

#### on

### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Brejesh Lall

(https://web.iitd.ac.in/~brejesh/index.html)

Present Designation: Professor

IIT Delhi



Prof Brejesh Lall completed PhD in 1997 from IIT Delhi in the area of Multirate Signal Processing. He joined Hughes Software Systems in September 1997 and worked there for nearly 8 years in the Signal Processing group. He worked on Source Coding and PHY layer solutions for many communication technologies such as terrestrial wireless, GEO and LEO Satellite communication systems, Satellite broadband and others. He returned to his alma mater and joined IIT Delhi as a faculty member in 2005. Since July 2005 He has been in the Electrical Engineering Department and has contributed to research & teaching in the general area of Signal Processing. He has graduated 13 PhD students during that period, further 6 have submitted their synopsis. Besides, them 29 research scholars are pursuing PhD under his supervision. He has successfully completed numerous sponsored projects and consultancies and is working on several others. The total number is close to 47 and the total budget outlay in excess of Rs. 70 crores. The areas in which he has been publishing and doing sponsored research are centered on signal processing. The areas include, object representation, tracking and classification, odometry, depth map generation, representation and rendering. He is also exploring vector sensor based underwater acoustic communications, and performance issues in molecular communications. Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur on He is the former head of Bharti School of Telcom Technology and Management, and the coordinator of two centers of excellence, viz. Airtel IIT Delhi Centre of Excellence in Telecommunications and Ericsson IIT Delhi 5G Center of Excellence. He is also the incharge of an IoT laboratory that He set up in collaboration with Samsung. Besides this, he is the NCC co-ordinator of IIT Delhi. He has mentored 5 startups, in the areas of Virtualization, Geo-fencing, UAV based solutions and recommendation and data mining. He actively participate in building and deploying technology. He have also served as expert in numerous government and private agencies in aspects related to signal processing.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Prof. Karabi Biswas

(http://www.facweb.iitkgp.ac.in/~karabi/f\_karabi.html)

Present Designation: Professor Indian Institute of Technology Kharagpur



**Dr. Karabi Biswas** is a professor in the Department of Electrical Engineering, Indian Institute of Technology Kharagpur, India. Her current research interests are Sensors, Instrumentation, Fractional order systems. She has developed a new circuit element named as fractional-order-capacitor with tuneable parameters. The work has motivated researchers across the world to fabricate fractional-order-capacitor by modulating the dielectric property of the material. The work has opened the door to validate the 300 years old-concept of mathematics called "fractional-calculus". She has also indigenously developed several instruments for precision-agriculture and point-of-care health monitoring. She has received the Friedrich Wilhelm Bessel Research Award in 2021. Presently she is serving as an editor for he journals "IEEE Sensors" and "International Journal of Circuit Theory and Application". She has more than 97000 article reads in ResearchGate and citations in Google Scholar is 2942.

#### **Publications at a Glance**

Publication	Number Published
1. Chapter in Books	6
2. International Journals	55
3. International Conferences	35
4. National Conference	11
4. Book (Edited Volume)	1
5. Patent filed	5

#### **International recognition**

• Nominated as International management committee observer for European COSTAction-CA15225,

a program of European Union, 2017

• Invited to deliver talk to the Training School in University of Catania, Sicily, Italy 5-8September, 2017: Fully funded by European Union

• Invited to give talk to the conference (ICNR-18) devoted to the 95-th birth anniversary of Dr.Prof. Rashid. Sh.Nigmatullin, Kazan Russia, 9-12th Oct 2018: **Fully funded by RussianGovernment** 

• Two of our papers have been selected for the monograph to be published in Russianlanguage "Fractal elements: the pioneering constructive – technological solutions" by the publisher "FIZMATLIT" (Moscow, Russia)

#### Award

• AICTE Career Award for Young Teachers, 2007

• BOYSCAST Fellowship, 2008

DAAD Fellowship 2012

• Armen H. Zemanina BestPaper Award, Springer, 2013

• AvH Friedrich WilhelmBessel award from Humboldtfoundation, 2021



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Prof. Sanket Goel

Dean, Sponsored Research and Consulting, BITS Pilani, India (https://www.bits-pilani.ac.in/hyderabad/sanket-goel/) Present Designation: Professor



