

CHAIR PROFESSORS AT IIT BOMBAY

Introduction

CHAIR PROFESSORS

CHAIR is the term given to endowed professorships. It has a rich history and prestige that has remained unchanged over the years. The first endowed professorships in basic science and medicine were established in 1546 by Henry VIII. Later, private individuals began donating the funds for chairs, with one of the firsts being the Lucasian Chair in Mathematics, given to Sir Isaac Newton in 1669.

The honor of being appointed to an endowed chair has not changed through the years. It is one of the highest honors awarded in the academic arena and is reserved for the top faculty members at IIT Bombay as an acknowledgment of their signal contributions in research and teaching.

The prestige of an endowed chair also lends an additional cachet to the departments. It helps to attract the best and brightest young students and investigators thus securing the future of the institution. It is clear why endowed Chairs are an essential constituent of IIT Bombay. This is what would be seen in many other outstanding educational institutions worldwide.

HOW IT WORKS

Appointments to the Chairs are made by a committee headed by the Director of IIT Bombay, with field experts and Institute functionaries as members and a nominee of the donor as an observer. Selection is based on peer reviews of the overall research achievements and other achievements in the recent past. Contributions made to the growth of the Institute are given due weightage.

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Chair Professors 2019

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Named Chair Professors

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Prof. Ravi Poovaiah

Chair Professors 2019

IIT Bombay has 77 Chairs. Of these, 57 have already been filled. 27 Chairs have been established with generous donations from alumni and other friends of the Institute. In addition, IIT Bombay has also created Institute Chairs.

Donors' Information

J.R. Isaac Assistant Chair

The J.R. Isaac Assistant Chair was set up with a donation from Mr. Vincent Fernandes, a 1975 batch graduate of Dept. of Electrical Engineering from IIT Bombay, in honour of his teacher and mentor, Prof J.R Isaac, who retired from IIT Bombay in 1990. A renowned academic leader, Prof. Isaac was instrumental in setting up the Computer Center and later the Department of Computer Science and Engineering at the Institute. The goal of this Chair is to recognize a young faculty member in the Dept. of Computer Science and Engineering for achievements at a young age and support the faculty member's R&D activities.

G.K. Devarajulu Chair

The late Cavalier Dr. G.K. Devarajulu, founder chairman of Lakshmi Machine Works (LMW) Group, was a legend in his own lifetime. At the age of 21, he succeeded in establishing Lakshmi Mills in the city of Coimbatore. In 1962, he established LMW and proved that well-equipped cotton ginning machines could be manufactured by Indian industries as well. Today, LMW is a leading textile machinery manufacturer in India and one among the top three in the world, for producing the entire range of spinning machinery. In the loving memory of late Dr. Devarajulu, the Chair was instituted with donation from the Textile Machinery Manufacturers' Association (India). The Chair is awarded to a renowned professor in specialization relevant to the textile industry.

P. K. Kelkar Chair for Nanotechnology

Dr. Purushottam Kashinath Kelkar is widely known as the Founder-Director and architect of IIT Kanpur, which was established in 1959. He was also responsible for the planning process for the establishment of IIT Bombay and later served as its third Director. In recognition of his contribution to technical education, the Government of India conferred the title of Padma Bhushan on him in 1969. The P.K. Kelkar Chair was instituted through a donation by the alumni of 1962 batch of IIT Bombay, which was also the first batch to graduate from the Institute. This Chair is awarded to a professor who has been doing outstanding work in the field of nanotechnology.

Forbes Marshall Chair

Internationally renowned, the Forbes Marshall Group is a leader in process efficiency and energy conservation for the process industry, with over seven decades of experience in building steam engineering and control instrumentation solutions. The company's expertise lies in engineering customized systems that improve manufacturing processes, conserves energy and is environmentally sustainable. This Chair was instituted by the company for a professor who has been a pioneer in the field of Energy Science and Engineering.

Bajaj Group Chair

The Bajaj Group is an Indian conglomerate founded by Mr. Jamnalal Bajaj in 1926, in Mumbai. The group comprises 36 companies, and its flagship company Bajaj Auto is ranked as the world's third largest manufacturer of motorcycles and the largest manufacturer of three-wheelers. Some of the notable companies of the Group include Bajaj Auto Ltd, Bajaj Finserv Ltd, Hercules Hoists Ltd, Bajaj Electricals, Mukand Ltd, Bajaj Hindusthan Sugar Ltd and Bajaj Holding & Investment Ltd. The group has involvement in various industries that include automobiles, home appliances, lighting, iron and steel, insurance, travel and finance. The group is currently headed by Mr. Rahul Bajaj. The Bajaj Group Chair was instituted at IIT Bombay, with financial support from the group for a Professor who has been a pioneer in the area of Computer Science and Engineering.

Rahul Bajaj Chair

Mr. Rahul Bajaj is an Indian businessman, politician and philanthropist. He is the Chairman of the well-known business conglomerate Bajaj Group. He joined the Bajaj Group in 1965 and since then has taken several initiatives and enabled the Company to achieve greater heights. He has been awarded with the nation's third highest civilian award Padma Bhushan in 2001. Mr. Bajaj was also the Chairman of IIT Bombay's Board of Governors between 2003-2006. The Rahul Bajaj Chair Professor at IIT Bombay has been instituted by the Bajaj Group for a Professor in the area of Mechanical Engineering.

Kamalnayan Bajaj Chair

Mr. Kamalnayan Bajaj, the eldest son of Mr. Jamnalal Bajaj started shouldering family responsibilities from an early age. After completing his education from the University of Cambridge, England, he returned to India to assist his father both in business and in social service. With tremendous foresight and a spirit of zestful enterprise, Mr. Kamalnayan Bajaj acquired ailing industrial units and then miraculously turned them around. He went on to expand the business by branching into the manufacture of scooter, three-wheelers, cement, alloy casting and electricals. In 1954, he took over active management of the Bajaj Group of companies. The Chair under his name has been instituted by the Bajaj Group for a Professor who has pioneered in the area of Electrical Engineering.

Ramkrishna Bajaj Chair

Mr. Ramkrishna Bajaj, the younger son of Mr. Jamnalal Bajaj, took over after the demise of his elder brother, Mr. Kamalnayan Bajaj, in 1972. The younger Bajaj scion had a flair and panache for working with youth. He was elected as the Chairman of the World Assembly for Youth (India) in 1961. He also held the office of the Managing Trustee of the Indian Youth Centers Trust, which conceived and created the Vishwa Yuvak Kendra in 1968, a trail-blazing organisation for youth development. The Chair under his name was instituted by the Bajaj Group for a Professor from the IDC School of Design, working in the area of design.

D.L. Shah Chair for Innovation

Late Mr. D. L. Shah, the founder of the D.L. Shah Trust, was a man of vision, an industrialist of repute and a noted philanthropist. He made significant contributions to the Indian industry in general, and the machine tool industry, in particular. The D.L. Shah Trust promotes and propagates ideas and visions of its founder by introducing systems, methods, mechanisms and practices to better the overall quality of life in India. The D.L. Shah Chair for Innovation was instituted with a donation from the Trust for a Professor working in the field of quality and doing path-breaking research and innovation that will have a positive impact on society.

Pramod Chaudhari Chair for Green Chemistry & Industrial Biotechnology

The Pramod Chaudhari Chair Professorship for Green Chemistry & Industrial Biotechnology was instituted at IIT Bombay, with a donation from Mr. Pramod Madhukar Chaudhari and Mrs. Parimal Pramod Chaudhari, for a professor working in the area of Green Chemistry and Industrial Biotechnology. A distinguished alumnus of the Institute, Mr. Chaudhari graduated from IIT Bombay in the year 1971. He is the Founder-Chairman and Managing Director of Praj Industries Limited, which is a global leader in renewable energies and environmental technologies. Praj has been placed under the Forbes 200 Best Under a Billion Company in Asia, twice. Mr. Chaudhari has been voted amongst 'Globally Top 100 People in Bio-energy Space' by Biofuels Digest. His wife, Mrs. Parimal Pramod Chaudhari is the Managing Trustee of Praj Foundation and steers the CSR wing of the company.

Praj Industries Chair for Energy Sciences and Engineering

Founded by IIT Bombay alumnus, Mr. Pramod Madhukar Chaudhari, Praj Industries is considered to be one of India's most successful biofuels companies, taking bio-based technologies from India to the world. Today, Praj is a globally leading company with a bouquet of sustainable solutions for bioenergy, high purity water, critical process equipment, breweries and industrial wastewater treatment. Praj has spread its presence across the globe with more than 750 references, in more than 75 countries, having acquired international repute for responsible and reliable solutions. The Praj Industries Chair for Energy Sciences and Engineering was instituted by Praj Industries for a Professor carrying out path-breaking work in the area of Energy Science and Engineering.

Biswas-Palepu Distinguished Chair in Department of Chemistry

Dr. Nagesh Palepu received his MSc in Chemistry from IIT Bombay in 1972. Later, he obtained his PhD in Pharmaceuticals from the University of Iowa. A distinguished alumnus of the Institute, he is the Founder of TherDose Pharma, Hyderabad, and has made outstanding contributions to the global pharmaceutical industry as an entrepreneur and business leader. Over the course of his distinguished career, Dr. Palepu has published over 25 journal articles and has over 50 US patents to his credit. The Biswas-Palepu Distinguished Chair was instituted at IIT Bombay with a donation from the Palepu Foundation for a Professor carrying out commendable work in the field of Chemistry.

Class of 1985 Chair in Technology & Sustainable Development

The alumni of class of 1985 have instituted a Chair Professorship for a Professor who has had significant and path-breaking contributions helping the nation's sustainable development goals. The Chair is named as Class of 1985 Chair in Technology & Sustainable Development.

Maharashtra Pollution Control Board Chair

The Maharashtra Pollution Control Board (MPCB), established in September 1970, is responsible for implementing a range of environmental legislation in the state of Maharashtra, India. The MPCB functions under the administrative control of Environment Department of the Government of Maharashtra. The Maharashtra Pollution Control Board Chair was instituted by MPCB to support faculty from the Centre for Environmental Science and Engineering. The Chair Professorship is a recognition of the outstanding work being done by the faculty member in the area of environmental technologies and pollution control.

Jitendra K. & Meena J. Mehta Chair of Structural Engineering

The Jitendra K. & Meena J. Mehta Chair Professor was instituted at IIT Bombay with a generous donation from Dr. Jitendra Mehta for a Professor in the area of Structural Engineering. Dr. Mehta, who graduated from IIT Bombay in 1963, is the founder of Group M Engineers in Los Angeles. He has over 40 years of experience in structural engineering in California that covers both commercial and residential facilities of many different types. His residential design experience ranges from single-family homes to multi-storey apartments over concrete parking structures, and mixed-use buildings. His commercial design experience includes shopping centers, offices and large industrial buildings.

HAL R&D Chair

Hindustan Aeronautics Limited (HAL) is an Indian state-owned aerospace and defence company with headquarters in Bangalore, Karnataka. The government-owned corporation is primarily involved in the operations of the aerospace industry. These include manufacturing and assembly of aircraft, navigation and related communication equipment and airports operation. HAL has established the HAL R&D Chair for a Professor of the Dept. of Electrical Engineering in the area of Voice and Data Communication.

Subrao M. Nilekani Chair

The Subrao M. Nilekani Chair was instituted at IIT Bombay with a generous donation from Mr. Nandan Nilekani, a distinguished alumnus who graduated from the Dept. of Electrical Engineering in 1978. Mr. Nandan Nilekani is the co-founder of Infosys Technologies and former Chairman of Unique Identification Authority of India (UIDAI). The Chair is named after his uncle Mr. Subrao M. Nilekani, for a Professor in the area of Information Technology.

Vijay and Sita Vashee Chair

Mr. Vijay Vashee is an alumnus of 1975 batch from IIT Bombay. He joined Microsoft Corporation in 1982 as 'employee number 160' when Microsoft existed as a \$25 million corporation. He is credited with running the first Windows seminar and for setting up the MS ISV program. He was also a major contributor to the 1.0 versions of Windows, Mouse, Works, Win, Excel and other products. He was involved in the successful marketing push for applications like Word, Excel, Works and Flight Simulator to Mice, as well. Under his leadership, the \$5 million business vertical grew into a \$100 million enterprise. He was also the general manager of PowerPoint, and helped make it the number-one choice from its previous third-in-line status and grew the business from \$100 million to \$600 million. He instituted the Vijay and Sita Vashee Chair for a Professor in the area of Information Technology.

L&T Chair

Larsen and Toubro or L&T as it is widely known, is one of India's largest multinationals with offerings that span technology, engineering, construction, manufacturing and financial services. The L&T Chair was instituted by the company for a Professor in the departments of Mechanical Engineering or Chemical Engineering.

N.R. Kamath Chair for Institutional Excellence

The N.R. Kamath Chair for Institutional Excellence was set up by the alumni who graduated between 1962 and 1973. The Chair is named after late Prof. N. R. Kamath who played a decisive role as an academician and administrator during the formative phase of growth of not only the Dept. of Chemical Engineering at IIT Bombay, but also of the Institute. Prof. Kamath was the first Deputy Director of the Institute and is credited with being responsible for setting up the academic systems of IIT Bombay. The N.R. Kamath Chair is for a Visiting Professor to spend one semester at the Institute.

Madhuri Sinha Chair Professor

Madhuri Sinha Chair Professor was set up with a generous donation from Dr. Krishna Sinha who is a cardiologist in Denver, Colorado, and is affiliated with St. Anthony North Hospital. He received his medical degree from Patna Medical College and has been in practice for nearly 60 years. The Chair is for a Professor from the Dept. of Biosciences and Bioengineering or any other department working on bioengineering.

Major Bhagat Singh Rekhi Chair

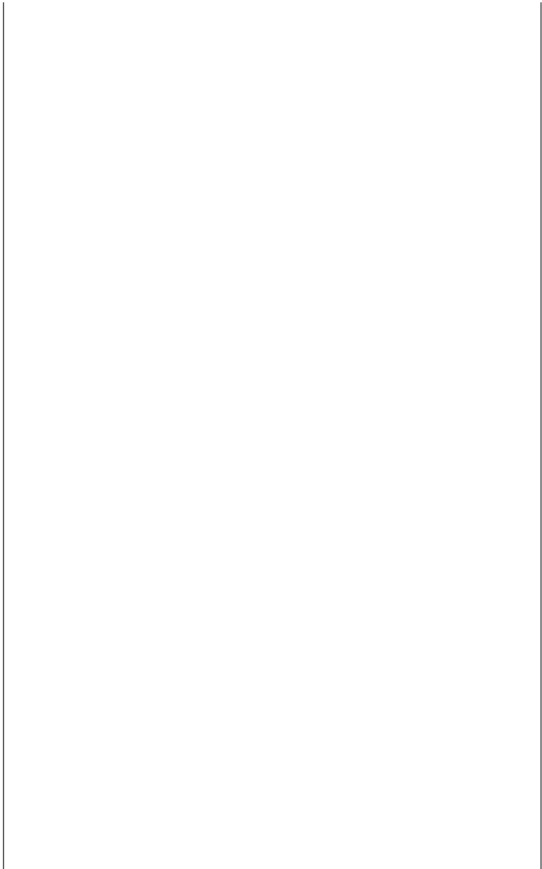
Dhrumil Gandhi Chair

India Value Fund Chair

MHRD IPR Chair

Shailesh Mehta Chair

Tata Chain for Fungal Technology



Prof. Dulal Panda

Institute Chair Professor

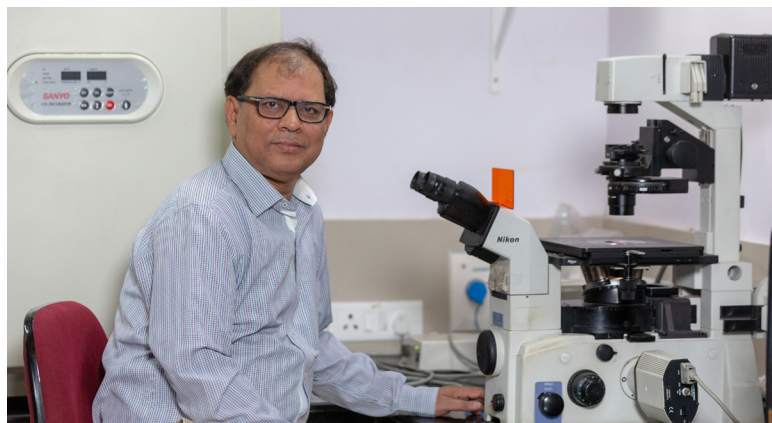
Department of
Biosciences &
Bioengineering

Academic Background

B.Sc., Calcutta University,
1984

M.Sc., Calcutta
University, 1986

Ph.D., Jadavpur
University, Kolkata, 1994



Prof. Panda has been with the Dept. of Biosciences & Bioengineering in IIT Bombay, since 2011. Before joining IIT Bombay in 2000, as an Assistant Professor, he was working with University of California Santa Barbara, as an Assistant Research Biologist.

