professor of Economics, Emeritus at Princeton University, Princeton; Distinguished Adjunct Professor of Economics at Lingnan University, Lingnan and Senior Research Fellow at Nuffield College, Oxford.

#### Prof. Abhirup Sarkar

Professor of Economics at the Indian Statistical Institute and Chairman, West Bengal Infrastructure Development Finance Corporation, Kolkata.

#### Prof. Nirvikar Singh

Professor, Co-director, Sury Initiative for Global Finance and International Risk Management (SIGFIRM); Sarbjit Singh Aurora Chair in Sikh and Punjabi Studies, University of California, Santa Cruz.

## Trustees



### S. Gopalakrishnan

*President of the Board of Trustees, Executive Co-Chairman, Infosys Limited*

A co-founder of Infosys, Gopalakrishnan served as CEO and Managing Director from 2007 – 2011 and was appointed as the Executive Co-Chairman in August 2011. He is recognized as a global thought leader and has received several awards including the Padma Bhushan from the Government of India.



### N. R. Narayana Murthy

*Founder and Chairman Emeritus, Infosys Limited*

Murthy founded Infosys along with six other software professionals in 1981. He was awarded the Padma Vibhushan by the Government of India, the Légion d'honneur by the Government of France, and the CBE by the British government.



### V. Balakrishnan

*Head, Infosys BPO, Finacle and India Business Unit, Infosys Limited*

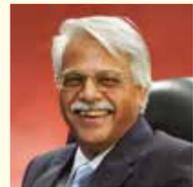
Prior to his current role, Balakrishnan served as the Chief Financial Officer 2006-2012. He joined Infosys in 1991 and has served as Company Secretary and Senior Vice President – Finance.



### Dr. Omkar Goswami

*Founder and Chairman, CERG Advisory Pvt. Ltd. and Independent Director, Infosys Limited*

Dr. Goswami is the Founder and Chairman of Corporate and Economic Research Group (CERG) Advisory Private Limited. He has been a consultant to the World Bank, the International Monetary Fund (IMF), the Asian Development Bank and the Organisation for Economic Cooperation and Development (OECD).



### Deepak M. Satwalekar

*Independent Director, Infosys Limited*

Satwalekar is the former Managing Director and CEO of HDFC Standard Life Insurance Co. Ltd. He has been a consultant to the World Bank, the Asian Development Bank, the United States Agency for International Development (USAID) and the United Nations Human Settlements Programme (HABITAT).



### S. D. Shibulal

*Chief Executive Officer and Managing Director, Infosys Limited*

A co-founder of Infosys, Shibulal took over as CEO in 2011. He is responsible for evolving the company's business model towards achieving Infosys' aspirations of becoming the next generation global consulting and IT services corporation.



### K. Dinesh

*Former Member of the Board, Infosys Limited*

A co-founder of Infosys, Dinesh was the Head of Quality, Information Systems and the Communication Design Group till June 2011.



### Srinath Batni

*Head of Delivery Excellence, Infosys Limited*

Batni was inducted to the Infosys Board in May 2000. He is also the Director, Infosys China and Infosys Australia. He is currently the Head of Delivery Excellence. From 1996-2000, he served as the Senior Vice President and Head, Retail and Telecommunications.



### T. V. Mohandas Pai

*Chairman, Manipal Global Education Services and former Member of the Board, Infosys Limited*

Pai served as the Chief Financial Officer of Infosys from 1994-2006. He led efforts in the areas of Human Resources and Education and Research from 2006 to June 2011 and is passionate about education reform.



### Bhavna Mehra

*General Manager, Infosys Science Foundation*

Mehra manages the ISF, focusing on expanding the inspirational and aspirational value of the Infosys Prize, and organizing the Infosys Science Foundation Lectures. She formerly managed strategic initiatives for Infosys, including its relationship with the World Economic Forum.

## THE INFOSYS SCIENCE FOUNDATION

### Securing India's scientific future

The Infosys Science Foundation, a not-for-profit trust, was set up in February 2009 by Infosys and some members of its Board. The Foundation instituted the Infosys Prize, an annual award, to honor outstanding achievements of researchers and scientists across six categories: Engineering and Computer Science, Humanities, Life Sciences, Mathematical Sciences, Physical Sciences and Social Sciences, each carrying a prize of ₹50 lakh.

The award intends to celebrate success and stand as a marker of excellence in scientific research. A jury comprising eminent leaders in each of these fields comes together to evaluate the achievements of the nominees against the standards of international research, placing the winners on par with the finest researchers in the world.

In keeping with its mission of spreading the culture of science, the Foundation has instituted the Infosys Science Foundation Lectures – a series of public talks by jurors and laureates of the Infosys Prize on their work that will help inspire young researchers and students.



INFOSYS SCIENCE FOUNDATION

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