



Rana Mukherji

 : 0000-0002-4727-2017
Scopus ID: 57194172442
 : 272303

Professor & Dean- IcfaiTech
rmukherji@iujaipur.edu.in

Profile

Dr. Rana Mukherji is an accomplished academician and researcher currently serving as Professor and Dean at IcfaiTech, The ICFAI University Jaipur, India. With an illustrious academic career spanning over 23 years, Dr. Mukherji has established himself as a distinguished figure in the fields of Electronics, Communication, Artificial Intelligence, and Machine Learning. His journey in academia began with a strong foundation in electronics, earning his B.Sc. in Electronics from JNV University, Jodhpur in 2000, followed by an M.Sc. in Electronics from Devi Ahila University, Indore in 2002. He further enhanced his expertise by completing an M.Tech. in Instrumentation from Panjab University, Chandigarh in 2004, and later earned his Ph.D. from The ICFAI University Jaipur in 2017. Demonstrating his commitment to staying at the forefront of technological advancement, Dr. Mukherji completed an **M.Tech. in AI and ML from BITS Pilani** in 2024, complemented by a certificate program in Leadership Skills from **IIM Ahmedabad**.

Throughout his career, Dr. Mukherji has held various significant positions across multiple institutions. He has been associated with the Institute of Technology and Management (presently Sangam University) in Bhilwara, Jaipur National University in Jaipur, and The ICFAI University in Dehradun. At The ICFAI University Jaipur, where he has been serving since July 2012, he has shouldered numerous responsibilities including Academic Coordinator for FST (2019-2022), Internship and Placement Coordinator for FST (2022-till date), University Research Coordinator (2022-2024), and member of the IQAC (2022-till date). He has also served as Chairman of the University Academic Integrity Panel since 2020 and as Member Secretary of the University Committee for Advance Studies and Research from 2020 to 2024. His leadership roles extend to serving as President of the Institute Innovation Council (2020-21), Coordinator for the University 50 kW Solar Project, and designing syllabi for Post Graduate and Undergraduate courses from 2014 to 2017. He was also the Founder President of the Institution Innovation Council of ICFAI University.

Dr. Mukherji's professional memberships reflect his standing in the academic and professional community. He holds fellowships with The Institution of Electronics and Telecommunication Engineers (IETE), India; Council of Engineering and Technology (CET), India; and the Institution of Engineers (IEI), India. As a Senior Member, he is affiliated with the Institute of Electrical and Electronics Engineers (IEEE), USA; Association for Computing Machinery (ACM), USA; The Institute of Research Engineers and Doctors, USA; International Association of Educators and Researchers, UK; and the International Association of Computer Science and Information Technology (IACSIT), Singapore. His membership portfolio also includes prestigious organizations such as the Educational Consultants of India Ltd, The Indian Society for Technical Education (ISTE), Indian Science Congress Association (ISCA), International Association of Engineers (IAENG), Hong Kong, and the South Asia Alliance of Disaster Research Institutes, among others. He has been elected as a member of the Executive Committee of IET (UK) – Delhi Local Network for 2021-2024 and served on the IEEE Delhi Section and Rajasthan Subsection Executive Committee for 2020 and 2021. He is the founder Chapter Secretary of IEEE Sensors Council, Delhi - Rajasthan Joint Section and has been recognized as a Member-Champion in the prestigious MOVE INDIA Outreach Program of IEEE INDIA Council. In 2023, he was honored as an Ethics Champion by IEEE R10 region.

His research output is extensive and impactful, with 110 publications to his credit in peer-reviewed journals, books, patents, and conference proceedings. His journal publications include 33 papers in prestigious international journals, with several appearing in Q1 and Q2 ranked publications. Notable among these are his works on renewable energy, including studies on rooftop solar photovoltaic systems published in *Environmental Progress & Sustainable Energy* (2019), the *International Journal of Green Economics*, and the *International Journal of Ambient Energy* (2022). His research on dilute magnetic semiconductors and advanced materials has been published in journals such as *Advanced Composites and Hybrid Materials* (2018), *Materials Focus*, and the *Journal of Ovonic Research*. His collaborative work on environmental sustainability and bioremediation has appeared in *Environmental Development and Sustainability* (2024), demonstrating the interdisciplinary nature of his research interests.