Dr Sanket Goel is a Professor in the Department of Electrical and Electronics Engineering at Birla Institute of Technology and Science (BITS) Pilani, Hyderabad Campus, Telangana. He is the Principal Investigator of MEMS, Microfluidics and Nanoelectronics (MMNE) Lab and Founding Director of Cleome Innovations Pvt. Ltd. Currently, he is also serving as a Dean where he spearheads Research and Innovation activities across all the campuses of BITS Pilani. Prof. Goel's work focuses on MEMS, microfluidics, and nanoelectronics in diverse applications like sensing, energy harvesting, and storage. His most cited works include papers fuel, laser-induced graphene, and on sustainable biofuel cells, both enzymatic and microbial. He has over 210 journal papers, 90 conference papers and 20 book chapters. His team has filed 24 patents so far. He has edited two books, Microelectronics and Signal Processing: Advanced Concepts and Applications and Miniaturized Electrochemical Devices. His lab (MMNE Lab) and company focus on developing miniaturized smart sensors and energy harvesters for a variety of applications. His group has also developed droplet microfluidic devices for diverse applications and his team is also working on characterizing and optimizing solar cells for underwater applications and 3D printed devices for space applications. His team has started developing IoT enabled devices for soil parameter monitoring, DNA amplification, and Nanomaterial Synthesis applications. Prof. Goel has given more than 95 invited talks at various conferences, workshops, and public forums.

Prof. Goel has won several awards, honors and distinctions, including the Japan Society for the Promotion of Science Invitational Fellowship (2021), Fulbright Fellowship (2015) and Dr C R Mitra Best Faculty Award by Prof V S Rao Foundation / BITS-Pilani (2021). In 2022, he has become the fellow of Institution of Electronics and Telecommunication Engineers (IETE) and Institution of Engineers (IE). Prof. Goel is with the editorial team of several journals including IEEE Sensors Journal, IEEE Transactions Nano Bioscience, Journal of Micromechanics on and Microengineering, Applied Nanoscience, and Journal of Nanobiotechnology. Earlier, he was in the Editorial Board of IEEE Access Journal. He has also been appointed as a Distinguished Lecturer by the IEEE Sensors Council in 2024.



6<sup>TH</sup> INTERNATIONAL CONFERENCE on EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Shubhajit Roy Chowdhury

(https://faculty.iitmandi.ac.in/~src/) Present Designation: Associate Professor Indian Institute of Technology Mandi



Dr. Shubhajit Roy Chowdhury was born on August 27, 1981. He completed his Ph. D from the Department of Electronics and Telecommunication Engineering, Jadavpur University in the year 2010. He is currently an Associate Professor at the School of Computing and Electrical Engineering, Indian Institute of Technology (IIT) Mandi. Previously, he also served as an Assistant Professor at the Centre for VLSI and Embedded Systems Technology, IIIT Hyderabad and thereafter as an Assistant Professor at the School of Computing and Electrical Engineering, IIT Mandi. He has also taught at Jadavpur University in the capacity of a lecturer from 2006 to 2010. He is a Senior Member of Institute of Electrical and Electronics Engineers (IEEE), member of VLSI Society of India, ACM and a life member of Indian Statistical Institute, Microelectronics Society of India, Institution of Electronic and Telecommunication Engineers and Telemedicine Society of India. He is a member of scientific, technical and editorial committee of Engineering and Natural Sciences Division of World Academy of Engineering, Science and Technology. He is the recipient of university gold medals in 2004 and 2006 for his B.E. and M.E. respectively, Altera Embedded Processor Designer Award in 2007, winner of five best paper awards. He received the award of the Fellow of Society of Applied Biotechnology (FSAB) by the Society of Applied Biotechnology in the year 2012. He is also awarded Young Engineers Award 2012-13 by the Institution of Engineers, India for his outstanding contribution in the field of Electronics and Telecommunication Engineering. He also received the award of the Fellow of the Association for the advancement of Biodiversity Sciences in the year 2014. He is the recipient of VIFA Young Faculty Award in the year 2015 and also