He has contributed in understanding microtubule dynamics and its role in mammalian cell division and cell motility. He has discovered several tubulin inhibitors having potent

anticancer activity. Prof. Panda has also made immense contributions in understanding the role of a bacterial cell division protein FtsZ in bacterial cell division. He has shown that the assembly dynamics of FtsZ can be used as a screen for finding novel anti-tubercular agents. Several FtsZ-targeted antibacterial agents have been identified in his lab.

He is an editorial advisory Board member for Biochemical Journal, and an Associate Editor for

Research Interests

Molecular cell biology, microtubule dynamics, cell cycle, cell motility, microtubule targeted anticancer drugs

FtsZ assembly dynamics, bacterial cell division, antibacterial drugs

Protein aggregation and neuronal diseases, nano-biotechnology

BMC Cell Biology and a member of the Guha Research Conference. He is a fellow of Indian Academy of Sciences and National Academy of Sciences, India. He has received the G. N. Ramachandran Gold Medal for Excellence in Biological Sciences and Technology from CSIR, Government of India, DAE-SRC Outstanding Research Investigator Award, Swarnajayanti Fellowship, and the National Bioscience Award from the DBT, Government of India, among others.

Prof. Soumyo Mukherji

Institute Chair Professor

Department of Biosciences & Bioengineering

Academic Background

B.Tech. in Instrumentation
Engineering, IIT
Kharagpur), May 1989

MS in Mechanical
Engineering, Colorado
State University (Fort
Collins, USA), July 1992

Ph.D. in Biomedical
Engineering, University
of North Carolina (Chapel
Hill, USA), August 1997



Prof. Soumyo Mukherji is associated with research in sensors and instrumentation, particularly in the biomedical domain. He is the associate editor of three journals, two of them being classical journals in biomedical engineering viz. IEEE Transactions and Medical and Biological Engineering and Computing.

Students working under his guidance have won various awards including the SRISTI-BIRAC Gandhian Young Technological Innovation Award, in 2017 and 2018.

He has guided / co-guided 19 PhD students and over 50 MTech students, with whom he has published over 70 journal papers and 80 conference presentations. He has been the Head of the Centre for Research in Nanotechnology and Sciences and is now the Dean of Student Affairs. He is also a member of various scientific advisory committees in both governmental and private sectors.

Research Interests

Sensors and instruments for widescale deployment in resource constrained locales for medical and environmental applications, mobile health, security

Prof. Suparna Mukherji

Institute Chair Professor

Centre for Environmental Science & Engineering

Academic Background

PhD in Environmental Engineering; The University of Michigan, Ann Arbor, USA, 1997

MS in Civil and Environmental Engineering; Clarkson University, Potsdam, USA; 1991

BTech in Energy Engineering; IIT Kharagpur, 1989



Prof. Suparna Mukherji has been a faculty member in the Centre for Environmental Science and Technology (CESE), IIT Bombay, since 1998. She was awarded the AICTE career award for young teachers by AICTE in 2000 and the National Women Bioscientist Award (Young Category) by DBT, in 2009. She is actively involved in teaching and research in the area of Environmental Science and Engineering.

Her research in the area of bioremediation of oil spills,

treatment of oily wastewater and sludge; biological treatment of recalcitrant wastewaters and application of nanomaterials for water treatment is widely cited. She is a member of International Water Association (IWA); Society for Environmental Toxicology and Chemistry (SETAC); Society for Applied Microbiology (Sfam); Air and Waste Management Association (AWMA); Indian Environmental Association (IEA); and Indian Association for Environmental Management.

Research Interests

Biotransformation and toxicity evaluation of complex organic pollutants

Bioremediation

Fate and transport of pollutants in aquatic and subsurface systems

Physicochemical and biological treatment processes

Hazardous waste minimization and pollution prevention

Monitoring and removal of micropollutants from water

She is a fellow of Geological Society of India (GSI) and Institution of Engineers, India. She is Associate Editor (Environmental Engineering) for Journal of Institution of Engineers, Series A and is in the Editorial Board of Applied Nanoscience, Springer.

Prof. Krishna Mohan Buddhiraju

Institute Chair Professor

Centre of Studies in Resources Engineering

Academic Background

PhD in Electrical
Engineering from IIT
Bombay, 1991

MTech in Electrical
Engineering from IIT
Bombay, 1983

BTech in Electronics
and Communication
Engineering from
Jawaharlal Nehru
Technological University,
Hyderabad, 1981



Prof. Krishna Mohan Buddhiraju has been conducting and supervising research on image processing and machine learning for several years, with special focus on satellite remotely sensed images. He contributed extensively in this area with over 150 publications in refereed journals and conference proceedings.

He is an Associate Editor of the Indian Journal of Remote Sensing, published by Springer. He received the

National Geospatial Award for Excellence 2012 from Indian Society of Remote Sensing and the M.N. Saha Memorial Medal from Institution of Electronics and Telecommunication Engineers for “Best Application Oriented Paper” in IETE Journal of Research, September 2000. He is also co-author of two prize winning papers in Asian Conference on Remote Sensing, 2017. He is a consultant in the area of application of geospatial technologies like GIS and information extraction from

satellite images.

Press). He has supervised 21 Doctoral theses so far, has authored over 250 technical publications including about 130 peer reviewed journal papers and co-authored a text book.

Research Interests

Multispectral and
Hyperspectral Image
processing and analysis

Machine learning

Multimedia educational
content development

Geographical information
systems

Prof. K.V. Venkatesh

Institute Chair Professor

Department of
Chemical Engineering

Academic Background

BTech, Chemical
Engineering, IIT Madras,
1989

PhD, Purdue University,
1993



Prof. K.V. Venkatesh is a professor in the Dept. of Chemical Engineering in IIT Bombay. He got his B. Tech from chemical engineering from IIT Madras, and later pursued his PhD at Purdue University, USA. He joined the faculty of IIT Bombay in 1993 after his PhD. He has an extensive research experience in the areas of Systems and Synthetic Biology and Biosystems Engineering.

He has contributed significantly to research in the areas of quantification of

biological networks including genetic, signaling and metabolic pathways. He has about 160 journal articles and book chapter to his credit. In recognition, he has won several national awards like the prestigious Swaranjyanthi fellowship from DST, INSA young scientist and INAE Young Engineers awards. He is an associate editor of BMC systems biology. He is an elected fellow of the Indian Academy of Sciences, Bengaluru. He has recently incubated a company in the healthcare space.

Research Interests

Biosystems Engineering,
Systems and Synthetic
Biology, Metabolic
Engineering, Biological
Network analysis

Prof. Jayesh Bellare

Institute Chair Professor

Department of
Chemical Engineering

Academic Background

B.Tech., IIT Bombay, 1982

Ph.D., University of
Minnesota, USA, 1988

Post-doctoral
fellow, University
of Massachusetts,
Amherst, USA, 1989

Post-doctoral fellow,
M.I.T., Cambridge, USA,
1990



Prof. Jayesh Bellare focuses on the cross-disciplinary area of nanotechnology for human health care. Currently his research group is involved into nanoparticles for drug delivery, biomedical devices, regenerative medicine, bio-artificial organs, tissue-engineered bone grafts, hollow-fiber dialysis membranes, complex liquids, soft solids and stem cells. His work on nano-medicines that spans the Allopathic, Ayurvedic and Homeopathic medicinal systems is known.

Prof. Bellare has been on the Research Advisory Committees of the Institute of Life Sciences, Bhubaneswar; the Central Electrochemical Research Institute, Karaikudi, CSIR-CSMCRI, and CSIR-IITR.

He has over 180 papers in peer-reviewed journals of national and international repute, and over a dozen patents applied for and six granted. He is an elected Fellow of the National Academy of Science, India; the Indian National

Research Interests

Electron microscopy, particularly cryo-electron microscopy of complex liquids and soft solids

Nanostructured materials for healthcare

Biomedical devices

Academy of Engineering; the Maharashtra Academy of Sciences; and the Electron Microscopy Society of India. He has received the Distinguished Visiting Professorship at the University of Minnesota, USA, the National Academy of Sciences India-Reliance Platinum Jubilee Award for application-oriented research, and the Lifetime Achievement Award from the Government of India, Ministry of Ayush.

Prof. Akkihebbal K Suresh

Institute Chair Professor

Department of Chemical Engineering

Academic Background

B.Tech., Mysore
University, Surathkal,
1979

M.E., IISc Bangalore, 1981

Ph.D., Monash University,
Melbourne, 1986



Prof. A.K. Suresh is an Institute Chair Professor with the Department of Chemical Engineering in IIT Bombay since October 2014. At IIT Bombay, he has also held important administrative positions including those of the head of the Department of Chemical Engineering (2005-2008), Dean of Faculty Affairs (2009-2014) and Deputy Director - Academics and Infrastructural Affairs (since 2017).

Prof. Suresh's research interests are in the area of

transport and reaction, with current research being on membrane forming processes, solid state reactions, liquid phase organic oxidations and some fundamental issues on heterogeneous transport-reaction processes. He has two patents to his credit.

Prof. Suresh's contribution in the area of reaction engineering, and multiphase and interfacial systems is significant. He has received many awards at the national and international levels. With more than 140 publications

Research Interests

Transport-reaction coupling in heterogeneous systems: Liquid phase oxidations, Interfacial reactions, solid-solid reactions, Process intensification

Heterogeneous catalysis

Structure-property-function correlations in polymeric membranes used in separations and controlled release
Physicochemical and biological basis for the therapeutic action of remedies used in alternative medicinal systems

to his credit, some of these have over 100 citations. He was elected a Fellow of the Indian National Academy of Engineering in 2010 and was awarded a 3-year membership by the American Chemical Society in 2015 for engagement with the Society's mission.

Prof. Anurag Mehra

Institute Chair Professor

Department of Chemical Engineering

Academic Background

B.Tech., IIT Kanpur, 1983

M.Chem. Engg., Bombay
University, 1985

Ph.D. (Tech.), Bombay
University, 1987



Prof. Anurag Mehra is an Institute Chair Professor with the Dept. of Chemical Engineering in IIT Bombay, since October 2014. He has also served the Institute as the Head of the Department (2008-2011), Head of Computer Centre (2003-2008), and as Professor-In-Charge of Administrative Planning and Services (2009-2012). Before joining IIT Bombay in April 1991 as an Assistant Professor, he was on the faculty of Chemical Engineering at the Institute of Chemical Technology,

Matunga, Mumbai. His research interests are in the broad areas of Public Policy, Sociology of Education, Science & Technology *and Digital Economy*; Formation of Nanostructures & use in Drug Delivery, Hyperthermia; Transport & Reaction Engineering in Multiphase Systems, with special interest in Carbon Capture and Sequestration and Food Foams and Sponges; Baking of Bubbly Foods.

Prof. Mehra has more than 70 journal publications and book

Research Interests

Public Policy, Sociology of Education, Science & Technology

Formation of Nanostructures & use in Drug Delivery, Hyperthermia

Transport & Reaction Engineering in Multiphase Systems, with special interest in Carbon Capture and Sequestration

Food Foams and Sponges; Baking of Bubbly Foods

chapters to his credit. He has been a Visiting Professor at the Massachusetts Institute of Technology, Cambridge. He is a recipient of INSA Medal for Young Scientists, IChE Amar Dye Chem Award, EC Marie Curie Fellowship and the IIT Bombay Excellence in Teaching Award. He is also a Fellow of Indian National Academy of Engineering and National Academy of Sciences India.

Prof. C. P. Rao

Institute Chair Professor

Department of Chemistry

Academic Background

B.Sc., Andhra University,
1975

M.Sc., IIT Madras, 1977

Ph.D., IISc., Bangalore,
1982

Research Associate, IISc.,
Bangalore, 1983

Post Doctoral Fellow,
Harvard University, 1985

Post Doctoral Research
Associate, MIT, USA, 1987



Prof. C. P. Rao is a faculty member with the Dept of Chemistry in IIT Bombay. He has executed several sponsored research projects and evaluated a number of proposals in India and abroad. Besides publishing his work in internationally reputed journals, he has also reviewed a number of manuscripts. He had been granted 3 US patents and seven Indian patents and five more are under active consideration. His research group was among the 28 Indian Scientists listed under

“Highlighting Authors of high-quality research in ACS journals, 2012”. He mentored more than 30 doctoral and about 60 master’s students for the completion of their theses.

Prof. Rao is a fellow of Indian National Science Academy (FNA), Indian Academy of Sciences Bangalore (FASc), National Academy of Sciences Allahabad (FNASc) and Andhra Pradesh Academy of Sciences (FAPAS) and is a CRSI silver medalist. He is DST’s JC Bose National Fellow. He has served on

Research Interests

Bioinorganic model
systems

Metallation of proteins

Bio(nano)materials

Cytotoxicity (anticancer
research)

Ion and molecular
recognition through
supramolecular chemistry
using the conjugates
of calixarnes and
carbohydrates

DFT of small molecular
systems and MD of
protein systems

Artificial metalloproteins
and metalloenzymes

Protein docking by
synthetic molecules

the editorial board of IJC A
and the Journal of Chemical
Sciences.

Prof. Krishna P. Kaliappan

Institute Chair Professor

Department of Chemistry

Academic Background

B.Sc., Madurai Kamaraj
University, 1988

M.Sc., Madurai Kamaraj
University, 1990

Ph.D., Indian Institute of
Science Bangalore, 1997



Prof. Kaliappan is Dean (Faculty Affairs) and a Professor at the Dept. of Chemistry, in IIT Bombay. His research group has shown progress in the area of synthesis of natural products and natural product-like molecules. His work on the total synthesis of complex natural products of contemporary interest like vinigrol, palmerolide A, platensimycin, platencin and angucyclinone antibiotics has drawn considerable visibility both nationally and internationally.

He has published about 75 papers in international journals, with about 1600 citations. He has written a book chapter and delivered several invited lectures in prestigious national and international conferences, in addition to organizing a major international conference on Organic Synthesis (ICOS 21) at IIT Bombay, in 2016. He has also been a Visiting Faculty at University of Geneva, University of Massachusetts, Amherst and at ESPCI, Paris. He has been a member of the Editorial Advisory Board of

Research Interests

Total Synthesis of
Biologically Active
Complex Natural Products

Asymmetric Synthesis
of Natural Product like
Molecules

Domino Synthetic
Strategy to Heterocycles
and New Molecular
Scaffolds

Chemistry An Asian Journal
and Organic and Biomolecular
Chemistry.

