

Research Highlights of Kalyani University (As on August 2025)

Department of Chemistry

Prof. Sk Manirul Islam has made the pioneering contribution to designing and synthesis of Catalysts. He has been awarded Fellow of Royal Society of Chemistry, UK, London, in 2023.

Prof. Islam has more than 192 peer-reviewed articles with an overall h-index of 53 and a citation of more than 6449 (based on research gate citations). His laboratory has developed a few heterogeneous catalysts featuring adjustable pore size, operative design, and ordered structure. He has also established the role of materials on the interaction with the supported catalysts and the reactants to reveal the effect of support on catalytic efficacy and the mechanistic studies of the corresponding catalytic reactions. He has developed a series of highly efficient heterogeneous catalysts and studied their applications for the preparation of industrially important fine chemicals. Prof. Sk Manirul Islam has publications in reputed international journals of Materials Chemistry and Catalysis field (e.g. *Chemical Communications*, *Green Chemistry*, *Journal of Materials Chemistry*, *Journal of Catalysis*, *Catalysis Science and Technology*, *Chem. Cat. Chem.*, *ACS Applied Nano Materials*, *ACS Applied Energy Materials*, *ACS Sustainable Chemistry and Engineering*, to mention a few).

Department of Chemistry

Prof. Manindranath Bera is awarded as Emerging Investigator by the American Chemical Society Journal “*Crystal Growth & Design*” in 2025.

(Web Link: <https://doi.org/10.1021/acs.cgd.5c00119>).

He is currently Acting as Guest Editor in “*Inorganica Chimica Acta*” to Publish a Special Issue

(Web Link: <https://www.sciencedirect.com/special-issue/322486/in-honor-of-professor-debashis-ray-and-his-contributions-in-coordination-chemistry-synthesis>).

He is Awarded as the Fellow of the Royal Society of Chemistry (FRSC) in 2025.

His research interest is on Dimetallic Systems of 3d Transition Metals: Structural and Functional Mimics of Metallohydrolases, Metal Clusters: Molecular Magnetism, Water Splitting, and Therapeutic Aspects, Sugar-Metal Ion Interactions in Aqueous Medium: Analytical and Biological Facets, Biocatalysis: Investigating Aldose-Ketose Interconversion Reactions, Transition Metal Complex Catalyzed Organic Transformations.

Prof. Bera has more than 71 publications with total Citations: 1048, h-index: 23 (SCOPUS) (ORCID ID: 0000-0001-6230-5756). He is published extensively in reputed international journals such as *Chemistry-A European Journal*, *Journal Materials Chemistry A*, *Materials Advances*, *Inorganic Chemistry*, *ACS Applied Bio Materials* to mention a few.

Department of Biochemistry and Biophysics

Prof. Angshuman Bagchi, who is also the Coordinator of DBT funded Bioinformatics Infrastructure Facility (BIF) recently aimed his laboratories focus towards the roles of non-coding RNAs in diseases, especially different types of cancers and neurodegenerative disorders. As the name suggests, such non-coding RNAs are incapable of protein synthesis. Surprisingly, some of them have distinct protein coding abilities. Recently, we characterized such a protein called MAPK1-109aa obtained from a so called ‘non-coding’ circular RNA. They analysed the structure-function relationship of the protein. The protein has beneficial roles in several physiological pathways associated with gastric cancer, diabetes and others. The work appeared in *Journal of Molecular Graphics and Modelling* (doi: 10.1016/j.jmgm.2025.109098). The essence of the work was covered in the newspaper ‘Sukhobor’ published on June 30 th , 2025. Prof. Bagchi was invited by Akashvani Kolkata, to talk about non-coding RNAs in the program titled “TALK FOR SCIENCE MAGAZINE ANWESHA” aired on 31 st July, 2025. On the other hand, as part of the collaborative endeavour, Prof. Bagchi’s lab ran the course titled “Introduction to Bioinformatics” being conducted by Afrigen-D, African Genomics Data Hub, University of Cape Town, South Africa for the tenure 15.04.2025 to 15.07.2025. The BIF of KU is the only such host from India chosen by Afrigen-D. Prof. Bagchi was invited by DD Bangla as a guest for the programme titled “BIGYAN PRASANGE: Topic: BIOTECHNOLOGY NIYE GABESHANA” aired on 6 th of March, 2024 (YouTube link: https://www.youtube.com/live/24gvkrPzL_s?feature=shared) and also Akashvani Kolkata, to talk about Bioinformatics aired on 16 th of May, 2024.