the recipient of Young Neurologist Award from the World Stroke Organization in the year 2015. He has published over one hundred and fifty papers in international journals and conferences. He is a reviewer of IEEE Transactions on VLSI Systems, IEEE Transactions on Measurement and Instrumentation, IEEE Sensors Journal, ACM Transactions on Design Automation of Electronic Systems, Journal of Medical Systems, Medical and Biological Engineering and Computing and other reputed journals. He is an Associate Editor of IEEE Sensors Journal, IEEE Journal of Translational Engineering in Health and Medicine, IEEE Access Journal, Journal of Medical Systems, Frontiers in Public Health and Frontiers in Medical Technology. He has authored 9 books and book-chapters. He has currently filed six patents and has been granted one US patent and two Indian copyrights in the field of non-invasive medical diagnosis. His research interests span around the development of Biomedical Embedded Systems, VLSI architectures, near infra-red spectroscopy based non-invasive diagnosis and ASIC design of intelligent signal processing circuits. He is keenly interested in the educational system and its necessary transformation.



on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Prof. Subir Kumar Sarkar

(http://www.jaduniv.edu.in/profile.php?uid=352)

**Present Designation: Professor** Indian Institute of Engineering Science and Technology (IIEST), Shibpur



Prof. Subir Kumar Sarkar (currently a Visiting Professor in the Dept of Electronics and Telecommunication Engineering, IIEST, Shibpur) has completed his B. Tech (1981), M. Tech (1983) and PhD (Tech)[1999] from Institute of Radiophysics and Electronics, University of Calcutta and Post-Doctoral from Virginia Commonwealth University (VCU), USA . He worked around 10 years in industry like Oil and Natural Gas Corporation (ONGC) as an Executive Engineer and 30 years in universities (8 Years IIEST (formerly BESU) and 22 years in Jadavpur University) in different capacities (Professor from 14th June 2007 till retirement on 31st January 2023). He was the Head of the Dept of Electronics and Telecommunication Engg., Jadavpur University during 2011-2013. He was the coordinator of the Evening course, M. Tech in "VLSI Design and Microelectronics Technology" for ten years and the Co-ordinator of IC Design & Fabrication Centre, Jadavpur University more than six years. He has authored 6 Engineering text books published by CRC Press USA, Artech House USA, PAN STANFOPRD USA, S. Chand & Company Pvt. Ltd., India. He has already guided 60 PhD scholars (5 more registered and currently working),21 R&D projects (with Total funding of more than two crores' rupees) sponsored by different Govt. of India funding agencies have been completed. Published more than 735 technical research papers in archived International/ National journals (281) and peer reviewed conferences (454). He has visited several countries like Australia, USA, France, the United Kingdom, Switzerland, Japan, Thailand and Bangladesh as Keynote speaker, Special Guest of Honour, Invited speaker, for training, presenting papers and visiting sophisticated laboratories as a part of his collaborative research activities. He has delivered around 133 Plenary/ Keynote/ Invited talks, 20 IEEE DL talks, four tutorial talks and chaired around 50 technical sessions in various academic programs. Prof. Sarkar has acted as a member of NBA team for evaluating more than 30 Engineering & Technology Institutes all over India. Honoured with the prestigious IETE – Brig M L Anand Award-2019 for notable expertise in Network domain as is evident from his 183 research papers , 20PG and 18 PhD thesis guidance in Network Area and publication of two books (CRC press & Artech House) whose review came in IEEE communication Magazine and has stupendous citation record of 700 and Prof. S K Mitra Memorial Award-2019 from IETE 2019 for one of his research work as the best research oriented paper among all the papers published in IETE Technical Review Journal in the year 2018-2019. He is a Senior Member of IEEE, IEEE Distinguished Lecturer of Electron Device Society, Life fellow of IE(India) and IETE, Life member of ISTE and Life member of Indian Association for the Cultivation of Science (IACS). He has successfully organized four IEEE sponsored International Conferences as Convener in 2004 & 2022 and as General Chair in 2012 & 2019.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## **Prof. Vladimir Pavelyev**