Prof. Kaliappan has received the Prof. S. C. Bhattacharyya Award (2017), Prof. C. N. R. Rao National Prize in Science (2015), Swarnajayanti Fellowship from DST, Bronze Medal from Chemical Research Society of India, Excellence in Teaching Award from IIT Bombay and B. M. Birla Science Prize. Among others.

Prof. Raghavan B. Sunoj

Institute Chair Professor

Department of Chemistry

Academic Background

PhD, Indian Institute of
Science Bangalore

Postdoc, The Ohio State
University, Columbus,
Ohio, USA



Prof. Raghavan Sunoj has made notable contributions in providing insightful analysis of reaction mechanism and on establishing the molecular origin of asymmetric induction in organic and organometallic reactions. He has published about 140 papers in internationally reputed journals. He is an elected member of the board of World Association of Theoretical and Computational Chemists (WATOC) and an elected Fellow of the Indian Academy of Sciences.

He was the chair of the 8th edition of the Asia Pacific Conference of Theoretical and Computational Chemistry (APTCC) held in Mumbai, in 2017. He is on the editorial advisory board of Organic Letters (2017-2020) and ACS Catalysis (2018-2021). He is an associate editor of Wiley journal “WIREs: CMS” (Wiley Interdisciplinary Reviews: Computational Molecular Science).

He is a recipient of the Young Scientist award from all three National Academies in India

Research Interests

Computational Chemistry
and Applications of
Machine Learning

To understand
asymmetric catalysis
using transition state
models developed using
density functional theory

Using predictive models
as suggestions for new
experiments

as well as from the Chemical Research Society of India. He delivered the 30th Charles A. Coulson lecture (2017) at the University of Georgia, USA. He is a recipient of the Excellence in Teaching award from IIT Bombay, three times. He is the Convener of High Performance Computing at IIT Bombay.

Prof. Goutam Kumar Lahiri

Institute Chair Professor

Department of
Chemistry

Academic Background

B.Sc., Burdwan
University, West Bengal,
1981

M.Sc., Burdwan
University, West Bengal,
1984

Ph.D., IACS, Jadavpur
University, West Bengal,
1990

Postdoctoral research,
West Virginia University,
USA, 1993



Prof. Lahiri is a Professor at the Dept. of Chemistry, in IIT Bombay. His research includes the development and critical analysis of new kinds of molecules with mixed valency of metal and organic constituents, specifically based on oligonuclear metal complexes with 'non-innocent', i.e. potentially electron-transferring ligands, including biologically relevant coenzyme models such as quinones, nitrosyl function as well as dye-related nitrogen containing systems.

His achievements in developing industry-connected transition metal derived catalysts for a variety of important organic transformations, complement his work. His collaborative research include interactions with the faculty members in Stuttgart University-Germany, Freie University-Germany, Bristol University-UK, Institute of Chemical Research of Catalana (ICIQ)-Spain, Complutense University of Madrid, Spain, IIT Indore, and NISER-Bhubaneswar. He has published 250 journal papers and has authored a chapter.

Research Interests
Coordination Chemistry
Organometallic Chemistry
Catalysis

He also has a patent to his credit.

Prof. Lahiri has received the Prof. S.C. Bhattacharya Award for Excellence in Research by IIT Bombay; Ramanna Fellowship by DST, New Delhi; Mercator Chair Professorship by DFG, Germany, and B. M. Birla Awards in Chemistry, and Fellowships by Indian Academy of Sciences (FASc), Maharashtra Academy of Sciences, National Academy of Sciences (FNASc), Indian National Science Academy (FNA) and J.C.Bose National Fellowship.

Prof. M. Ravikanth

Institute Chair Professor

Department of
Chemistry

Academic Background

M.Sc (1989), Osmania
University, Hyderabad

Ph.D (1994), IIT-Kanpur

Post-doc (1994-1999),
TIFR, Mumbai (1994-
1995); Carnegie-Mellon
University, Pittsburgh;

North Carolina University,
Rayleigh, USA (1996-
1998);

JSPS Post-doctoral
fellow, Kyoto University
(1998-1999).



Prof. Ravikanth is a
Alexander von Humboldt
fellow, a Fellow of The Indian
Academy of Sciences,
Bangalore (FASc) and Fellow
of The National Academy of
Sciences, Allahabad (FNASc).

Research Interests

Synthesis of pyrrole
based open chain and
cyclic fluorescent
macrocycles for various
applications including
light harvesting

Sensors for anions and
cations

Fluorescent tags for
biological systems

Catalysts for organic
transformations

Prof. D.N. Singh

Institute Chair Professor

Department of
Civil Engineering

Academic Background

B. Tech., IIT Kanpur, 1986

M.Tech., IIT Kanpur, 1989

Ph.D., IIT Kanpur, 1993



Prof. D. N. Singh has innovated and developed Environmental Geotechnology, in the realm of Geotechnical Engineering education and practice. His research is basic, interdisciplinary, focused on addressing challenges being faced by society, and novel: Porous Media Characterization Using Energy Fields and capturing various mechanisms, in a nondestructive and noninvasive way. He has developed a state-of-the-art facility ENVIRONMENTAL GEOTECHNOLOGY

LABORATORY where such themes are being pursued.

Prof. Singh has published 285 technical articles of which 208 are in the refereed journals. He has supervised 36 Doctoral (and 8 ongoing) dissertations and 35 Masters theses. He has filed 22 (Indian) and 1 US patents, and 3 have been granted. Prof. Singh has founded Environmental Geotechnics, ICE Publishing, London, UK, and has been its Editor-in-chief. He has been 'Editorial Board Member' of several journals of repute.

Research Interests

Environmental
Geotechnology

Instrumentation

Societal Issues and
Entrepreneurship

Prof. Singh has been the recipient of SP Research Award by SP Foundation, Rolla, MO, USA, Richard Feynman Prize 2014 for best paper by ICE, UK, John R. Booker Excellence Award, and IACMAG Excellent Contributions Award 2008, to name a few. He is a Fellow of the Indian National Academy of Engineering, New Delhi, American Society of Civil Engineers and Institution of Civil Engineers, London, UK.

Prof. M.C. Deo

Institute Chair Professor

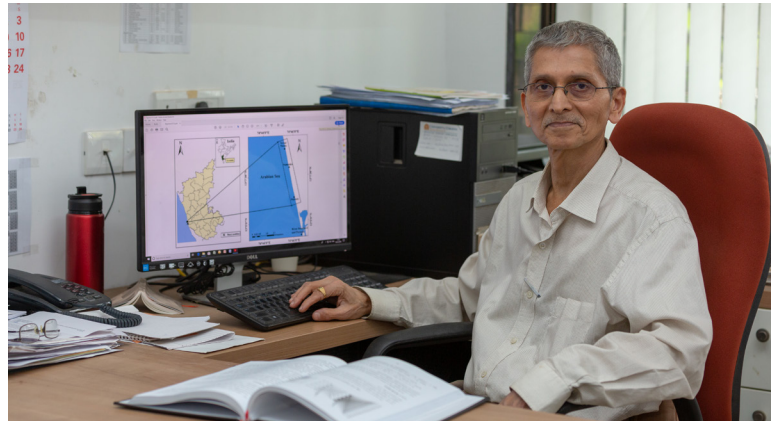
Department of
Civil Engineering

Academic Background

B E., Pune University,
1975

M.Tech., IIT Bombay, 1979

Ph.D., IIT Bombay, 1983



Prof. Deo has been a faculty member of IIT Bombay since 1983. He worked as a post-doctoral fellow at University of Liverpool UK (1986-1989). He was the Professor-In-Charge, QIP at IIT Bombay (2002-2005), and Head of the Dept. of Civil Engineering (2005-2008). He also served as Director, VJTI, Mumbai (2011-2012).

Prof. Deo has demonstrated the power of artificial intelligence tools to solve engineering problems related to hydrology and

coastal engineering. Prof. Deo has contributed to the national growth of hydraulic engineering by being President of Indian Society for Hydraulics (2004-2008). He has been associated with Konkan Railways, ONGC, NIOT, CWPRS, NWA, INCH, IRS as member of their Board of Directors, Governing Council, Research Advisory Boards, etc.

He acts as Editor of ISH Journal of Hydraulic Engineering, published by Taylor and Francis, UK. He

Research Interests

Coastal and Ocean
Engineering, Hydrology

Climate change impact on
coastal environment

Application of advanced
data-driven methods

also serves on the editorial boards of other international Journals. Prof. Deo has published around 200 research papers including around 100 in refereed Journals. He has authored a 350-page book titled 'Waves and Structures'.

Prof. Deo is Fellow, INAE, has received Prof. H H Mathur award, IRCC Research Award, Excellence in Teaching Awards of IIT Bombay, and Jalavigyan Puraskar of Indian Society for Hydraulics.

Prof. B. V. S. Viswanadham

Institute Chair Professor

Department of
Civil Engineering

Academic Background

B.E., Andhra University,
Visakhapatnam, 1987

M.Tech., IIT Madras, 1989

Dr.-Ing., Ruhr-University,
Bochum, Germany, 1996



Prof. B. V. S. Viswanadham has been a faculty member at Dept of Civil Engineering, IIT Bombay, for the past 20 years. His contribution in the areas of geotechnical and geoenvironmental engineering has been significant. He has undertaken over 10 sponsored research projects in India, an Indo-French collaboration project and over 100 industrial and consultancy projects. He has been an on the editorial board of several reputed national and international journals. He has supervised 15 PhD theses,

32 Master's dissertations and published more than 180 research papers in reputed International/National Journals and Conferences.

Prof. Viswanadham is a core member of the Technical Committee for Physical Modelling on Geotechnics (TC104) of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE). He is fellow of Indian Geotechnical Society, New Delhi and fellow/member of many professional bodies in India and abroad. He has been

Research Interests

Geotechnical Engineering;
Centrifuge-based Physical
Modelling; Ground
Improvement;

Geosynthetics and
Design of Geosynthetic
Reinforced Soil
Structures; Environmental

Geotechnics; Waste
containment systems;
Landfills; Deep
Excavations;

Slope stabilization and
Slope protection; Natural
hazard mitigation; Bulk
utilization of waste
materials.

awarded DAAD fellowship,
6 best paper awards, has
reviewed many peer-reviewed
International and National
journals and authored four
chapters in books.

Prof. T.I. Eldho

Institute Chair Professor

Department of
Civil Engineering

Academic Background

B.Tech., Mahatma Gandhi
University, Kerala, 1988

M.Tech., IIT Bombay, 1992

Ph.D., IIT Bombay, 1995

Postdoctoral, Institute
for Hydromechanics,
University of Karlsruhe,
Germany, 1996-1998



Prof. T. I. Eldho is Head of Dept of Civil Engineering from December 2018. He serves on the editorial board of many Indian and international journals and has reviewed over 50 national and international Journals. He has supervised 3 Postdoctoral Fellows, 24 PhD theses, is presently guiding 14 students after supervising 50 Master's dissertations. He has published over 420 research papers in reputed international/ national journals and conferences. Dr. Eldho has co-authored two popular text books and contributed

6 book chapters in various edited books.

He is Honorary Chairman, BOG, College of Engineering, Adoor, Kerala from 2013 and Honorary Member of Mar Athanasius College of Engineering, Kothamangalam from December 2018. He is the Vice President of Indian Society of Hydraulics since 2016.

Prof. Eldho has received the German Research Fellowship, DAAD Fellowship, Taiwan National Science Council

Research Interests

Groundwater Flow and Pollutant Transport Modeling, Pollution Remediation; Environmental Issues, Impact Assessment and Modeling. Fluid Mechanics, Turbulence Studies, Sedimentation and Scour Studies, Coastal Hydrodynamics, Computational Fluid Dynamics, Physical and Laboratory Scale Hydraulics Modeling, Applications of Numerical Methods in Water Resources and Environmental Engineering Areas, Hydroinformatics.

Fellowship, Best Poster Award in the 12th Stockholm Water Symposium, "Jalvigyan Purskar" for best papers by the Indian Society for Hydraulics and selected as Eminent Water Resources Scientist – 2017"

Prof. Deepankar Choudhury

Institute Chair Professor

Department of Civil Engineering

Academic Background

B.E., Civil Engineering,
Jadavpur University,
Kolkata, India, 1997

M.E., Civil Geotechnical
Engineering, Indian
Institute of Science (IISc),
Bangalore, India, 2000

Ph.D., Civil Engineering,
Indian Institute of Science
(IISc), Bangalore, India,
2002



Prof. Deepankar Choudhury is Adjunct Professor of Academy of Scientific and Innovative Research (AcSIR) of CSIR laboratories of India. He is an elected Fellow (FNASc) of the National Academy of Sciences, Alexander von Humboldt Fellow of Germany, JSPS Fellow of Japan, TWAS-VS Fellow of The World Academy of Sciences, Italy, National Fellow of Institution of Engineers India (FIE), Indian Geotechnical Society (FIGS), and Indian Society of Earthquake Technology (FISSET). He has received

Prof. C. S. Desai Medal of International Association for Computer Methods and Analysis in Geomechanics, USA (2017), Excellent Regional Contributions Award of IACMAG (2014), Excellent Paper Award (Junior) of IACMAG (2008) and Prof. S. P. Sukhatme Excellence in Teaching Award-2017 of IIT Bombay.

Prof. Chowdhury has served on the editorial boards of several reputed journals nationally and internationally. He has supervised 21

Research Interests

Geotechnical Earthquake
Engineering

Foundation Engineering

Computational
Geomechanics

Dynamic Soil-structure
Interaction

Soil Dynamics

Soil Liquefaction,
Mitigation

Seismic Hazards

Railway Geotechnics

Doctoral theses so far, has authored over 250 technical publications including about 130 peer reviewed journal papers and co-authored a text book.

Prof. Sunita Sarawagi

Institute Chair Professor

Department of
Computer Science &
Engineering

Academic Background

PhD: Computer Science
Division at the University
of California, Berkeley,
1996

BTech: Computer Science
and Engineering, IIT
Kharagpur, 1991



Prof. Sunita Sarawagi is Institute Chair Professor at IIT Bombay. She got her PhD in databases from the University of California at Berkeley and a Bachelor's degree from IIT Kharagpur. Her past affiliations include visiting faculty at Google Research, Mountain view, CA, visiting faculty at CMU Pittsburg, and research staff member at IBM Almaden Research Center. She has several publications in databases and data mining and several patents. She served on the board of directors of ACM SIGKDD and

VLDB foundation. She was program chair for the ACM SIGKDD 2008 conference, research track co-chair for the VLDB 2011 conference and has served as program committee member for SIGMOD, VLDB, SIGKDD, ICDE, and ICML conferences. She was on the editorial board of the ACM TODS, ACM TKDD, and FnT for machine learning journals.

Research Interests

Machine learning, data analytics, databases and statistics

Sequence models for text and time-series

Domain adaptation

Effective human intervention in learning

Graphical models and structured learning

Prof. Kanchan Pande



Prof. Santanu Banerjee



Prof. Souvik Mahapatra

Institute
Chair Professor

Department of
Electrical Engineering

Academic Background

PhD, Electrical
Engineering, IIT Bombay

MSc and BSc, Physics,
Jadavpur University



Prof. Souvik Mahapatra received his PhD in Electrical Engineering from IIT Bombay, in 1999. During 2000-01 he was with Bell Labs, Lucent Technologies, Murray Hill, NJ, USA. Since 2002, he is with the Dept of Electrical Engineering department at IIT Bombay and presently a full professor.

