ABSTRACT BOOK

BIOMIMICRY:

NATURE'S PERFECT INNOVATION SYSTEM TO DESIGN SUSTAINABLE FUTURE

LECTURE SERIES & HANDS-ON EXPERIMENTS
ON
MODIFICATION OF BIOMASS-DERIVED NANOMATERIAL AS ROBUST & EFFICIENT INTERFACES FOR INDUSTRIAL & THERAPEUTICAL APPLICATIONS

31st Jan - 7th Feb 2025

ORGANISED BY
DEPARTMENT OF CHEMISTRY
JAMIA MILLIA ISLAMIA
IN COLLABORATION WITH
RMIT UNIVERSITY, AUSTRALIA

UNDER THE AEGIS OF
MHRD-SPARC
GOVERNMENT OF INDIA

University Uttar Pradesh, Noida, India. His research activity includes synthesis of novel organic ligands bonded to transition metals to form homo- and heterobimetallic compounds with properties akin to molecular magnets. He has worked on purifying water by separating heavy metal ions from industrial wastewater effluent environmental chemistry at NALCO, a government enterprise in India. Currently, his research is focused on nanomaterials, particularly in the development of biosensors and bioactive compounds. He is advancing the field of chemical sensing by developing innovative carbon-based materials that enhance detection sensitivity and selectivity for various analytes, thereby contributing to improved healthcare diagnostics. He has published more than 24 international publications and running a UP-CST project on sensing of Arsenic (As^{+3}) in water. Dr Ranjan has guided more than 20 post graduate students to pursue their higher degree from abroad. He has research collaborations from Kwansei Gakuin University, Japan, Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Taiwan, Department of Chemistry in National Taiwan Normal University, Taiwan, University of Electro-Communications, Japan. Dr Ranjan is also working in the field of Designing and synthesis of bioactive compounds its characterization and Computational studies which include DFT, Docking and Molecular dynamics (MD) simulation.

Dr Qazi Inamur Rahman
Department of Chemistry
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Dr. Qazi Inamur Rahman is an Assistant Professor of Physical Chemistry at Integral University, Lucknow, India. He holds an M.Phil. and Ph.D. in Chemistry, specializing in the synthesis and characterization of metal oxides for photocatalytic degradation of dyes. His research spans ZnO, CuO, and $SrTiO_3$, focusing on their structural, morphological, and optical properties.He has taught at the University of Gondar, Ethiopia, and Jahangirabad Institute of Technology, India, and conducted research at Chonbuk National University, South Korea. His expertise includes sol-gel, hydrothermal, and solid-state synthesis of nanomaterials for photocatalysis and solar cells. He has published extensively in international journals and contributed to Springer book chapters. Dr. Rahman has mentored students, reviewed M.S. theses, and served as a reviewer for journals like *Scientific Reports* and *Materials Letters*. A recipient of the CSIR Research Associate Fellowship, he is also active in scientific seminars and educational outreach.

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