#### (https://ssau.ru/english/staff/60914001-pavelyev-vladimir-s)

**Present Designation: Professor** 



**Prof. Vladimir Pavelyev** is head of the Nanoengineering Department of Samara National Research University, Samara, Russia and a leading scientist of Image Processing Systems Institute, NRC "Kurchatov Institute". His research is in the field of micro-optics for infrared and terahertz ranges, functional micro- and nanostructures for photonics and sensors. He was awarded Ph.D. as well as Dr. of Science degrees from the Samara State Aerospace University (now - Samara National Research University). In 2000-2002, V.S. Pavelyev was the co- principal investigator of the Russian-German project supported by the German foundation DLR (BMBF) and implemented by the fellows of IPSI RAS and the Institute of Applied Optics of the Friedrich Schiller University (Jena, Germany). He was actively involved in research projects supported by RSF and RFBR as a principal investigator. In 2017, he was a visiting faculty at JMI University (Central University), New Delhi, India (in the frame of MHRD GIAN Initiative). He has supervised three candidates (Ph.D.) on optics. V.S. Pavelyev has published more than 150 scientific papers. He also published some book chapters in reputed publishing houses. During his research career, he received the Russian President scholarship for conducting the research abroad; 1995-1996 (stay at Friedrich-Schiller University, Jena, Germany). He was also awarded with the Russian Federation State Prize for young scientists, 2003; Samara Governor Prize, 2021.



on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Prof. Abhinav Kranti

(http://people.iiti.ac.in/~akranti/)

Present Designation: Professor Indian Institute of Technology Indore



**Abhinav Kranti** worked at Université catholique de Louvain (Belgium), Queen's University Belfast (UK), and Tyndall National Institute (Ireland), before joining Indian Institute of Technology Indore, India, in November 2010. Since December 2017, he is serving as a Professor in the Department of Electrical Engineering at IIT Indore. Prof. Kranti's research interests include steep switching devices, memory technology, cryogenics, quantum phenomenon, and CMOS Analog/RF design. Prof. Kranti has been a recipient of fellowships from the Academic Exchange Service, Germany, and the Academy for Research and Higher Education, Belgium.

His research group (Low Power Nanoelectronics Research Group) is engaged in pioneering research on capacitorless dynamic random access memory, steep switching devices, vertically stacked transistors, quantum phenomenon, CMOS Analog/RF design, material-device-circuit co-design and approaches for enabling competitive multi-functionality, all of which are essential for the development of next generation logic and memory technology. The group has strong collaborations with leading international researchers, and after completing PhD, students receive offers for post-doctoral positions abroad.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Partha Bhattacharyya

(https://www.iiests.ac.in/IIEST/Faculty/telecom-pb)

Present Designation: Associate Professor Indian Institute of Engineering Science and Technology (IIEST), Shibpur



Bhattacharyya received his B.E. Dr. **Partha** degree in Electronics and Telecommunication Engineering and M.E. degree in Electron Devices from Jadavpur University, India in 2002 and 2004, respectively. He received his PhD degree on 'MEMSbased gas sensor and its integration with CMOS circuits' from the same University in 2008. Presently, he is a faculty member in the Department of Electronics and Telecommunication Engineering, Indian Institute of Engineering Science and Technology (IIEST), India. He was a visiting scientist at Institute of Micro- and Nanomaterials, Ulm University, Germany in 2015 for his post-doctoral research. His current research interests include nanomaterialbased sensors, graphene and other 2D material for device applications. He has published 80 research and review articles in tier-one SCI journals (Including 45 IEEE publications) and 98 in conference proceedings. He received the Young Engineer's Award from the Institution of Engineers, India, in 2010, Career Award for Young Teachers (CAYT) 2011-12 from All India Council for Technical Education (AICTE), 'Young Engineer Award 2012' from Indian National Academy of Engineering (INAE), 'Young Scientist Award 2012' from Indian National Science Academy (INSA), Young scientist award from ISSS and Visvesvaraya Young Faculty Research Fellowship (MeitY, India) in 2016 and lecture medal from MRSI in 2017, for his teaching and research contributions. He has supervised twelve PhD students so far with four more continuing. He is a senior member of IEEE and fellow of IEI and IETE. He is an associate editor of IEEE Sensors Journal.



#### on

### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Govind Gupta

(https://www.nplindia.org/wp-content/uploads/common/govind@nplindia.pdf)

Present Designation: Professor CSIR-National Physical Laboratory, New Delhi



**Dr. Govind** is engaged in the growth of semiconductor heterostructure for more than 15 years and mainly contributed on the fabrication of advanced optoelectronic devices. Currently, he is the Principal Scientist & Head, Thin Film Devices & Metrology Group, CSIR-National Physical Laboratory, New Delhi (NMI) and Associate Professor, at Academy of Scientific & Innovative Research (AcSIR). Previously, he worked as Scientist (2004-08) and Senior Scientist (2008-12) at CSIR-National Physical Laboratory and a Visiting Scientist at University of Rutgers, New Jersey, USA (2007-08) and Humboldt University, Berlin, Germany (2017).