His research interests are CMOS scaling, reliability and memory devices. He has published over 150 papers in peer review journals and conferences and delivered

invited talks in major international conferences around the world including IEEE IEDM and IRPS. He is a Fellow of IEEE (Institute of Electrical and Electronics Engineers), INAE (Indian National Academy of Engineering) and IASc (Indian Academy of Sciences), and a distinguished lecturer of IEEE EDS (Electron Devices Society).

Research Interests

CMOS logic and Flash
memory device reliability

Prof. D. Manjunath

Institute Chair Professor

Department of
Electrical Engineering

Academic Background

BE., National Institute
of Engineering, Mysore,
1986

M.S., IIT Madras, 1989

Ph.D., Rensselaer
Polytechnic Institute,
Troy, NY, USA, 1993



Prof. Manjunath has been with IIT Bombay since July 1998, and is currently a Professor in the Dept. of Electrical Engineering and Head of Computer Centre. He was the lead editor of a team of six eminent researchers, of a special issue of IEEE Journal on Selected Areas in Communications on Exploring the Fundamental Limits of In-Network Computation. His recent work has been focused on differentiated service systems for heterogeneous customers in which different servers charge different

admission prices much like in the local trains of Mumbai or in the queues at Tirupati.

Prof. Manjunath has been a visiting scientist/ faculty and consultant at many organizations and institutions across the world, for their networking and IT projects and also to the TRAI. He has authored about 110 papers in refereed journals and conferences, presented several invited papers and co-authored two textbooks, Communication Networking: An Analytical Approach

Research Interests

Communication networks
and performance analysis

Distributed systems with
interests in function
computation, router
architectures, and over
networks

Design and analysis
of protocols, traffic
measurement, optical
networks and packet
switch architectures

(May 2004) and Wireless
Networking (April 2008).

He has won the Best Paper Award in ACM Sigmetrics, the Benjamin-Meaker Fellowship at the University of Bristol, and the SVC Aiya Memorial Award from IETE. Furthermore, one of his papers was chosen as the spotlight paper of the June 2011 Issue of IEEE Transactions on Mobile Computing.

Prof. Vivek Shripad Borkar

Institute
Chair Professor

Department of
Electrical Engineering

Academic Background

B.Tech., Electrical Engineering, IIT Bombay, 1976

M.S., Systems and Control Engineering, Case Western Reserve University, 1977

Ph.D., Electrical Engineering and Computer Science, University of California, Berkeley, 1980

Prof. Vivek S. Borkar is a Professor at the Dept. of Electrical Engineering, in IIT Bombay, since 2011. He has worked with TIFR, Mumbai, IISc, Bangalore, TIFR-CAM, Bangalore, and has also been a Visiting Scientist at Technische Hogeschool Twente, Holland.

His research areas are areas of stochastic control which includes Markov chains and diffusions; stochastic algorithms (convergence, stability analysis and sample

complexity of stochastic recursions, multiple time scale and asynchronous schemes, applications to resource allocation in communications and reinforcement learning for approximate dynamic programming); and network algorithms such as gossip algorithms for consensus and projection, algorithms for averaging and ranking, etc.

Prof. Borkar has been a Visiting Scientist at Institute for Mathematics and its Applications (Minneapolis), MIT, University Of Maryland, College Park, University Of

Research Interests

Stochastic Optimization and Control: Theory, Algorithms and Applications

Algorithms on and for Networks

Illinois, Urbana-Champaign, and University of California, Berkeley.

He has been awarded the Homi Bhabha fellowship, J. C. Bose fellowship, S.S. Bhatnagar Award in Engineering, TWAS award for Engineering, IBM SUR Award, and Mahalanobis Medal of INSA. He is also the recipient of Best Paper awards by IEEE Control Systems Society, VALUETOOLS, IFIP Wireless Days. He is a Fellow of INAE, NASI, IASc, INSA, IETE, IEEE, TWAS and AMS.

Prof. Harish Pillai

Institute Chair Professor

Department of
Electrical Engineering

Academic Background

BTech, EE, IIT Kharagpur,
1990

MTech, Sys & Con, IIT
Bombay, 1992

PhD, EE, IIT Bombay, 1997

Postdocs in
Europe, 1998-2001

Prof. Harish Pillai joined the Dept. of Electrical Engineering, IIT Bombay, in 2001. His current interests include understanding and implementing structure of finite fields and its play with coding theory, understanding and implementing polytope structure and its play with optimization, and understanding/implementing computational structures related to variational methods including LMLs, switching systems and recreational mathematics.

Research Interests

Control theory

Optimization

Coding theory

Electromagnetics

Computing methods

Interested in the
play of mathematics
in diverse areas of
engineering

Prof. Vivek Agarwal

Institute Chair Professor

Department of
Electrical Engineering

Academic Background

PhD in Electrical Engg.
(1990–1994) University of
Victoria, British Columbia,
Canada Specialisation in
Power Electronics)

M.E. (Electrical. Engg.)
(1986–1990) Indian
Institute of Science,
Bangalore, India

B.Sc. Physics (Hons.)
1982 - 1985 St.
Stephen's college, Delhi
University



Prof. Vivek Agarwal has been with the Dept. of Electrical Engineering, IIT Bombay, since 1995. He has supervised more than 130 master's and 25 PhD thesis work. His major contributions are in the development of novel power converter topologies and their control for efficient operation, maximum power extraction from renewable energy sources and power quality and energy storage technology. He and his team have built fully operational DC and AC micro-grids in the applied power electronics laboratory at IIT-

Bombay and initiated research on electronic controller design for home appliance motor drives and modular multilevel converters.

Prof. Agarwal is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), USA, Indian National Academy of Engineering (INAE) and the Institution of Electronics and Telecommunication Engineers (IETE). He has received the IITB IRCC research dissemination award (2018), IITB Prof. H. H. Mathur award for contributions to

Research Interests

High frequency link power conversion

Renewable energy systems

Distributed power generation, micro-grids and control

Energy storage technology

Power quality
- Power electronic controllers for home appliance motor drives

solar PV research (2014), IETE Bimal Bose award (2010), for contributions to power electronics, System Society of India's Vikram award for the development of web based spirometer, IETE's Beman Behari Sen award (2013) for contributions to emerging areas of electronics, and also some best paper awards. He serves on the editorial boards of reputed journals in India and abroad.

Prof. Kishore Chatterjee

Institute Chair Professor

Department of Electrical Engineering

Academic Background

PhD, IIT Kanpur

M.E, IEST Kolkata
(formerly Bengal
Engineering College)

B. E, MANIT (formerly
MACT, Bhopal)



Prof. Kishore Chatterjee has been with the Dept. of Electrical Engineering Department of IIT Bombay since 1998. He was the group head of Power Electronics in NCPRE in phase -1 (2009 to 2014) and continues to be group head for phase-II, since 2015. Under NCPRE, he is instrumental in developing highly efficient and reliable industry standard standalone and grid connected solar inverters for rural as well as urban applications. He is the principle investigator in an Indo-UK collaborative project

jointly funded by EPSRC and DST to develop power electronic interface for DC-AC hybrid microgrids.

Prof. Chatterjee is a popular teacher and a motivator. He received the Best Teacher award from the Institute in 2017. He can handle a variety of courses mainly in the area of power engineering, both at undergraduate and postgraduate levels.

He was the Institute's Associate Dean, Infrastructure, Planning and Support (2011-

Research Interests

Utility friendly converter topologies

Power Factor Correction techniques

STATCOM

Switched Mode Rectifiers

Electronic Ballast

Control of Electric Drives

Power Evacuation from Solar Photovoltaic Systems

AC and DC microgrids

Design and control of Brushless DC motors for Application in Electric Vehicles

2015), the Organizing Vice-Chairman of IIT Joint Entrance Examination (2007), and the Chairman, GATE 2017.

Prof. S.A. Soman

Institute Chair Professor

Department of
Electrical Engineering

Academic Background

PhD, Indian Institute of
Science Bangalore 1996

M.E. (Computer Aided
Power System Analysis
and Drives) Indian
Institute of Science
Bangalore 1996

B.E. (Electrical
Engineering) Maulana
Azad College of
Technology (REC) Bhopal
1989



Prof. S. A. Soman has been a faculty member in the Dept. of Electrical Engineering in IIT Bombay, since 1996. He is a Fellow of Indian National Academy of Engineers, 2016, and a Senior Member of IEEE, 2016. He has also received the IIT Bombay Industrial Impact Award in 2012 and the Fulbright Research Scholar at University of Illinois at Urbana–Champaign, 2002.

Research Interests

Power System Analysis,
Optimization and
Computation

Power System Regulation
and Markets

Wide Area Measurement
and Protection Systems

Prof. Santanu Bandyopadhyay

Institute Chair Professor

Department of
Energy Science and
Engineering

Academic Background

B.Tech. (Hons.), IIT
Kharagpur, 1992

M. Tech., IIT Bombay,
1995

Ph.D., IIT Bombay, 1999



Prof. Santanu Bandyopadhyay has been a Professor at the Dept. of Energy Science and Engineering in IIT Bombay, since 2001. Prior to this, he was involved with process design and development of energy integration techniques for Crude and Vacuum Distillation Unit, establishment of energy benchmarks and identification of energy conservation opportunities for different primary and secondary units in Indian Refineries, detailed energy audit of entire Gujarat Refinery Complex, process design and

engineering package of Gas Dehydration Unit, etc.

Prof. Bandyopadhyay has contributed to various developmental and research activities involving different structured approaches to industrial energy and water conservations as well as the optimum design of renewable energy systems. He is an internationally recognized researcher on Pinch Analysis. Methodologies developed by Prof. Bandyopadhyay are used in many industrial applications.

Research Interests

Pinch analysis and energy integration of different processes and processes equipments

Resource and waste management in process industries through process integration approach

Modelling, analysis and optimization of renewable energy systems

He is currently one of the Editors-in-Chief for Process Integration and Optimization for Sustainability (Springer Nature) as well as Associate Editor for Clean Technologies and Environmental Policy (Springer Nature), and INAE Letters (Springer Nature). He is a fellow of Indian National Association of Engineering (INAE)

Prof. Rowena Robinson

Institute Chair Professor

Department of
Humanities & Social
Sciences

Academic Background

BA (English Literature)

MA and MPhil (Sociology),
Delhi University

PhD in Social
Anthropology, Trinity
College, Cambridge



A graduate of Delhi and Cambridge Universities, Prof. Rowena Robinson joined IIT Bombay in 1997. She has taught earlier at Delhi University and Jawaharlal Nehru University.

Among other publications, she is author of *Boundaries of Religion* (Oxford University Press, 2013) and *Tremors of violence* (Sage, 2005) and editor of *Minority Studies* (Oxford University Press, 2012). She is co-editor with Marianus Joseph Kujur of *Margins of Faith: Dalit and*

tribal Christianity in India (Sage Publications, 2010) and with Sathianathan Clarke of *Religious conversion in India: modes, motivations and meanings* (Oxford University Press, 2003). She has also published several journal articles in the areas of ethnic conflict, Christianity and issues of constitutional law.

Research Interests

Anthropology of
corruption

Constitutional law

Aspect of the sociology of
higher education

Sociology of religion and
kinship

Conversion

Christianity in India

Prof. Malhar Kulkarni

Institute Chair Professor

Department of
Humanities & Social
Sciences

Academic Background

Ph.D, University of Pune.

Trained in both traditional and modern methods of Sanskrit learning

Collaborated with Professor Pushpak Bhattacharyya, Department of CSE, IITB and developed Sanskrit Wordnet



Prof. Malhar Kulkarni teaches Paninian grammar and Philosophy of Language at the Dept. of HSS. Apart from being a speaker of a few Indian languages, he has also published his creative writing in Sanskrit in the form of short stories, verse poems, plays, translations and is credited with the original Sanskrit sutra text and commentary. For some time, he has been doing cricket commentary in Sanskrit. He received the Maharshi Badarayana Vyas award from the President of India in 2009 and has recently

also received the Excellence in Teaching Award at IITB in 2017.

He has contributed in the development of Textual History Tool (THT) that uses phylogenetic methods to track down history of texts. In an ongoing project, he is currently editing and publishing a 16th century commentary called Suktiratnakara, on the Vyakarana Mahabhasya of Patanjali.

He also developed Corpora

Research Interests

Paninian grammar

Philosophy of Language

Computational Linguistics

and Dependency Tree Bank of Marathi for the purpose of application in the field of NLP and Computational Linguistics. He is part of Center for Indian Language Technology (CFILT), CSE, IITB. As part of CFILT, he has contributed in the development of a brand called Shabdmitra which is a language teaching/learning aid.

Prof. K. Ramasubramanian

Institute Chair Professor

Department of
Humanities & Social
Sciences

Academic Background

BE, Electronics &
Communication

M.Sc. and PhD in
Theoretical Physics

MA in Sanskrit

`Vidvat-pravara' -- a
coveted title given for
successfully completing
a 14 semester exam in
Advaita-Vedanta.



Prof. K Ramasubramanian is a prominent historian of classical Indic science with a strong grounding in the physical sciences as well as Sanskrit. He has done important research on the history of Indian astronomy, and his scholarly translations of the works of the Kerala School of Mathematics constitute a major contribution to an authentic assessment of the remarkable advances made in India foreseeing the development of calculus in Europe a few centuries later.

Prof. Ramasubramanian was recipient of the prestigious 'Maharashi Badayan Vyas Samman' from the President of India in 2008. He is an elected Executive Council member of the International Union for the History of Science and Technology since 2013. He is also a Fellow of the Indian National Science Academy (FNA).

Research Interests

Non-linear dynamics and
Chaos

History of Science
and Technology, with
particular interest in the
Indian contribution

Indian Mathematics and
Astronomy

Indian Logic; Advaita
Vedanta

Prof. Bijnan Bandyopadhyay

Institute Chair Professor

Convener, Systems and
Control Engineering

Academic Background

B.E., Indian Institute of
Engineering Science and
Technology (Formerly
B.E. College, Shibpur,
Calcutta University), 1978

Ph.D., IIT Delhi, 1986



Prof. Bijnan Bandyopadhyay has 32 years of experience in academia in India and abroad. He has been convener of IDP in Systems and Control Engineering (2000-2006) and holds the same office currently. He has served as Professor-in-Charge of CE-QIP office (2012-2015) and as performance auditor of 4 Indian institutions, under the TEQIP programme. He also serves as Academic Assessor of University of Putra, Malaysia.

His work in the area of

sliding mode and output feedback control has led to fundamental contributions to the theory of discrete time sliding mode control using multirate output feedback. He has made significant contributions in the spatial control of pressurized Heavy Water Reactor and has also developed a mathematical model represented by 70th order state-space model using the nodal technique.

He has over 400 publications and has guided 36 Phd theses at IIT Bombay. He has been

Research Interests

Multi-rate Output
feedback Discrete Time
Sliding Mode Control

Continuous and Discrete
Time Sliding Mode Control

Higher Order Sliding Mode
Control

Large Scale Nuclear
Reactors Modeling and
Control

Systems Reduction and
Large Scale Systems

a visiting Professor at many
Universities across the world.

He was awarded Alexander von Humboldt Fellowship, Germany, Fellow of INAE, Fellow of IETE, a Fellow of IEEE, the Distinguished Visiting Fellowship by Royal Academy of Engineering, London, (2009, 2012), and the UK India Education and Research Initiative Major Award (2007) as a team member.

