MANIPAL UNIVERSITY
JAIPUR

CHEMISTRY CHRONICLES

DEPARTMENT OF CHEMISTRY
JULY-SEPTEMBER 2025
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CONTENTS

Faculty Editor

Dr. Mainak Ganguly

Chemistry is the bridge between the mysteries of the universe and the marvels of modern technology, transforming the ordinary into the extraordinary.

VISION

Promote academic excellence and research proficiency to foster leadership and global competence.

MISSION

To cultivate practical, technology-driven expertise through application, research, and innovation.

To educate students on optimal practices within the field of chemistry and integrate them with current industry requirements.

To empower students to cultivate essential skills for professional performance and ethical engagement with a global perspective

At the Department of Chemistry, we explore and try to understand various aspect of atoms, molecules, and materials, working side by side with graduate and undergraduate students through an active research program along with quality education. The faculty members in the department work to develop novel nanomaterials, catalysts, drugs, solar sensitize dyes, and organic synthesis through advance experiments and computational molecular modelling with an aim to train exceptionally good chemists and material scientist and to work for the betterment of the society.

The internal machinery of life, the chemistry of the parts, is something beautiful. And it turns out that all life is interconnected with all other life.

Dean- Research, International Affairs and Academic Administration (RIAAA)

Welcome to the School of Biological and Physical sciences, Manipal University Jaipur (MUJ).

All measures of success are increasing enrollment and accomplishments at the undergraduate level, research and graduate studies, faculty success in obtaining sponsored research, and national recognition through awards given to our faculty and students. The training our students require to compete and succeed in the workforce is our top priority, as is preparing the next generation of scientists to solve global challenges.

In my capacity as MUJ Dean, RIAAA (FOS), I actively help students develop into the greatest scholars, researchers, and policymakers. I give my coworkers a diversified and welcoming work atmosphere and, when needed, I assist them to help the school obtain the best possible funding from national and international organizations. There will be a focus on a cooperative and integrated approach to research, learning, and teaching. I have a great belief that the MUJ faculty will overcome the obstacles in their way to accomplish their aims and provide society with the best scientific services.

~

Prof. Lalita Ledwani

HoD's Message

Welcome to the Department of Chemistry at Manipal University Jaipur. The chemistry department provides a vibrant research and teaching environment, state-of-the-art laboratories, and excellent career development guidance. For both our undergraduate and graduate programs, our department seeks to entice the best academics from India. Our department presents itself as the ideal location for bright young minds pursuing further study in Chemistry. We prioritize curiosity-driven research and have multiple research clusters devoted to solving burning issues facing both industry and society. Students who have graduated from this institution have gone on to hold prominent positions in both academia and industry, thanks to the dedicated teaching and research efforts of our distinguished faculty members. With state-of-the-art research facilities and effective administration, our faculty members collaborate successfully on an international level with top experts in their fields. Numerous organizations, including DST, CSIR, SERB, to mention a few, have acknowledged the commitment of our department and its faculty members to research and teaching. In addition, our academic staff participates in outreach programs that assist young people with a strong interest in science. Our supportive technical and administrative staff members contribute significantly to our endeavors.

~

Dr. Praveen Kumar Surolia

Fresher's Welcome Program

A vibrant and welcoming Freshers 2025 programme was hosted by the Department of Chemistry, Physics & Mathematics from School of Physical and Biological Sciences on 10th September, 2025. The event was coordinated by Dr Komal Arora & was graced by the presence of our esteemed HODs, whose encouraging address highlighted the academic vision and supportive environment of the departments. The gathering was further enriched by the presence of Prof. Ashima Bagaria, Associate Dean, SoPBS, whose inspiring words encouraged students to embrace learning with enthusiasm and confidence. The program featured a lively jamming session, a stylish ramp walk showcasing the confidence of freshers, and engaging fun games that filled the hall with laughter. Freshers later impressed everyone with their talent show, and the event concluded on a high note with an energetic group dance making the day memorable for everyone present.