Dr. Mukherji has contributed significantly to the academic community through his role as an editor and reviewer. He serves on the editorial board of 35 journals of national and international repute and has reviewed for more than 42 journals from prestigious publishers including Wiley, Taylor & Francis, Elsevier, and Springer. His reviewing assignments span publications such as *Applied Physics A*, Springer Nature; *Chinese Journal of Chemistry* (Wiley); *Advanced Composites and Hybrid Materials* (Springer Nature); *Material Letters* (Elsevier); and *Transactions on Electrical and Electronic Materials* (Springer Nature), among many others. He has also served on the advisory, technical program, and review boards of more than 100 international conferences held across the globe, including in Hong Kong, Kyoto-Japan, Bangkok-Thailand, Beijing-China, and many other locations.

His contributions to intellectual property include ten patent publications and grants. He has three UK design patents granted for innovations including an ML/AI-based cardiac monitor, a smart drone using 5G technology for smart cities, and a computing device employing neuro-evolutionary approaches to enhance generative AI capabilities. His Indian patents include designs for a machine learning-based drowsiness detection system, IoT-based infrared anomaly detection for power equipment, and intelligent drinking water supply network monitoring systems. He also holds a Canadian copyright registration for modeling and analyzing data trading in financial organizations based on blockchain technology.

Dr. Mukherji has authored and edited several books and book chapters, including "Solutions for University of Rajasthan B.Tech. (ECE) Previous years papers," "Advances in Applied Physical and Chemical Sciences: A sustainable approach," "SystemC based Functional Model Refinement," "Bench Scale Studies for Sugar Mill Effluent: Case Study on An Indian Sugar Mill," and "Principles of Laboratory Instruments." His book chapters have been published by Springer, and his works have been cited in Scopus-indexed publications.

His contributions to conference proceedings include 52 papers presented at international and national conferences. He has chaired sessions at numerous international conferences worldwide, including the International Conference on Control, Robotics Engineering and Technology in Beijing, China (2021); the International Conference on Science, Engineering & Environment in Bangkok, Thailand (2019); and the International Conference on Advanced Material in Innovative Technology in Jaipur (2022). He has been an invited speaker at numerous faculty development programs and workshops across India, covering topics ranging from IoT and sustainable development to effective research paper writing and publication strategies.

Dr. Mukherji has guided numerous student projects and mentored students to achieve significant recognition. Under his mentorship, a B.Sc. (Hons.) student participated in the University Physics Competition at Carroll College Montana, USA, securing a silver medal among over 300 participating teams globally, a notable achievement for a private university from India. He has also been instrumental in establishing electronics CAD laboratories, developing departmental websites, and coordinating student campus placement preparation programs at various institutions.

Throughout his career, Dr. Mukherji has received numerous accolades and recognitions. He was honored with the Best Researcher Award in 2020 by the VDGGOOD Foundation, Hyderabad, and recognized as an "Inspiring Bengali in Rajasthan" by the University of Engineering & Management, Jaipur in 2016. His leadership and organizational skills have been demonstrated through his role as convener for numerous workshops, faculty development programs, and international symposiums, including events in association with IET(UK), IEEE, NITTR Chandigarh, CDAC-ACT, and the Department of Science and Technology, Government of India.

His technical expertise spans a wide range of hardware and software languages including VHDL, SystemC, C, C++, Embedded C, and Assembly languages for 8085, 8086, and 8051 microprocessors. He is proficient with tools such as MultiSim, UltiBoard, MATLAB, Vivado, and ARM-KEIL, and works across Windows and Linux platforms. His personal dossier reveals a multilingual individual fluent in English, Hindi, Bengali, Marwari, and Punjabi.

Dr. Mukherji's career objective reflects his deep commitment to cultivating a scholarly environment characterized by intellectual rigor, fostering critical inquiry and innovation in his students while conducting pioneering research and mentoring the next generation of scholars. His extensive contributions to academia, research, and professional service exemplify his dedication to the advancement of knowledge and the development of future leaders in the fields of electronics, communication, artificial intelligence, and sustainable technologies.