Prof. Sudhir R. Ghorpade

Institute
Chair Professor

Department of
Mathematics

Academic Background

B.Sc., Bombay University,
1982

M.Sc., IIT Bombay, 1984

Ph.D., Purdue University,
West Lafayette, USA ,
1989

Prof. Sudhir Ghorpade has been with the Dept. of Mathematics, IIT Bombay, since 1989. His contributions in the areas like Young tableaux, determinantal varieties and Schubert varieties; Counting points of varieties over finite fields; Recursive sequences, polynomials, and matrices over finite fields; have been substantive.

He is a Member of the Apex Committee for National Centre for Mathematics, and its Finance Secretary,

Indian Mathematical Society, Bombay Mathematical Colloquium, Ramanujan Mathematical Society, American Mathematical Society (1985-2014), and Mathematical Association of America (1986-1991). He has co-authored two textbooks, besides authoring and editing a few other publications and chapters. He has 44 research papers published in international journals and refereed conference proceedings, to his credit.

Prof. Ghorpade has received

Research Interests

Algebraic Geometry
Coding Theory

Combinatorics

Commutative Algebra

the AICTE Career Award for Young Teachers, from the All India Council for Technical Education and Otto Mønsted Professorship, Department of Mathematics by Technical University of Denmark. He has been an Elected Fellow of National Academy of Sciences and received the Research Paper Award and Prof. S.C. Bhattacharya Award for Excellence in Pure Sciences by IIT Bombay. He was elected as President of the Indian Mathematical Society (April 2018-March 2019).

Prof. Amiya Kumar Pani

Institute Chair Professor

Department of
Mathematics

Academic Background

B.Sc., Mathematics Hons.,
Ravenshaw College, Utkal
University, 1976

M.Sc., Ravenshaw
College, Utkal University,
1978

Ph.D., IIT Kanpur, 1986



Prof. Amiya Pani has been a faculty member in the Dept of Mathematics at IIT Bombay, since 1986. Apart from providing complete solutions to two open problems in the area of parabolic free boundary problems and in parabolic integro-differential equations with non-smooth initial data, he has introduced a new mixed FE Galerkin method now called H1 mixed Galerkin method and proposed with Thomee and Wahlbin a powerful scheme which incorporates sparse quadrature rules in complete

discrete schemes to reduce storage requirements for parabolic and hyperbolic integro -differential equations.

Prof. Pani was a visiting Fellow in CMA, Australian National University, Isaac Newton Institute for Mathematical Sciences at Cambridge, Mathematics Institute at University of Oxford; and visiting Professor in many universities abroad. He is a Fellow of National Academy of Sciences (FNASc) and Indian Academy of Sciences (FASc). He has received the

Research Interests

Numerical Analysis and
Scientific Computing

Partial Differential
Equations

Industrial Mathematics

Best Young Mathematician Award 2000 by ISIAM, CL Chandna award by Saraswati Vishvas Society, Canada, a trophy with a citation from the Indian Society for Industrial and Applied Mathematics (ISIAM) (January 2016) and Professor S.C. Bhattacharya Award for Excellence in Pure Sciences from IIT Bombay (2016). He has been a member of the Editorial Board for four national and international Journals.

Prof. Jugal K Verma

Institute Chair Professor

Department of
Mathematics

Academic Background

M. Sc. (Mathematics),
BITS, Pilani, 1981

Ph. D. Purdue University,
1987

Post-Doctoral Fellow,
University of Kansas,
1987-89



Prof. Jugal Verma has been at IIT Bombay since 1990. He was Head of the Dept. of Mathematics (2006-2009), Chief Vigilance Officer (2011-2012) and Dean of Faculty Affairs (2014-2016). He played a key-role in establishment of the National Centre of Mathematics in 2011, a joint centre of TIFR and IIT Bombay.

He has held visiting positions at Institute of Mathematics (Hanoi), Vietnam Institute of Advanced Studies (Hanoi), IIT Kharagpur, IISER Trivandrum,

University of Essen (Germany) and University of Genoa (Italy). He is a member of the Academic Councils of Chennai Mathematical Institute (Chennai) and the National Institute of Science Education and Research (Bhubaneswar). He has been the Secretary of the Ramanujan Mathematical Society and he is currently the vice-president of the Mathematics Consortium of India.

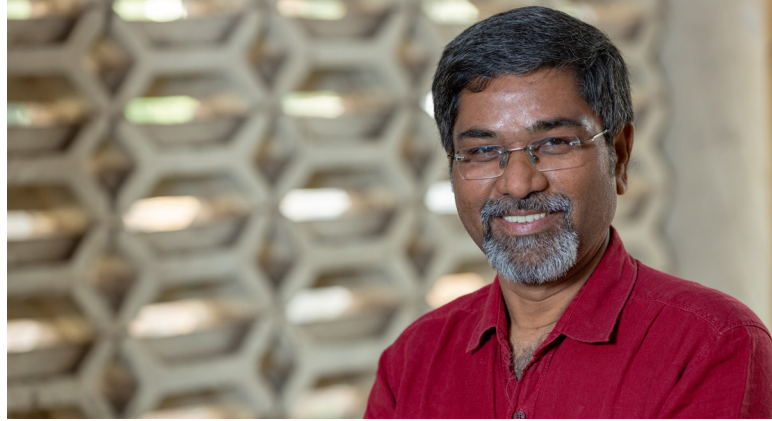
Prof. Verma was elected a Fellow of the National Academy of Sciences (2008),

Research Interests

Commutative algebra
-Cohen-Macaulay and
Gorenstein rings
-Rees algebras
-Hilbert functions
-Local cohomology
-Tight and integral
closure of ideals

Fellow of the Indian National Science Academy (2012), and Fellow of the International Centre for Theoretical Physics (2001-2007). He has received the IIT Bombay Excellence in Teaching Award in Mathematics in 2016, has co-authored a text book and co-edited three proceedings of conferences. He is a member of various editorial boards and has published 45 research papers in leading international journals and eight papers in conference proceedings.

Prof. K. P. Karunakara Poopathi



Prof. M V Rane

Institute Chair Professor

Department of
Mechanical Engineering

Academic Background

B.E., Maharaja Sayajirao
University, Baroda, 1986

M.S., Southern Illinois
University Carbondale,
USA, 1989

Ph.D., University of
Maryland, College Park,
USA, 1991



Prof. M.V. Rane is an Institute Chair Professor at the Dept. of Mechanical Engineering in IIT Bombay. He has handled over 120 consultancy projects and 20 sponsored projects. The Heat Pump Laboratory at IIT Bombay, HPL_IITB, under his guidance, has filed over 32 Indian patent applications. Three European patents have been granted, 7 PCTs and 1 US Patent were filed. About 25 technologies have been demonstrated / transferred / commercialized.

Prof Rane has delivered

many invited lectures both at national and international level. He has been a member of the Buildings Sub-Committee of RBI, Expert Committee, Bureau of Energy Efficiency, etc. He has published two chapters in books, 30 journal papers and 60 conference papers. He has guided 18 PhD and 95 M Tech projects.

Apart from this, Prof Rane has been awarded with Best Teacher Award, Higher Education Forum 2012, Nina Saxena Excellence Award in Technology by IIT Kharagpur,

Research Interests

Energy Conservation

Refrigeration and Air
Conditioning

Alternate Energy
Resources

Waste Water Vaporization

Bry-Air Awards Excellence in HVAC&R 2007-08, Dr. P K Patwardhan Technology Development Award 2006 by IIT Bombay and VASVIK Award 2005. He has also won the Eureka 2004 First Prize in Business Plan Competition and most Innovative Product Award, ACREX 2004 for Hybrid Air-Conditioning System.

Prof. B. Ravi

Institute Chair Professor

Department of
Mechanical Engineering

Academic Background

Ph.D. (Mechanical Engineering), Indian Institute of Science, Bangalore, 1992

Master of Engineering (Mechanical Engineering), Indian Institute of Science, Bangalore, 1988

Bachelor of Engineering (Mechanical), National Institute of Technology Rourkela, 1986



Prof. B. Ravi is an Institute Chair Professor of Mechanical Engineering as well as founder of E-Foundry and BETiC – Biomedical Engineering & Technology incubation Centre. In the past 25 years, he led several inter-disciplinary multi-institutional R&D projects, leading to indigenous products, startup companies and social impact. He guided the development of AutoCAST and FLOW+ software used in 150 foundries and institutes.

Ten medical devices developed in BETiC have

been licensed to startups, industry or NGOs. These have won prestigious awards and benefitted many patients. Prof. Ravi has guided 14 PhD and 80 Masters students. He shared the relevant knowledge through 250 technical papers, 300 invited or conference talks, and 60 training programmes benefiting several thousand teachers and working professionals.

His three books: (1) Made in India, (2) Metal Casting, and (3) Medical Device Innovation, are widely appreciated.

Research Interests

Metal casting (methoding, simulation, rapid tooling, DFM)

Medical devices (diagnostics, surgical instruments, prostheses)

Manufacturing (smart, sustainable, inclusive, distributed)

More than 25 institutes are part of E-foundry or BETiC network. As a member of many advisory councils and review committees, Prof. Ravi is also contributing to best practices and policies related to translational research and product innovation. These efforts have been recognized by DST India Innovation Growth Programme, Abdul Kalam Technology Innovation National Fellowship and several other awards.

Prof. Amit Agrawal

Institute Chair Professor

Department of
Mechanical Engineering

Academic Background

BTech, IIT Kanpur

PhD, University of
Delaware, USA



Prof. Amit Agrawal joined IIT Bombay in 2004 and is currently Institute Chair Professor in the Dept. of Mechanical Engineering. His research interests are in micro-scale flows, development of novel bio-microdevices, theoretical fluid mechanics, and turbulent flows.

He has published 160 journal articles and a book on these and related subjects and filed for 10 patents. His primary contributions are in the development of

novel bio-microdevices, and derivation of equations which (he believes) are more general than the Navier-Stokes equations. His work has appeared on the cover page of prestigious journals such as **Journal of Fluid Mechanics** and **Physics of Fluids**. He is Editor of journals **Experimental Thermal and Fluid Science**, **Nature Scientific Reports** and **Sadhana**, and elected Fellow of Indian National Academy of Engineering and the National Academy of Sciences, India. He has been awarded the

Research Interests

Microscale flows

Development of novel bio-microdevices

Theoretical fluid mechanics

Turbulent flows

DAE-SRC Outstanding Investigator Award, Prof. K.N. Seetharamu Medal, Prof. H.H. Mathur Award, and recently the Shanti Swarup Bhatnagar Prize.

Prof. Milind D. Atrey

Institute Chair Professor

Department of
Mechanical Engineering

Academic Background

B.E (Mech), VNIT

PhD, IIT Bombay

Post-Doc Fellow:
University of Giessen,
Germany



Prof. Milind Atrey joined IIT Bombay in 2005 and became Chair Professor in 2017. Before his tenure in IIT Bombay, he worked with Tata Research Development and Design Centre (TRDDC, Pune) for two years, Raja Ramanna Centre for Advanced Technology (RRCAT – Department of Atomic Energy), Indore, for four years, and then joined the Technology Development group, Oxford instruments Superconductivity, UK, to carry out research related to MRI /NMR systems where he developed Cold Probe

for electronics cooling, 4 K Pulse Tube Cryocoolers and Cryogen free MRI Magnet.

Prof. Atrey is the Fellow of IMechE and Indian Cryogenics Council. He was also the Professor-In-Charge of SINE (IIT Bombay's business incubator) during 2012 to 2018 and currently teaches in the DS Centre for Entrepreneurship. He is also the Founding Chairman of the Process Industries Division established by IMechE in India.

Research Interests

Refrigeration,
Heat Transfer and
Thermodynamics,
Cryogenics, Heat
Exchangers,
Cryocoolers, Cooling
of Superconducting
Magnets, Clean and
Efficient Cooling
systems in Transport
Refrigeration.

Entrepreneurship,
Business Incubation

Prof. Ajit Kulkarni

Institute Chair Professor

Department of
Metallurgical Engineering
& Materials Science

Academic Background

B.Sc., Nagpur University,
1977

M.Sc., Nagpur University,
1979

Ph.D., IIT Kharagpur, 1984



Prof. Ajit Kulkarni has been a faculty member at IIT Bombay since 1987. He has been involved in the rational design and development of materials for various applications, particularly electrical transport phenomenon in inorganic glasses, ceramics, polymer gels and electrolytes and polymer-CNT nano-composites. The novel approaches have resulted in design and development of a polymer-based low-cost ammonia sensor and two polymer gel electrolytes for all solid-state lithium batteries.

Prof. Kulkarni has engineered nano-structured metal (Silver) and metal oxide (TiO_2) powders using low-cost, green, microbe mediated route, and in developing a process for synthesising defect-rich ZnO Quantum Dots for application in multifunctional sunscreen and cosmetic active ingredients. His collaborative research with DRDO, and various national laboratories and universities/Institutes has been recognized. He has published 150 papers in international referred journals,

Research Interests

Electrical properties of Materials-synthesis-structure-property-applications in batteries, sensors, fuel cells, speciality Glasses for electrochemical applications, IR windows for strategic applications.

Ferroelectric/
Piezoelectric Ceramics
and composites, Lead
free smart materials.

Impedance Spectroscopy
of Materials, Ion
dynamics in disordered
materials through
Mechanical and electrical
relaxations.

08 patents and contributed to a book for IGNOU, Delhi. He is conferred with Alexander Von Humboldt Fellowship, Germany, and Fellow of Maharashtra Academy of Sciences.

Prof. V. S. Raja

Institute Chair Professor

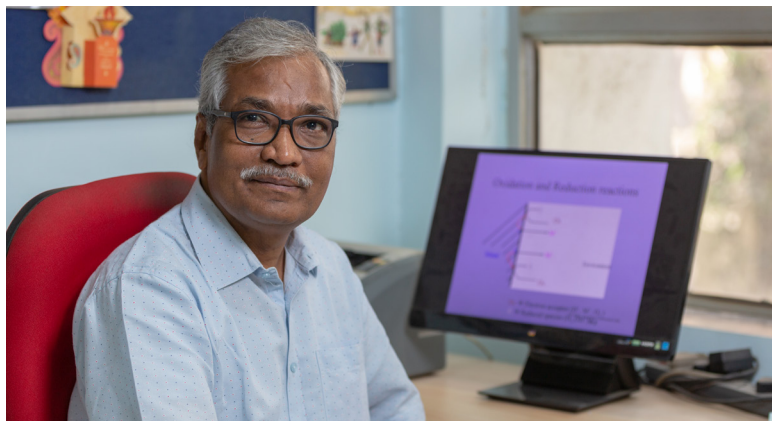
Department of
Metallurgical Engineering
and Materials Science

Academic Background

B.Sc., Madras University,
1978

M.Sc., PSG College of
Technology, Madras
University, 1980

Ph.D., Indian Institute of
Science, Bangalore, 1987



Prof. V. S. Raja is from the Dept. of Metallurgical Engineering and Materials Science in IIT Bombay. He has been a reviewer for more than two dozen scientific journals and member of editorial boards of five international journals; a member of Research Councils of Central Electrochemical Research Institute (CSIR) and Naval Material Research Laboratory (NMRL). He has also served as a Chairman of IIM Mumbai chapter. He has been a Guest Researcher at the Department

of Engineering Metals, Chalmers University of Technology, Sweden, a Visiting Research Professor at Metallurgical and Materials Engineering, University of Nevada, USA, among others. He has published 99 papers in international journals, 10 papers in national journals, 71 in conference proceedings and 11 book chapters, edited and co-authored a book, and holds an Indian patent. He has delivered 97 plenary/ keynote lectures in workshops and training programs.

Research Interests

Corrosion resistant alloy development

Passivity, localized corrosion and stress corrosion cracking

Coatings and Failure Analysis

He has been a recipient of Mascot National Award of Electrochemical Society of India (2003); Excellence in Teaching Award by IIT Bombay (2008); Meritorious Contribution Award by NACE International India Section; and VASVIK Award (2014); besides being a Fellow of NACE International USA; Society for Advancement of Electrochemical Society and Indian Institute of Metals.