Dr. Govind has made pioneering contributions in the field of semiconductor heterostructures for the fabrication of efficient optoelectronic devices which has strong impact in the field of space, military and biology as detectors & sensors. He has fabricated high responsive UV & NIR photodetectors using nitride semiconductors yielding very high photoresponsivity at very low optical power & display excellent stability/reliability with rapid switching. Further, he has contributed significantly to understand the surfaces/interfaces properties & electronic structure of III-nitride semiconductors, metallic/semiconductor heterostructures thin films, core shell nanoparticles & 2D-exotic materials such as Graphene, Graphene Oxide, MoS2 and their interfaces for fabrication of advanced optoelectronics & sensing devices. He has produced seminal work on the adsorbate induced nanoscale faceting on ultra clean metal surface and development of unprecedented self-assembly of metal atoms with controlled size exploring low-dimensional quantum properties in electronics and catalysis.

Dr. Govind has published more than 175 papers with citation 2100 and H factor = 23. Due to his great contribution to growth & fabrication of III-Nitride based devices, Surface/Interface analysis for exotic materials, he has won many awards including the prestigious MRSI medal by Material Research Society-India, Young Scientist Platinum Jubilee Award by National Academy of Sciences, India (NASI), BOYSCAST Fellowship from Ministry of Science & Technology, Govt of India. He is also a recipient of Young Scientist Award from Department of Science & Technology, Govt of India. He is also a recipient of the Year (OYSY) Award from CSIR-NPL. Currently, Dr. Govind, lead the Thin Film Devices & Metrology group at CSIR-NPL (NMI) and also continues to further development of low cost and high-performance photo sensors & solid state gas sensors which can benefit the industries involved in the development of these sensor technologies.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Ahmad Lakhssasi

(https://resmiq.org/?page=seminaire.php&cours\_id=181)

Present Designation: Professor University of Québec in Outaouais, Canada



Prof. Ahmed Lakhssassi received the B.Eng. and M.Sc. in electrical engineering from Universite du Québec à Trois-Rivières (UQTR), Québec, Canada in 1988 and 1990, respectively. Received the Ph.D. in Energy and Materials Science from INRS-Énergie et Matériaux (Institut National de la Recherche Scientifique), Québec, Canada. He was a professor of Electro-thermo-mechanical aspects at NSERC -Hydro-Quebec, Industrial Research Chair at UQTR. Since 1998, he has been with UQO (Université du Québec en Outaouais), as a titular Professor and responsible for LIMA laboratory (Avanced Microsystem Engineering Laboratory) developing IP core and embedded algorithms for microsystems and thermomechanical sensors. His research interest is the fields of bio-heat thermal modeling such as: heat diffusion in biological tissues, metabolic heat generation and external interactions, heat transfer mechanism in biological tissues for thermal therapeutic practices including dedicated bio-implantable puce design for cancer thermal dose control. Also, his interest is in Design of Fully Automated tool for Porting Analog and Mixed signal circuits within Different Technology nodes. He is a member of IEEE, The Microsystem Strategic Alliance of Quebec (ReSMiQ), the OIQ (Ordre des Ingénieurs du Québec, Canada), NanoQuébec and has more than twenty-two years' experience with a large expertise with applications in the fields of ElectroThermo-mechanical analysis for electronic and microelectronics system design.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Zubayer Ahammed

(https://www.vecc.gov.in/physical-science-faculty)

Present Designation: Scientific Officer, G Variable Energy Cyclotron Centre DAE, Govt. of India, Kolkata



Dr. Zubayer Ahammed is a distinguished physicist specializing in high-energy nuclear physics, with a focus on quark-gluon plasma and particle detectors. He is currently a Scientific Officer at the Variable Energy Cyclotron Centre (VECC) in Kolkata, India, under the Department of Atomic Energy (DAE). Dr. Ahammed has an impressive research background spanning 24 years, complemented by notable international collaborations and positions.