Statistics
Fresher
2025


2025
eptember, 2025

Ongoing projects

S. No.	Name of the Investigator	Project No.	Funding Agency	Title of the project and duration (Start and end date)	Amount sanctioned (INR, Lakh)
1	Dr Praveen Kumar Surolia	CRD/2024/000885	ANRF	Design and development of ordered mesoporous materials-based heterojunctions for wastewater treatment (Two Years; Selected for Funding)	35.0
2	Dr Praveen Kumar Surolia	CRG/2021/002477	SERB	Development of Air and Moisture Stable Novel Perovskite Charge Mediators for Sensitized Solar Cells (22-Dec-2021 – 26-June-2025)	46.97
3	Dr. Saurabh Srivastava	SRG/2023/001007	SERB	Covalent Organic Framework (COF) Based Novel Molecular Gears on Solid Surfaces: A Quantum Mechanical Investigation (2022-2025)	24.56
4.	Dr. Lalita Ledwani (Coordinator & PI)	SR/PURSE/2022/142	DST PURSE	Development and Utilization of high value products from waste resources: Circular solution for agricultural and non-agricultural applications	1000

				(2022 -2026)	
5.	Dr. Rahul Shrivastava	DST/R and D/2016/4871	DST, Rajasthan	A selective and sensitive nano sensor based test kit for visual sensing of fluoride ion in drinking ground water (2017-2020)	4

Publications

S. No.	Name of the faculty	Title of the paper	Journal Name	Month, Year
1.	Dr Praveen Kumar Surolia	Esterified cellulose-based quasi-solid electrolyte assembly for potential application in efficient dye-sensitized solar cell	Nano-Structures & Nano-Objects	July, 2025
2.	Dr. Susruta Samanta	A comprehensive review on rare earth metal doped ZnS nanoparticles: structure, synthesis, properties, and applications in the realm of nanotechnology	Discover Applied Sciences	August, 2025
3.	Dr. Suranjan De	Interplay of solvent polarity and hydrogen bonding in thermal isomerization of spiropyran	Journal of Photochemistry and Photobiology A: Chemistry	August, 2025
4.	Dr Praveen Kumar Surolia	Carbon foams derived from biomass with ultra-high adsorption capacity for the removal of tetracycline	Materials Advances	August, 2025
5.	Dr Mainak Ganguly	Fluorometric sensing of analytes as an output of toxic dye degradation: A green chemical approach	Materials Reasearch Bulletin	August, 2025
6.	Dr Mainak Ganguly	Role of lipoic acid and gold nanomaterials and nanoclusters for biomedical and environmental applications	Materials Reasearch Bulletin	August, 2025
7.	Dr Anjani Kumar Pandey	Stabilization of the double sandwich structure of mercury(ii) porphyrins: Hg···Hg···Hg interactions and structure–function correlation	Inorganic Chemistry Frontiers	September, 2025
8.	Dr Mainak Ganguly	Evolution of strong fluorescence from the thiolated nanoclusters for the detection of H_2O_2 and Ba^{2+}in one pot	Journal of Molecular Structure	September, 2025

9.	Dr Mainak Ganguly	Fluorometric Zn^{2+} detection with gallic acid passivated Fe-Ag bimetallic nanocomposites	Materials Research Bulletin	September, 2025
10.	Dr. Suranjan De	Sunlight-Assisted Photodegradation of Tetracycline Using ZnS-Melamine–Formaldehyde Nanocomposites	Langmuir	September, 2025
11.	Dr Sushil Kumar	Bioactive Glass Containing Easily Injectable Hydrogels: Design Strategies and Functional Regulations for Promoting Immunomodulatory and Osteogenic Effects	Polymers for Advanced Technologies	September, 2025
12.	Dr Praveen Kumar Surolia	Ultrahigh adsorption capacity of carbohydrate-derived carbon foam/ZIF-8 composite for malachite green removal: mechanistic Insights and practical applications	Materials Science and Engineering: B	September, 2025

ASSOCIATE PROFESSOR

DR. SUSRUTA SAMANTA

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Scopus 54401671700

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Meet our faculty member

ABOUT

Dr. Susruta Samanta joined Manipal University Jaipur in 2017 as an Assistant Professor of Chemistry. Presently he holds the position of **Associate Professor of Chemistry** and **Deputy Director (Academic Administration)** at Manipal University Jaipur, India. He teaches Physical Chemistry, Biophysical Chemistry, and Engineering Chemistry at UG and PG level. His area of research includes computational chemistry & biochemistry, nanomaterials, and pedagogy & teaching-learning. He has published more than 20 research papers in journals of international repute.