Prof. Indradev Samajdar

Institute
Chair Professor

Department of
Metallurgical Engineering
& Materials Science

Academic Background

PhD Drexel University,
USA, 1994

MS, University of Texas at
El Paso, USA, 1991

B.E, Jadavpur University,
India, 1987



P_{rof.}

Research Interests

Crystallographic Texture

Microstructural
Engineering

Thermomechanical
Processing

Prof. Bhanu Pratap Singh

Institute Chair Professor

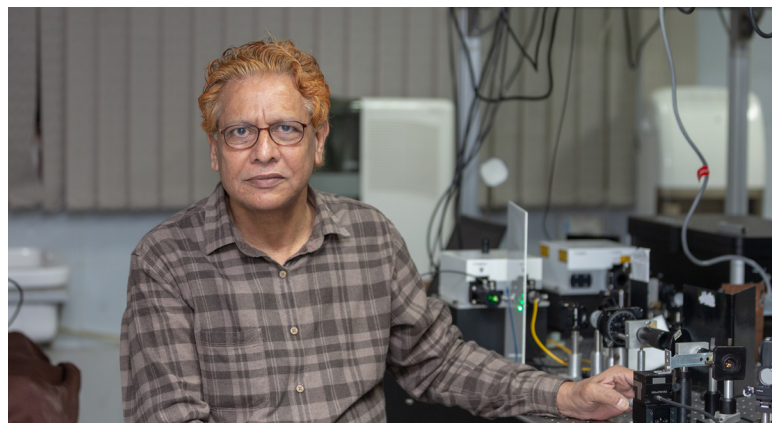
Department of Physics

Academic Background

B. Sc.(Hons.), Kurukshetra
University, 1973

M. Sc., University of
Roorkee, 1975

Ph.D., IIT Kanpur, 1984



Prof. Bhanu Pratap Singh is from the Dept. of Physics in IIT Bombay. He has contributed to science education and research, at institutional and national levels. He has guided several Ph.D. / M.Tech dissertations and served as reviewer for various thesis and journals. He has been instrumental in introducing several new courses to bridge the frontiers of optical sciences in undergraduate physics program. For wider outreach, he has coauthored NPTEL course on nonlinear optics. He has served on

planning committees of several DST SERC schools in optical sciences apart from being the faculty member and an organizing director of one such on “Nano-optics”. In addition, he has served DST committees for “optical computing” and “national program on laser materials”

Linear and nonlinear light-matter interactions in the near and far-field regimes and their control is his current research. Specific attention is on low-dimensional materials such as metallic

Research Interests

Nonlinear Optics,
Spectroscopy and lasers

Quantum confined low-
dimensional systems
- Conjugated polymers,
quantum wells, wires
dots and few atomic/
molecular layer
semiconductors etc.

Nanophotonics

and semiconductor nanostructures and their hybrids. He is currently investigating dynamics of mixed optical states in hybrid nanostructures.

He has published 80 papers in peer reviewed journals and have presented 50 papers in national and international conferences. He was awarded the Research Foundation Fellowship for postdoctoral research at State University of New York, Buffalo (USA) during 1986-1988.

Prof. Punit Parmananda

Institute Chair Professor

Department of Physics

Academic Background

Undergraduate: Physics Honours, St. Stephens College, Delhi University, 1982-1985

Masters: Ohio University, USA, 1986-1989

Doctorate: Ohio University, USA, 1989-1993

Postdoctorate:
ALEXANDER VON
HUMBOLDT FELLOW FHI-
Max Planck Gesellschaft,
Berlin, Germany, 1995-
1996

Prof. Punit Parmananda graduated in Physics from St. Stephens College, University of Delhi. He did his Master's and PhD from Ohio University. Subsequently, he received a Humboldt Research Fellowship to do his post doctorate with Prof. Gerhard Ertl (Nobel Prize in Chemistry, 2007) at the Fritz-Haber-Institut der Max-Planck-Gesellschaft in Berlin, Germany. His research interest lies in the field of experimental nonlinear dynamics.

Research Interests

Problems in Experimental Nonlinear Dynamics

Various types of synchronization phenomena of multiple Mercury oscillators coupled electrically
Interaction of noise with various nonlinear dynamical systems
Making visible pre-ordained patterns on silicon wafer surface with weak (mW) LASER and noise

Analyzing nonlinear electrochemical corrosion process of Iron in acidic medium

Performing experiments of Brainwave entrainment with Electroencephalography (EEG) machine

Study of self-propelled particles and the various manifestations of their motion

Oscillations of ethanol lamp flames and their synchronization

Prof. A. V. Mahajan

Institute Chair Professor

Department of
Physics

Academic Background

B.Tech. (Engineering
Physics), IIT Bombay

PhD, Iowa State
University, USA



P_{rof.}

Research Interests

Preparation of novel materials and study of their structural, electronic, and magnetic properties and their interrelationships

Low-dimensional systems with strong magnetic correlations

Investigating various one-dimensional $S = \frac{1}{2}$ and $S = 1$ Heisenberg chains and ladders with antiferromagnetic near-neighbour interactions

Looking at the effect of impurity substitutions and carrier doping in such systems

Geometrically frustrated systems as also superconductors

Prof. P. Ramadevi

Institute Chair Professor

Department of
Physics

Academic Background

Master of Science in
Physics, IIT Madras, 1991

Ph.D. in Physics,
Institute of Mathematical
Sciences, Chennai, 1996)

Post-Doctoral Fellow,
TIFR, Mumbai (1996-
1998)

Post-Doctoral Fellow,
Mehta Research Institute,
Allahabad (1998-1999)



Prof. P. Ramadevi has been working in the area of theoretical high energy Physics, particularly, at the interface of mathematics and physics. She has been involved in the polynomial invariants computation from Chern-Simons quantum field theory approach. One of the main ingredients to determine the polynomial form has been the closed form expression for $SU(N)$ quantum Racah coefficients for symmetric representations and their conjugates, which her research team conjectured.

These polynomial invariants were crucial to validate the integrality conjectures in the topological string context.

Prof Ramadevi has been interested in dualities in quiver gauge theories, AdS-condensed matter theory. Six PhD students have graduated under her supervision. She had organised a 3-week SERC school for PhD students (Feb 2008), a week-long National strings meeting (Feb 2010) and edited the SERC lectures which were then published as a book.

Research Interests

Chern-Simons Field Theories, Knot theory & connections to Topological String Theories and exactly solvable vertex models

Matrix models, Supersymmetric gauge theories, quiver gauge theories.

AdS-hydrodynamics, AdS-Condensed matter Physics

Prof Ramadevi received the Best Teacher of the department award (2017), IRCC research paper award (2006) and research publication award (2016). She has been a member of SERC school organising committee, Women in Science DST committee member, and Mumbai University Research Recognition committee external expert.

Prof. S. Bhargava

Institute Chair Professor

Shailesh J. Mehta School
of Management

Academic Background

Ph.D., Gujarat University,
1984



Prof. S. Bhargava is the Head of Shailesh J Mehta School of Management, IIT Bombay. At present, he is working on entrepreneurial leadership and new ventures performance. He has also been the Founder Director of JK Lakshmipat University Jaipur.

His major contribution is in the field of cognitive algebra. He found that value based leadership is core to sustain organizational performance and organizations must put effort to develop talent climate.

He has been the Visiting Scholar (August 2018) at Simon Fraser University, Canada and at Southampton University, UK (November 2010). He has also been the Global Scholar (February 2007) at University of Missouri, USA.

He is recipient of VKRV Rao Award (2003) in Management by the ICSSR, New Delhi, MPCOST Young Scientist Award (1988) by MP Young Science Congress Association & MP Council of Science and Technology and ISCA

Research Interests

Performance Management
- Psychological Contract,
Engagement and Trust

Talent Management
and Skill (Leadership)
Development

Entrepreneurial Learning
and Orientation

Young Scientist Award (1986)
by Indian Science Congress
Association.

Recently, he has been recognized by the Bombay Management Association for Excellence in Corporate Building of People with Technology and Innovation at the BMA Corporate Connect meet, Mumbai (November 2018). He has published three books, 175 research papers in the international/national journals and international/national conferences/seminars.

Prof. Shyam R. Asolekar

Maharashtra Pollution
Control Board (MPCB)
Chair for Environmental
Technologies and
Pollution Control

Centre for Environmental
Science & Engineering

Academic Background

BTech, Chem Engg, ICT,
Mumbai, 1980

MTech, Chem Engg,
Institute of Science,
Bengaluru, 1985
MS, Environmental
Engineering, Syracuse
University, 1987

PhD, Environmental
Engineering, University of
Iowa, 1991

Postdoctoral research,
Harvard University



Prof. Asolekar's interest is in teaching undergraduate and post-graduate students as well industrial and regulatory professionals. Some courses recently developed by him include Environmental Change and Sustainable Development, Industrial Wastewater Management and Reuse, Industrial Pollution Prevention and Cleaner Technologies, and Environmental Law and Policy for post-graduates. He contributed in developing the compulsory course for undergraduate engineering students: Environmental

Studies. He is author of three books, five granted patents, policy documents, training manuals, chapters of books and several research papers in international and national journals.

Prof. Asolekar served as the Head of the Department between May 2006 and June 2009 and the President of Indian Environmental Association between 2003 and 2005. Since 1997, he has been the Member of Dahanu Taluka Environmental Protection Authority

Research Interests

Preventive environmental
management

Zero Liquid Discharge

Reuse of treated
wastewaters by
combining advanced
technologies and low-
cost natural treatment
systems

Technologies for
decontamination

'Decision Support
Tools' based on life
cycle assessment and
costing, minimization
of carbon footprint and
sustainability criteria

Evidence-based
environmental policy and
regulation

constituted by the Honourable
Supreme Court of India.

Prof. Ramaswamy Murugavel

Biswas Palepu
Distinguished Chair
in Department of
Chemistry

Department of
Chemistry

Academic Background

B.Sc. and M.Sc. degrees
from University of Madras

PhD from Indian Institute
of Science (1993)

Postdoctoral work at the
University of Goettingen,
Germany (1994-1997)



Prof. Ramaswamy Murugavel joined the Chemistry faculty of IIT Bombay in December 1997. His group investigates the application of synthetic main group inorganic chemistry in the areas of molecular magnetism, layered solids, 2-D materials, and covalent organic frameworks. The research work in these fields by his group has been published in the form of about 200 publications, which have received more than 6000 citations (h-index 43).

Prof. Murugavel is a fellow

of the Indian Academy of Sciences, the Indian National Science Academy, and the Royal Society of Chemistry. He has been conferred with J. C. Bose National Fellowship, DST's Swarnajayanti Fellowship, Alexander von Humboldt Fellowship, DAE-SRC Outstanding Investigator Award, CNR Rao National Prize in Chemical Sciences, S. C. Bhattacharya Award for Excellence in Research in Basic Sciences, SASTRA-CNR Rao Award in Chemical Sciences, DAE Young Scientist Award, CRSI Bronze

Research Interests

Magnetism in molecules, Sensory materials, Covalent organic frameworks (COFs), Phosphate and phosphonate based framework solids, Single source precursor chemistry for fine particle metal / mixed-metal oxides, New layered solids and their exfoliation to 2-D Nanosheets

and Silver Medals, MRSI Medal, JC Ghosh Medal and an Honorary Professorship of JNCASR.

Prof. Murugavel has been the Head of the Dept. of Chemistry during 2011-2016. He has also held an appointment as DFG Mercator Professor at the University of Bochum, Germany during 2009-2010.

Prof. Santosh J. Gharpure

Perfumery Chair Professor

Department of Chemistry

Academic Background

BSc Chemistry, V G Vaze
College, University of
Bombay, 1994

MSc, Dept. of Chemistry,
IIT Bombay, 1996

PhD, Dept. of Organic
Chemistry, IISc,
Bangalore, 1996 - 2001

Post-Doctoral Fellow,
Dept. of Chemistry,
Indiana University, 2001
- 2004



Prof. Santosh J. Gharpure has been a faculty in the Dept. of Chemistry since 2012. His research focuses on organic chemistry pertaining to natural and unnatural product synthesis and developing new synthetic methodologies. Synthesis of molecules exhibiting flavors and fragrances is another domain of his research.

Prof Gharpure is a recipient of the INSA Medal for Young Scientists awarded by the Indian National Science Academy, New Delhi. He

was presented with the IIT Madras Young Faculty Recognition Award (YFRA) for his contribution in teaching and research in 2010. He received the B. M. Birla Science Prize in Chemistry for the year 2011. He was one of the Thieme Chemistry Journal Awardees for the year 2013. He was Themis Medicare UICT Diamond Jubilee Distinguished Fellow in Pharmaceutical Science for the year 2015-16 of ICT, Mumbai. He was selected for the award of Chemical Research Society of India

Research Interests

Organic synthesis

New synthetic methods

Asymmetric synthesis

Natural product synthesis

Catalysis

Organometallic chemistry

Chemistry of fragrance
molecules

(CRSI) Bronze Medal in 2018.

Prof. Ravindra Gudi

AI & ML
Chair Professor

Department of
Chemical Engineering

Academic Background

B-Tech in Chemical
Engineering, IIT Bombay
(1985)

M-Tech in Chemical
Engineering, IIT Bombay
(1987)

PhD in Chemical
Engineering, University of
Alberta, Canada (1995).



Prof. Ravindra Gudi has served as a Visiting Professor at the Department of Chemical Engineering, University of Alberta, Canada (1997), Department of Chemical Engineering, University of Wisconsin- Madison (2003-04). Dr. Gudi has published over 70 papers in peer-reviewed journals and has 7 US patents to his credit, in various areas of process systems engineering.

Dr. Gudi is a recipient of several awards including the Canadian Commonwealth

Fellowship by the Government of Canada (1991-1995), Lovraj Kumar Memorial Award for promotion of Industry Academia Interaction, (July 1998 - January 1999) Manudhane Applied Research Award (2006), Herdillia Award for Excellence in Basic Chemical Engineering (2009). He is also an Associate Editor of the IFAC journal of Process Control and Guest Editor for Control Engineering Practice. He serves on several technical committees of IFAC. He has also been an active consultant to the industry in India and

abroad.

Dr. Gudi is currently the President of Automatic Control and Dynamic Optimization Society (ACDOS), India.

Research Interests

Process Systems Engineering (modelling, optimization, control, artificial intelligence and machine learning), Green Chemistry & Engineering with applications to Oil & Gas, Pharma, Environmental problems.

Prof. Kannan M. Moudgalya

Erach and Meheroo
Mehta Advanced
Education
Technology Chair
Professor

Department of
Chemical Engineering

Academic Background

BTech, Chemical
Engineering, IIT Madras,
1975-80

Master of Electrical
Engineering, Rice
University, 1980-85

PhD, Rice University,
1980-85



Prof. Kannan M. Moudgalya is a professor of Chemical Engineering, Educational Technology and Systems & Control at IIT Bombay. He has applied the principles of control, simulation and mathematical modelling in several engineering areas. Prof Kannan has written two textbooks and published in refereed international journals and conferences.

Kannan has been focusing on spoken tutorials, open source software systems, virtual labs and affordable

tablets and laptops. He believes that it is possible to provide high quality education to all our children through a combination of education, and information and communication technologies, making India a developed country in the process.