He earned his Ph.D. in Physics from Jadavpur University, West Bengal, where his doctoral research examined particle production multiplicities in nuclear collisions at CERN SPS energies. His academic foundation includes an M.Phil. and M.Sc. in Physics from Aligarh Muslim University.

Throughout his career, Dr. Ahammed has held various roles, including a physicist/scientist position at Lawrence Berkeley National Laboratory, USA. He has been actively involved in significant experimental collaborations, notably serving as the National Spokesperson for the India-ALICE Collaboration at CERN, where he represents Indian scientists. He has also contributed to the STAR Experiment at Brookhaven National Laboratory, the CBM Experiment at FAIR, Germany, and the WA98 Experiment at CERN.

His extensive work is reflected in over 700 collaborative publications in refereed international journals. Dr. Ahammed's contributions have solidified his reputation in high-energy nuclear physics, establishing him as a prominent figure in international research collaborations, particularly within the India-ALICE team at CERN.



#### on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Boby George

(https://home.iitm.ac.in/boby/)

Present Designation: Professor Indian Institute of Technology Madras



**Boby George** (M' 07- SM' 18) received the M. Tech. and Ph. D. degrees in Electrical Engineering from Indian Institute of Technology Madras, Chennai, India, in 2003 and 2007, respectively. He was a Postdoctoral Fellow with the Institute of Electrical Measurement and Measurement Signal Processing, Technical University of Graz, Graz, Austria from 2007 to 2010.

He joined the faculty of the Department of Electrical Engineering, IIT Madras in 2010. Currently, he is working as a Professor there. His areas of interests include magnetic and electric field-based sensors, sensor interface circuits/signal conditioning circuits, sensors and instrumentation for automotive and industrial applications. He has co-authored more than 60 journal papers, of which more than 50 are in IEEE transactions/journals. He is active in the flagship conferences of IEEE Instrumentation and Measurement (I&M) society and has co-authored more than 90 conference papers. Twice, he has received the best paper award at the IEEE Instrumentation and Measurement Technology conference.

He has received outstanding reviewer award from IEEE I&M society, twice. He is an Associate Editor for IET Science, Measurement and Technology, IEEE Sensors Journal and IEEE Transactions on Industrial Electronics.



6<sup>TH</sup> INTERNATIONAL CONFERENCE on EMERCING TECHNOLOGIES: MICRO TO

#### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

Prof. Bhaskar Mitra

(https://ee.iitd.ac.in/faculty-profile/36) Present Designation: Professor IIT Delhi



Prof. Bhaskar Mitra is a distinguished faculty member at the Indian Institute of Technology (IIT) Delhi, where he specializes in advanced fields related to engineering and technology. Prof. Bhaskar Mitra received his Bachelors and Masters Degree in Electrical Engineering from IIT Bombay (2002) and Ph.D from Univesity of Michigan in 2008. His thesis topic was High speed chemical sensing using microdischarges. Subsequently he worked in Industry and an industry-academia consortium at the Center for Innovative Ventures in Emerging Technology Delhi where he is engaged in research on Sensors, MEMS, and Packaging. He has fabricated various devices like High-G accelerometers, Vibration Energy Harvestors, Microfluidic Valves, Microscale Photoionization Detectors, Microscale glow discharge OES sensors, thin film packaging and chalcogenide based chemical sensors.



### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Arijit Chowdhuri

(arijitchowdhuri@andc.du.ac.in) Present Designation: Professor Department of Physics, University of Delhi



Dr. Arijit Chowdhuri is Professor in the Department of Physics at Acharya Narendra Dev College, University of Delhi. He has a Ph.D. in experimental semiconducting thin film based sensors and has postdoctoral work experience in Australian National University, Canberra, Australia. He has research collaboration with Jozef Stefan Institute (JSI), Ljubljana, SLOVENIA and Norwegian Institute of Air Research (NILU), Kjeller, NORWAY. He has 98 scientific research publications/papers with 42 presentations in International conferences. He has research interests in Electronic Nose for artificial olfaction, Integrated semiconductor gas/chemical sensors, Quartz Crystal Microbalance sensors, Surface Plasmon Resonance based gas/biosensing, Ambient air pollution detection and mitigation, water purification, Thin film deposition of electronic materials - RF Sputtering, E-Beam evaporation, Pulsed LASER Deposition, Atomic Layer Deposition. So far as PI/Co-PI he has completed 10 research projects with an aggregate funding of Rs. 2.19 crores from agencies including Department of Science & Technology, University of Delhi and Department of Information Technology (now DeitY) out of which one has been a bilateral with Slovenia. Within a teaching career span of 16 years he has 05 publications/articles/presentations in field of education besides contribution of 03 e-chapters for virtual learning portal of University of Delhi. He is recognized for independent Ph.D. guidance by University of Delhi since Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur on November 2019 and has a student currently registered under his guidance. He is Scientific Chair at 6th Int'l Conf. on Education 2020 (ICEDU - 2020) at Bangkok, Thailand and has been Session Chair for two tracks at the 5th Int'l Conf. on Education 2019 (ICEDU – 2019) at Kuala Lumpur, Malaysia. He has been winner of Best Innovative Idea award for DU Innovation project in 2015 and recognized for Teaching Excellence and Innovation by University of Delhi.