He has held the posts of Associate Dean (R&D), Head of Application Software Cell and Head of the Centre for Distance Engineering Education Programme, at IIT Bombay. He was a Member of the Standing Committee of the

Research Interests

Modelling, simulation,
optimisation, control

IT training, Free/Libre and
open source software,
skills training, large scale
training

Education for all,
crowd sourced content
generation,

Affordable laptops,
tablets and devices

National Mission on Education through ICT, MHRD, for five years. He is a Director in the Washington DC based non-profit organisation WHEELS, which provides technology-based philanthropy.

Kannan received the Google MOOCs Research Award, while the Spoken Tutorial project received the best prize in the Reimagine Education Award 2015, instituted by QS and Wharton School, in the Nurturing Employment category.

Prof. Y. M. Desai

Jitendra K. &
Meena J. Mehta
Chair for Structural
Engineering

Department of
Civil Engineering

Academic Background

B.E., M. S. University,
Vadodara, 1982

M.Tech., IIT Bombay, 1984

Ph.D., University of
Manitoba, Canada, 1991



Prof. Y. M. Desai is the Former Head of Civil Engineering Department, the First Dean of Administrative Affairs, and a Professor with the Dept. of Civil Engineering, at IIT Bombay.

Prof. Desai has contributed immensely in the better understanding of wind induced vibrations. His research team has developed analytical solutions for weakly nonlinear time dependent equations. the field of computational mechanics, his research team has developed

computationally efficient finite elements and codes for expeditious linear as well as non-linear, static as well as dynamic analyses of a variety of systems. Professor Desai has also contributed to better understanding of the behaviour of laminated and sandwich beams and plates under static, dynamic and fatigue loading. His research team has developed state-of-the-art mixed finite element models for analysis of laminates.

He has been a reviewer

Research Interests

Mechanics of Structures

Computational Mechanics
with Emphasis on Finite
Element Methods

Composite Mechanics

Analysis and Control of
Wind Induced Vibrations

for over 20 national and international journals and is serving on the Academic Board and Advisory Committees of various Institutes and Government Bodies. He is also on the editorial board of an International Journal, has published the book Finite Element Method with Applications in Engineering and has received two Gold Medals and Excellence in Teaching Awards from IIT Bombay in 2006, 2016 and 2017.

Prof. Supratik Chakraborty

Bajaj Group
Chair Professor

Department of
Computer Science and
Engineering

Academic Background

B.Tech., IIT
Kharagpur, 1993

M.S., Stanford University,
1995

Ph.D., Stanford University,
1998



As a faculty member with the Dept. of Computer Science & Engineering, Prof. Supratik Chakraborty has executed many sponsored research projects for the industry and government and has conducted in-house training programs for industrial houses. He has been a Principal Investigator in the Centre for Formal Design and Verification of Software, IIT Bombay. He serves on the Technical Advisory Board of Microsoft Research India Pvt. Ltd, is a member of the Executive

Council of Association for Computing Machinery – India and of the Scientific Board of the Mysore Park Workshop Series in Computer Science. He held the James R. Isaac Chair for Assistant Professor in Computer Science and Engineering at IIT Bombay (2003-2005).

Prof. Chakraborty's research is concerned about the theory and practice of formal methods for analysis and verification of computer systems, and of biological systems.

Research Interests

Formal verification of software and hardware systems

Automata theory and its applications

Logic and finite model theory

Design and analysis of synchronous systems biology

Prof. Chakraborty has won the President of India Gold Medal and Institute Silver Medal from IIT Kharagpur (1993), an Intellectual Property Award by Fujitsu Laboratories of America Inc., Excellence in Teaching Award by IIT Bombay, INAE Young Engineer Award (2005), the IBM Faculty Award (2007), and the 2018 IRCC Research Paper Award by IIT Bombay for his work on constrained sampling and counting.

Dr. Rohit Gurjar

J. R. Isaac Assistant Chair

Department of
Computer Science &
Engineering

Academic Background

BTech & MTech Dual
Degree at CSE, IIT Kanpur,
2005-10

PhD at CSE, IIT Kanpur,
2010-15

Postdoctoral Research,
University of Ulm, 2015-
16

Postdoctoral Research,
Tel Aviv University, 2016-
17

Postdoctoral Fellow,
California Institute of
Technology, 2017-18



Prof. Rohit Gurjar is currently an assistant professor in the department of computer science and engineering at IIT Bombay. For his postdoc he was at three different places - Caltech, Tel Aviv University, and Ulm University - each for a year. Before that he was at Indian Institute of Technology Kanpur for 10 long years for his B. Tech.-M. Tech. and Ph. D. He was very fortunate to have Manindra Agrawal and Nitin Saxena as his Ph. D. supervisors. His Ph. D. thesis was chosen for the ACM India Doctoral Dissertation Award, 2017.

He is in general interested in theoretical computer science, and in particular in computational complexity and de-randomization. Some problems on which he has worked on are polynomial identity testing, perfect matching, and matrix completion. He likes hiking, cycling and listening to music.

Research Interests

Computational
Complexity, Combinatorial
Optimization, De-
randomization and
Pseudo-randomness,
Parallel Algorithms

Prof. S. Sudarshan

Subro M. Nilekani Chair Professor

Department of
Computer Science and
Engineering

Academic Background

B.Tech., IIT Madras, 1987

Ph.D., University of
Wisconsin, Madison, US,
1992



Prof. S. Sudarshan is a Professor with the Dept. of Computer Science and Engineering, in IIT Bombay. Prior to joining IIT Bombay in 1995, he worked with AT&T Bell Labs as a technical staff member.

Prof. Sudarshan's research interests centre on database systems. He has co-authored a textbook 'Database System Concepts', used internationally, has been translated into six languages, and is now in its 7th edition.

He has pioneered work on keyword search on semi-structured data, as part of the BANKS system. His work on Holistic Optimization of database applications has been implemented as part of the DBridge system. His contributions to query optimization are now part of the Pyro/PyroJ query optimizer. His work on the XData system for testing and grading SQL queries helps students in writing, and teachers in grading the correct SQL queries.

Research Interests

Database systems (query processing and optimization, holistic optimization of database-backed applications, testing and grading of SQL queries)

He has published over 30 journal papers, presented over 70 papers in leading international conferences and has over 14,000 citations and H-index of 46 (as per Google Scholar), to his credit. He has been a recipient of Fellow of the Association for Computing Machinery (ACM), USA; Indian National Academy of Engineering (INAE); and National Academy of Science, India (NASI).

Prof. Manoj Prabhakaran

Vijay and Sita
Vashee Chair

Department of
Computer Science and
Engineering

Academic Background

BTech in Computer
Science and Engineering,
IIT Bombay, 2000

PhD in Computer Science
from Princeton University,
2005



Prof. Manoj Prabhakaran has received an Institute Gold Medal from IIT Bombay, an IBM Ph.D. Fellowship, an NSF CAREER award, a Beckman Faculty Fellowship, and a Ramanujan Fellowship. He is an Associate Editor of the Journal of Cryptology and a member of the steering committee for the Theory of Cryptography Conference.

Before joining IIT Bombay, he was a tenured faculty member at the University of Illinois, Urbana-Champaign, where he advised PhD

students who went on to become tenure-track faculty members at Purdue University, Oregon State University and University of Southern California.

Research Interests

Manoj's primary research interests lie in theoretical cryptography, including modern tools like secure multi-party computation. His other research interests include information theory and computational complexity. He is also interested in translating theoretical advances in cryptography into practical applications.

Prof. Krithi Ramamritham

Major Bhagat Singh Rekhi Chair

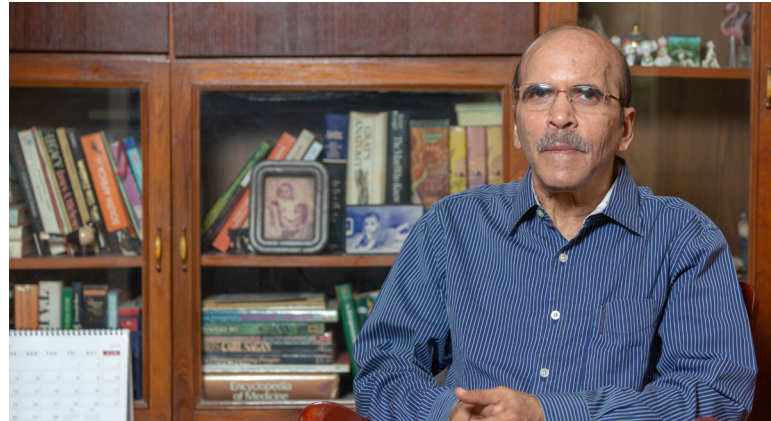
Department of
Computer Science &
Engineering

Academic Background

BTech in Electrical
Engineering, IIT Madras,
1976

MTech in Computer
Science, IIT Madras, 1978

PhD in Computer Science,
University of Utah, 1981



Prof. Krithi Ramamritham has spent equal lengths of time at the University of Massachusetts, Amherst, and at IIT Bombay as a Chair Professor in the Dept. of Computer Science and Engineering. He served as Dean (R&D) and headed the new Center for Urban Science and Engineering (CUSE), at IIT Bombay (2006-2009).

He is a Fellow of the IEEE, ACM, Indian Academy of Sciences, National Academy of Sciences, India, and the Indian National Academy of

Engineering, and was honored with a Doctor of Science by the University of Sydney. Prof Ramamritham has received the Distinguished Alumnus Award from IIT Madras, the IBM Faculty Award twice, the 2016 Outstanding Technical Contributions and Leadership Award from the IEEE Technical Committee for Real-Time Systems and the Outstanding Service Award from IEEE's CEDA.

He has served on the Board of Directors of Persistent Systems, Pune, on the Board

Research Interests

Application of CS research to solve real-world problems using “computational thinking”

Smart energy management – to define SMART: Sense Meaningfully, Analyze and Respond Timely!

of Trustees of the VLDB Endowment, and on the Technical Advisory Board of TTTech, Vienna, Austria, Microsoft Research India, and Tata Consultancy Services.

He has been associated with the editorial board of various journals which include IEEE Embedded Systems Letters and Springer's Real-Time Systems Journal, IEEE Transactions on Knowledge and Data Engineering, ACM Computing Surveys and the VLDB Journal, among others.

Prof. Preeti Rao

HAL R&D Chair Professor

Department of
Electrical Engineering

Academic Background

B.Tech. (Electrical Engg.),
I.I.T. Bombay, 1984

M.S. and Ph.D. (Electrical
Engg.), Univ. of Florida,
Gainseville, 1990



Prof. Preeti Rao joined IIT Bombay in 1999 after teaching for 5 years in IIT Kanpur. Her research has been around applications in the areas of speech and music audio processing. She was involved with developing patented algorithms for very low bit-rate speech compression for defence communication products, and more recently, robust automatic speech recognition by pre-processing of multichannel and single-channel recordings and adapting existing signal processing models for Indian

music and Indian languages.

In music processing, Prof Rao has worked on the automatic labelling of concert audio for melodic, rhythmic and structural features for Hindustani classical music. Previous work on singing voice analyses led to scoring algorithms for the musical attributes of the singing voice which were patented and licensed to an IITB start-up. She has also been working on the acoustic correlates of prosody, for automatic assessment of fluency in

second-language learning.

Prof. Rao has over 150 peer-reviewed research publications and holds 2 US patents. She has held visiting appointments, given several invited talks and served as PC member in Interspeech and ISMIR conferences. She was appointed to the Editorial Board (2017-2020) of the Journal of New Music Research, and is currently in charge of the continuing education program at IIT Bombay.

Research Interests

Speech and Audio Signal Processing, Computer-aided Language Learning, Music Information Retrieval, Multi-channel Speech Processing.

Prof. Subhasis Chaudhuri

Kamalnayan Bajaj
Chair Professor

Department of
Electrical Engineering

Academic Background

B.Tech., IIT Kharagpur,
1985

M.Sc., University of
Calgary, Canada, 1987

Ph.D., University of
California, San Diego,
USA, 1990



Prof. Subhasis Chaudhuri is from the Dept. of Electrical Engineering, in IIT Bombay. He works in the area of image processing, computer vision, and computational haptics. Some of the areas where he has contributed significantly include depth from defocus and image super-resolution, blind deconvolution, hyper-spectral image visualization and classification of land cover maps in remote sensing images. In the area of haptics, his major contribution lies in haptic rendering of point cloud data.

For his research work, he has received the G.D. Birla Award for Scientific Research, NASI-Reliance Industries Platinum Jubilee Award for Application Oriented Innovation, J.C. Bose National Fellowship and Prof. H.H. Mathur Excellence in Research Award from IIT Bombay, Shanti Swarup Bhatnagar Prize in Engineering Sciences, Swarnajayanti Fellowship and Hari Om Prerit, and Dr. Vikram Sarabhai Research Award.

Prof. Chaudhuri has been on the editorial boards of

Research Interests

Motion analysis and tracking

Data clustering and pattern recognition

Super-resolution imaging

Computational photography

Computational Haptics

EEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) during 2006-2008, SIAM Journal SIIMS since 2018, and International Journal of Computer Vision (IJCV) since 2004. He has also been a Visiting Professor at many international universities like the Institute of Fundamental Electronics, University of Paris Sud, France, Technical University of Munich, Germany and National University of Singapore.

Prof. Rangan Banerjee

Forbes Marshall Chair Professor

Department of
Energy Science and
Engineering

Academic Background

B.Tech., IIT Bombay, 1986

Ph.D., IIT Bombay, 1991



Prof. Rangan Banerjee is from the Dept. of Energy Science and Engineering, at IIT Bombay. He was responsible for creating a new Department of Energy Science and Engineering in 2007 and was appointed as its first Head. He has also been the Associate Dean (R&D) and later Dean (R&D) at the Institute.

He has worked on industrial energy efficiency and creating new methodologies for model based bench-marking,

illustrated for the manufacture of glass, dump trucks for industrial furnaces, and water pumping in mining. He has worked at developing a 1 MW grid connected solar thermal power plant that was commissioned and handed over to the National Institute of Solar Energy (March 2015).

Prof. Banerjee is a co-author of four books and has been on the editorial board of International Journals of Thermodynamics, Sustainable Energy & Sustainable Engineering. He was

Research Interests

Energy Systems
Engineering

Fuel cell / Hydrogen
storage

Cogeneration, Power
Systems Planning,
Energy Planning
and Policy, Energy
Management and Energy
Efficiency, Demand Side
Management

appointed as Convening Lead Analyst (CLA) and Executive Committee Member of the Global Energy Assessment (GEA), International Institute for Applied Systems Analysis (IIASA. (2009-2012). He is a member of the TIFAC Technology Vision 2035 - Apex Committee and Chairman of the Energy Technology Theme. He has a patent awarded for porous gas diffusion electrodes for electrochemical applications.

Prof. Shireesh Kedare

Praj Industries Chair for Energy Science & Engineering

Department of
Energy Science &
Engineering

Academic Background

1992: Ph.D, Indian
Institute of Technology
Bombay (IIT Bombay)

1985: B.Tech. (Mechanical
Engineering), Indian
Institute of Technology
Bombay (IIT Bombay)



Prof. Shireesh Kedare has won the Departmental Award for Excellence in Teaching – 2018, at IIT Bombay. He has pioneered applications of solar concentrators for industrial process heat in India. He championed Fresnelized paraboloid concentrator ‘Arun’ that has a unique and challenging optical arrangement, two-axis tracking, cavity receiver, thermal storage and optimized process integration.

Presently, his focus is on development of solar thermal

technologies for 24 h/d power generation using Heliostat, LFR, molten salt based single media thermocline storage and PCM based steam storage. He is also involved in developing a solar receiver for 3.5 kWe Free-Piston Stirling Engine, a mini solar thermal power unit and a low concentration high temperature solar technology for industrial applications, in collaboration with MIT, Boston, USA.

Dr. Kedare was involved with the development of megawatt

Research Interests

Research and development in concentrating solar thermal collector technologies for industrial process heat applications

Development of rural application technologies using participatory approach

Enabling system integrated context specific participatory development

scale solar thermal power plant with hybrid solar field consisting of Parabolic Trough Collectors (PTC) and Linear Fresnel Reflectors (LFR) using two different thermal media and including a short period thermal storage system. Dr. Kedare is active in enabling a system-integrated context specific participatory development by enabling rural voluntary agencies through his NGO.

Prof. Suhas S. Joshi

Rahul Bajaj
Chair Professor

Department of
Mechanical Engineering

Academic Background

B.E., V.J.T.I. Bombay,
1988

M.E., N.I.T. Tiruchirapalli,
1991

Ph.D., IIT Bombay, 1997

Post-doctoral Researcher,
Georgia Institute of
Technology, USA, 2002



Prof. Suhas Joshi is presently the Dean of Alumni and Corporate Relations at IIT Bombay besides being a Fellow of Indian National Academy of Engineering.

Dr. Joshi works on improving productivity and quality of multi-scale machining processes through physics-based modelling and characterization. He spearheaded the establishment of National Centre for Aerospace Innovation and Research, at IIT Bombay, as its founding

Principal Investigator (2009-14).

Dr. Joshi has received the BOYSCAST fellowship of Govt. of India (2002) for young researcher, Best Faculty award of the department (2007), and Dr. P. K. Patwardhan Technology Development Award of IIT Bombay (2008). Dr. Joshi has served as an Associate Editor of Trans. ASME, Journal of Manuf. Sci. and Eng. (2007-14). He is presently an Associate Technical Editor of Machining Sci. and Technol.

Research Interests

Improving productivity and quality of multi-scale machining processes through physics-based modelling and characterization

Development of novel micro-machining processes

Modeling cutting phenomena in 'difficult-to-cut' materials

(Taylor and Francis) (2010-) and Editorial board member of Indian Journal of Engineering & Materials Sciences, CSIR-NISCAIR (India) (2015-).

Dr. Joshi has supervised a post-doctoral and twelve doctoral students. Presently guiding another ten doctoral students for their PhD, he has supervised more than 100 masters' dissertations. He has over 250 publications including over 130 in referred international journals, and five book chapters to his credit.

Prof. D Parthasarathy

India Value Fund Chair Professor

Department of
Humanities and Social
Sciences

Academic Background

B.A., Osmania University,
1987

M.A., University of
Hyderabad, 1989

M.Phil., University of
Hyderabad, 1990

Ph.D., University of
Hyderabad, 1995



Prof. Parthasarathy is an Associate Faculty in the Centre for Policy Studies, Centre for Urban Science and Engineering and also the Convenor of the IDP in Climate Studies, at IIT Bombay. He is on the Editorial Board of South Asia Research and Environment and Planning E (Nature and Space), published by Sage Publications. He has been at the Dept. of Humanities and Social Sciences, IIT Bombay, since 1997.

He is the author of Collective

Violence in a Provincial City (OUP, 1997), and has recently co-edited “Women’s Self Help Groups: Restructuring Socio-Economic Development,” (Dominant, 2011), and “Cleavage, Connection and Conflict in Rural, Urban and Contemporary Asia” (Springer, 2013). He has carried out research projects, has been on the editorial boards and advisory committees of national and international journals and academic organizations, and edited volumes in the areas of urban studies, law and governance,

Research Interests

Urban studies,
Development studies

Climate/disaster risk and
vulnerability

Governance and legal
pluralism

legal pluralism, women and development, climate studies, and disaster risk and vulnerability. He has published over 50 journal articles and book chapters, and over 100 conference papers.

Prof. Parthasarathy has received the Panos Media Fellowship, IUCN/Ford Foundation Democratizing Science Small Grants Programme of the World Conservation Union, and the Research Medal at the 2nd Global Development Network Conference, Tokyo.

Prof. Kannan N. Iyer

Praj Industrial Chair Professorship for Energy Sciences and Engineering

Department of Mechanical Engineering

Academic Background

B.Sc., (Engg), Delhi University, 1976

Post Graduate Training Course, Nuclear Engineering, BARC, 1977

M.S. and Ph.D., Purdue University, USA, 1985



Prof. Kannan Iyer has contributed to the field of Thermal Hydraulics, particularly in nuclear technology and its safety. His setting up of a facility for addressing various aspects of Advanced Heavy Water Reactor installed, at IIT Bombay, is recognized as a pioneering effort. His efforts in developing a scaled model for the demonstration of Passive Decay Heat Removal System has found adoption of this system in Indian nuclear reactors. His recent research and development

focus has been on Melting, Solidification with material contraction, Contact melting, Stability of boiling systems, Surge mitigation in condenser cooling circuit of super-thermal power stations and lift irrigation systems and Modelling of supercavitation.

After joining IIT Bombay in 1986, he has executed over 25 sponsored R&D Projects, 25 industrial consultancy projects and has supervised to completion 16 Ph.D. and over 100 M.Tech. theses.

Research Interests

Nuclear Reactor Thermal Hydraulics and Safety

Computational Fluid Dynamics and System Modelling

Having over 100 publications in national and international journals and peer reviewed proceedings, he has received the Outstanding Service Award from Indian Nuclear Society (2014), the Best Faculty Award (2008-09) awarded by the Dept. of Mechanical Engineering, IIT Bombay, Excellence in Teaching Award of the Institute (2012, 2016) and Prof. S.P. Sukhatme Award for Excellence in Teaching (2018).

Prof. Rinti Banerjee

Madhuri Sinha Chair Professor

Department of
Biosciences &
Bioengineering

Academic Background

MBBS, BJ Medical
College, University of
Pune, 1996

Ph.D., IIT Bombay, 1999

Post Doctoral, University
of California, San
Francisco, 2001



Prof. Rinti Banerjee has been a faculty member at the Dept. of Biosciences & Bioengineering in IIT Bombay since 2001 and is also associated with the Centre for Research in Nanotechnology and Science and the Centre for Policy Studies. Her research has led to the development of novel patented technologies in the areas of drug delivery, biomaterials and medical devices.

Prof. Banerjee is the Associate Editor of ACS Biomaterials

Science and Engineering and is on the editorial board of Scientific Reports, Drug Delivery & Translational Research and many other international journals. She has published nine books and more than 140 papers in international journals of repute. She has more than 20 patents filed and authored several editorial articles for international journals.

Dr. Banerjee has received several awards in recognition of her work including H H Mathur Award for Excellence

Research Interests

Nanomedicine: for
biomedical applications

Drug delivery: for
controlled and trigger
responsive drug release,
technologies for non-
invasive drug delivery
through oral, aerosol,
intranasal, transdermal
routes

Biomaterials, Tissue
Engineering and Medical
Devices

in Applied Science, CDRI award for Excellence in Drug Research, NASI-Reliance Industries Platinum Jubilee Award for Biological Sciences, DST-Lockheed Martin India Innovation Award, National Award for Women Bioscientists, Indo-US Frontiers of Engineering, Annual Felicitation Award from the Society for Cancer Research and Communications and several other national and international awards.

Prof. Asim Tewari

G.K. Devarajulu Chair Professor

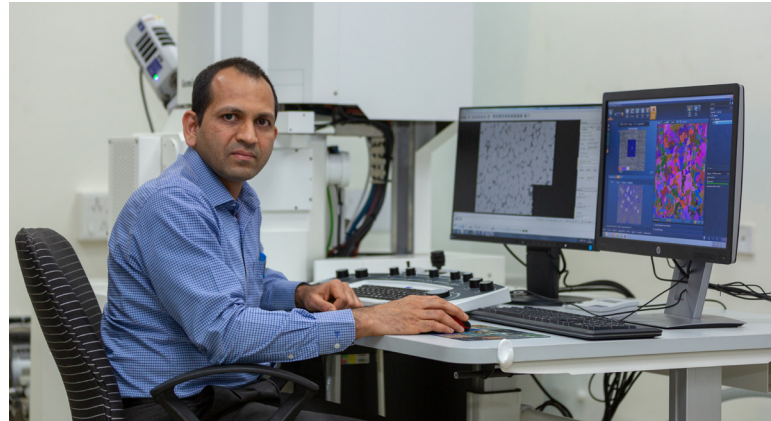
Department of
Mechanical Engineering

Academic Background

Georgia Institute of
Technology, Atlanta, GA
Ph.D. in Materials Science
& Engineering, March
1999

Georgia Institute of
Technology, Atlanta, GA
M.S. in Materials Science
& Engineering, December
1996

Indian Institute of
Technology (IIT), Kanpur,
India
B.Tech. in Materials
Science & Engineering,
July 1994



Prof. Asim Tewari is head of the National Center for Aerospace Innovation and Research (NCAIR) at IIT Bombay. At IIT Bombay, he set up the National Center for Aerospace Innovation and Research and Center for Technical Textiles. He has also been co-investigator in Biomedical Engineering and Technology (Incubation) Centre and Center for excellence in steel technology.

He has established several advanced state-of-the-art facilities including advanced

machining excellence cell, fiber composite research laboratory, 4D x-ray microscopy laboratory with capabilities of in-situ thermo-mechanical deformation, an experimental lab for thermo-mechanical simulation and Nano-characterization texture laboratory. He has also established a research group in smart manufacturing, machine-learning, data-analytics and IoT for various sectors including manufacturing, transportation, and defense.

Research Interests

Microstructural-
mechanics

Fiber composites and
Technical Textiles

Advanced Manufacturing

Industrial Internet of
Things

Data analytics and
machine learning

He has over 100 international journal & conference publications and 10 international patents. His pioneering work in 3D microscopy has been widely cited, including reproduction in ASM handbooks. He is on the editorial board of several international Journals including Metallurgical and Materials Transactions and Image Analysis & Stereology. He is an advisory committee member for various national & international research boards and has won awards and recognition for his research and teaching.

Prof. Ravi Poovaiah B. A.

D.L.Shah Chair Professorship for Innovation

IDC School of Design

Academic Background

B.Tech., IIT Madras, 1975

Post Graduation Diploma
in Industrial Design, IIT
Bombay, 1977

Master of Arts Education,
Rhode Island School of
Design, USA, 1985



Prof. Ravi Poovaiah is a senior faculty member at IDC School of Design, IIT Bombay. He is credited for the major modifications in the 'Master of Design' curriculum, strengthening the Ph.D. program and co-ordinating the newly introduced Bachelor of Design (B.Des.) program at the Centre.

Currently, he is involved with building open access digital resources related to Design Learning, Folk Tales, Designing for Children, Design of Way-finding Systems and

Design in India, with access to networked collaborative information. In this regard, he is involved with the MHRD sponsored project 'e-kalpa', to build an open access digital learning environment for design in India. He is also the Principal Investigator of a research project on experimenting with Social Media called 'The Centre of Social Media Innovations for Communities (COSMIC)', a collaborative initiative between IIT Bombay and the Universities from Singapore - NUS and NTU.

Research Interests

Product Design; Design for Learning; Designing for Children - Play and Learn;

Collaborative Environments; Design, Technology and Culture; Digital Resources for Learning;

Information Visualization and Structuring; Smart Media Design and Interaction Design;

Visual Language and Communication Design; Signage, Identity and Information Systems.

He has received the IBM Faculty Award Grant 2014, Microsoft Faculty Award Grant, 2004 and 'The most outstanding interface design' for Jellow and Smokeydote at Design Expo, Seattle, USA. He has been a visiting research Professor at the School of Computing, NUS, Singapore, since 2010.

Prof. Sambasivarao Kotha

Pramod Chaudhari
Chair Professor

Department of
Chemistry

Academic Background

BSc, Nagarjuna
University, Guntur, 1977

MSc, University of
Hyderabad, 1979

PhD, University of
Hyderabad, 1985

Post-doctoral,
Manchester, Wisconsin
1986, 1987

Visiting Scientist, Cornell
University, 1990



Prof. Sambasivarao Kotha is currently a Professor in the Dept. of Chemistry. His group has made significant contributions in the areas of organic synthesis, particularly towards devising several new synthetic tactics and made imaginative use of metathesis and Suzuki coupling protocols.

21 articles from his group have been placed among the most cited list. He has published more than 270 papers in peer-reviewed journals, which include a dozen accounts. So

far, 33 students completed PhD under his supervision, and he has trained 126 students in their PhD, MSc, Post-Doctoral, and projects.

Prof. Kotha has received the B. M. Birla Science Prize (1996), N. S. Narasimhan Endowment Award (2000), Prof. S.C. Bhattacharya Research Excellence Award (2008), J. C. Bose Fellowship (2010), G.D. Gokhale Endowment Lectureship (2010), Prof. B. D. Tilak Endowment Lectureship (2015) from ICT Mumbai among

Research Interests

Organic Synthesis

others. He is also recipient of several fellowships (FASc., FNASc. FRSC, FNA, Fellow of Maharashtra Academy of Sciences and Fellow of Andhra Pradesh Akademi of Sciences). He also received W. U. Malik Memorial Award by Indian Council of Chemist (2014), Prof. S. M. Sethna Memorial Lecture by M.S. University, Baroda in (2016). He also received IITB IRCC Research Paper/Review paper Award five times (2004, 2005, 2010, 2011 and 2017).

Prof. R.O. Dusane

P.K. Kelkar Chair for Excellence in Nano Technology

Department of
Metallurgical Engineering
& Materials Science

Academic Background

M.Sc. Physics, Nagpur
University, 1984

Ph.D. Physics, Pune
University, 1990



Prof. R. O. Dusane works in the area of semiconductor thin films and semiconductor nanostructures. His basic expertise is in low temperature processing of semiconductor thin films and nanostructures to develop applications like solar cells, thin film devices, Radiation detectors, Batteries and supercapacitors, sensors and nano-engineered surfaces. He has supervised 16 Ph.D. students and has more than 120 publications in International Journals and Conferences and 3 patents. He is a Fellow of the

Maharashtra Academy of
Sciences.

Research Interests

Thin film science & technology, materials processing and device engineering, plasma enhanced processing, Device nano-engineering and Nanotechnology, Energy conversion and storage

Prof. Anil Kumar

Class of 1985 Chair for Technology & Sustainable Development

Department of Chemistry

Academic Background

Ph.D. (Chemistry): Aug. 1995. Indian Institute of Science, Bangalore.

M.Sc. (Chemistry): Indian Institute of Technology, Delhi, June 1990.

B.Sc. (Chemistry): Univ. of Delhi, Delhi. June 1988.



Prof. Anil Kumar is currently a Chair Professor at IIT Bombay, in the Dept. of Chemistry, Center for excellence in Nanoelectronics, National Center for Photovoltaic Research and Education and National Center for Excellence in Technologies for Internal Security. Their group has developed a state-of-the-art continuous flow process lab and has also been conducting regular training programs and workshops in Continuous Flow Process to train the next generation of human resources in this important

emerging technology.

Based on the processes, Prof Anil Kumar started a company - Sycon Polymers India Pvt Ltd and another start-up is in pipeline. His group also has developed many technologies including transfer of technology in the domain of handheld explosive sensors and continuous flow processes. For his contribution in this field, he has been awarded with the 2017 NASI-RIL Platinum Jubilee National Award for application-oriented

Research Interests

Continuous Flow Chemistry; Large Area Printed Organic Electronics, Transparent Conductors, Process Intensification, Emulsions and conducting inks

innovations.

Apart from research, his other hobbies are teaching, sports, technical financial analysis, magic and music. He has developed an outreach program based on Science & Magic to promote teaching and practice of science among students and research scholars of different grades and has been conducting such workshops around the country.