on

#### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Amitava Chatterjee

(http://www.jaduniv.edu.in/profile.php?uid=322)

Present Designation: Professor Jadavpur University, Kolkata



**Prof. Amitava Chatterjee** received the Bachelor of Electrical Engineering, Master of Electrical Engineering., and Ph.D. (Engineering) degrees from Jadavpur University, Kolkata, India, in 1991, 1994 and 2002, respectively. He joined the faculty of the Department of Electrical Engineering, Jadavpur University in 1997 where he is currently serving as a Professor. He is a recipient of the Japanese Government (Monbukagakusho) Scholarship in 2003 and a recipient of the Japan Society for the Promotion of Science (JSPS) Post-Doctoral Fellowship in 2004. In 2004 and in 2009 he visited University of Paris XII, Val de Marne, France and in 2017 he visited Université Paris-Est, France as an Invited Teacher. Dr. Chatterjee's key research interests include intelligent instrumentation, systems and control, signal processing, image processing and robotics.

Dr. Chatterjee has authored/coauthored more than 140 papers published in international journals or in proceedings of peer reviewed international conferences. He has co-authored two books and co-edited two books. He presently serves as an Associate Editor of IEEE Transactions on Instrumentation and Measurement and IEEE Sensors Journal and Editor of IEEE Transactions on Vehicular Technology and Engineering Applications of Artificial Intelligence Journal (Elsevier).

Dr. Chatterjee is a Fellow of Indian National Academy of Engineering, a Fellow of the IETE (India), a Fellow of the Institution of Engineers (India), and a Senior Member of the IEEE (USA).



on

## EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

# Prof. Sudha Srivastava

(https://www.jiit.ac.in/prof-sudha-srivastava)

Present Designation: Professor



Dr. Sudha Srivastava, Professor, joined JIIT in 2004. Before joining JIIT, she was a consultant at Indira Gandhi National Open University (IGNOU) Delhi for the planning and development of Post Graduate Diploma Program in Bioinformatics. She did her post doctoral training in molecular biology from All India Institute of Medical Sciences (AIIMS) with an independent DBT-Post Doctoral Fellowship(2002). At AIIMS she worked on structural analysis of domains of the non-structural proteins of Hepatitis E Virus. She is an interdisciplinary person with Ph.D in Physical Sciences from Jawaharlal Nehru Universtiy(JNU), New Delhi (2002). She did her M.Phil., Msc(Hons) and B.Sc (Hons) in physical chemistry from Panjab University Chandigarh (1988-1995). She received fellowships from Jawaharlal Nehru Memorial Fund Fellowship for Research (2000), CSIR-UGC NET & Junior Research Fellowship(1995) and GATE (1994).



6<sup>TH</sup> INTERNATIONAL CONFERENCE on EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Bhausaheb Ashok Botre

(bbotre@gmail.com) Present Designation: Senior Principal Scientist (CSIR–CEERI), Pilani



Dr. Bhausaheb Ashok Botre is a National Awardee, Raman Research Fellow, and Senior Principal Scientist at the Societal Electronics Group, CSIR–Central Electronics Engineering Research Institute (CSIR–CEERI), Pilani. With over 14 years of multidisciplinary R&D experience, Dr. Botre specializes in intelligent instrumentation, real-time control systems, and innovative assistive e-mobility technologies. His work spans low-power electric vehicles, automation, and robotics for societal impact.

Dr. Botre is also an Associate Professor at the Academy of Scientific and Innovative Research (AcSIR), New Delhi. He earned his B.Sc., M.Sc., and Ph.D. in Electronic Science from Savitribai Phule Pune University, Pune, and has published around 50 research papers. As a Senior Member of IEEE, Fellow of IETE, and an ISOI associate, he is actively engaged in the scientific community and serves as a reviewer for IEEE and IETE journals.

Dr. Botre's recent research on technology solutions for Persons with Disabilities earned him the prestigious National Award presented by the President of India in December 2022. He was also awarded the Raman Research Fellowship to further his research on Human-Computer Interaction and Assistive Robotics at Bournemouth University, UK. His contributions to e-mobility and smart systems are recognized for their transformative impact on quality of life and empowerment for disabled and elderly individuals.



### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr Babankumar S. Bansod

(scientist\_babankumar@csio.res.in) Present Designation: Professor Academy of Scientific and Innovative Research (AcSIR), India



Dr. Babankumar is an internationally recognized researcher whose expertise spans IoT, artificial intelligence, and smart sensor systems for applications in water quality, precision agriculture, and grain quality assessment. With extensive experience in electro-optical sensor instrumentation and embedded systems, he has made significant contributions through roles at top universities and research institutions globally. His technical proficiencies include chemometric modeling, circuit design and simulation, and embedded system development, using platforms like Orcad-Pspice, Tina Lab, and Keil IDE.

Dr. Babankumar has initiated and coordinated high-impact international projects, such as the AWESOME water management program submitted to the EU Horizon 2020, and air quality monitoring initiatives under the Indo-US DST-Intel collaboration. His research collaborations span prestigious institutions including Birmingham City University (UK), The Hebrew University of Jerusalem, and the University of Eastern Finland, through which he has fostered international research networks and joint initiatives.

Beyond his project leadership, Dr. Babankumar has successfully executed over 15 research projects, transferred five technologies, and established National Testing Centers for COVID-19 disinfection systems, which serve critical facilities like the Indian Parliament and national transport systems. He has authored over 70 publications, filed five patents, and received numerous awards from global collaborators for his contributions to science and technology. A dedicated mentor, he has guided over 50 M.Tech and Ph.D. students and continues to lead advancements in IoT-enabled agri-environmental monitoring technologies, such as innovative water quality assessment tools and airborne farm variability mapping devices for rural and industrial use.



### EMERGING TECHNOLOGIES: MICRO TO NANO (ETMN-2024)



Jointly Organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi & Manipal University Jaipur

## Dr. Joyanta Kumar Roy

(http://www.dr-joyanta-kumar-roy.com/biography.shtml)

**Present Designation: Professor Chairman** System Advance Technologies Pvt. Ltd.



Prof. Joyanta Kumar Roy, born on September 30, 1954, in Kolkata, India, completed his B.Sc. in Physics in 1975 and M.Sc. in Solid State Physics and Electronics in 1977 from the University of Calcutta. He began research on productivity improvement for Indian workers, collaborating with the Indian Council of Medical Research to develop monitoring instruments. His work also included studying physical properties of elbow prostheses with an Elbow-Joint-Simulator.

In 1984, Prof. Roy co-founded M/S System, later registered as System Advance Technologies Pvt. Ltd., where he has served as Chairman. He pursued a Ph.D. in Applied Physics in 2005, continuing his research on sensing techniques and control instrumentation, supported by several international publications. Prof. Roy joined Domkal Institute of Engineering and Technology in 2005 as a professor, later becoming Principal. In 2011, he joined Narula Institute of Technology as Dean (Research) and established various development cells.

Prof. Roy received the Shiksha Bharati Puraskar in 2010, a Life Time Achievement Award, and is a Life Fellow of IWWA. A senior IEEE member, he holds numerous memberships and leadership roles in IEEE, IET (UK), and other associations. He has published over 60 technical papers and serves as Associate Editor for the International Journal on Smart Sensing and Intelligent Systems. His biography is included in Who's Who in the World (2015). Prof. Roy also advanced SCADA systems for water treatment plants and led projects applying ICT in rural water supply. Currently, he serves as Dean (Research and Consultancy) and Professor at MCKV Institute of Engineering and heads System Advance Technologies Pvt. Ltd.