Before joining MUJ, he was a post-doctoral researcher at the **University of Cagliari, Italy**.

DEGREES

- PhD: Jacobs University Bremen (Constructor University), Bremen, Germany
- MSc: Sikkim Manipal University, Sikkim, India

AWARD, PRIZE, HONOUR

- Scholarship: Research Associate, IMI and ND4BB Project, EU (2013-2017)
- Scholarship: Research Associate, DFG (German Research Foundation), (2009-2012).
- Qualification: NET qualified for Chemical Science.

PROFESSIONAL ASSOCIATION

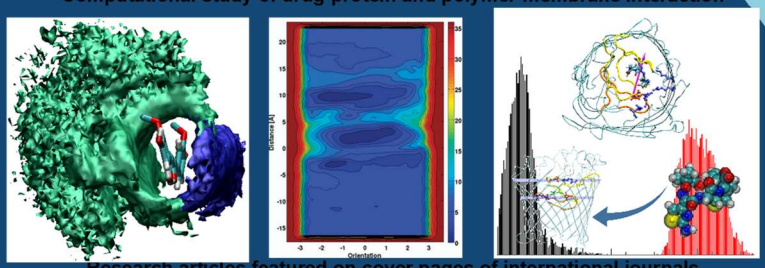
- Society for Materials Chemistry: Life Member
- Indian Society of Chemists and Biologists: Life Member
- Indo Universal Consortium for Engineering Education: Annual Member

PRIOR WORK EXPERIENCE

- Post-Doctoral Researcher, University of Cagliari, Italy (Jul. 2013 – Jun. 2017)
- JRF, ACRHEM Project, University of Hyderabad, India (Oct. 2007 – Sep. 2009)

RESEARCH AREAS

Computational study of drug-protein and polymer-membrane interaction



Research articles featured on cover pages of international journals

Team: Department of Chemistry

Provost

Dr. Nitu Bhatnagar

RIAAA

Dr. Lalita Ledwani

HOD

Dr. Praveen K. Surolia

Dr. Aman Kumar

Dr. Amrita Biswas

Dr. Anjani K. Pandey

Dr. Babia Malik

Dr. Deepak Kumar

Dr. Jagadeesh K. Alagarasan

Dr. Jayasmita Jana

Dr. Komal Arora

Dr. Mainak Ganguly

Dr. Meenakshi Pilania

Dr. Michel P. Inbaraj

Dr. Rahul Shrivastava

Dr. Saurabh Srivastava

Dr. Sriparna Ray

Dr. Suranjan De

Dr. Sushil Kumar

Dr. Susruta Samanta

Dr. Veena Dhayal

Meet our new faculty member

Dr. Jayasmita Jana joined Manipal University Jaipur in July, 2025 as an Associate Professor (Research) in the Department of Chemistry, following her postdoctoral research at NCL Pune, India and University of Ulsan, South Korea. Her research focuses on energy conversion and storage, electrocatalytic water splitting, biomass oxidation, green hydrogen production, spectroscopy, sensing, and cell imaging. She has published 63 international research articles in reputed journals and with an h-index of 27.

Degrees:

- PhD. Indian Institute of Technology Kharagpur, India (2018).
- M.Sc. Vidyasagar University, West Medinipur India (2012).
- B.Sc. Vidyasagar University, West Medinipur India (2010).

Academic Experience:

- National Post Doctoral Fellow, National Chemical Laboratory Pune, India (May, 2024-July, 2025)
- Post Doctoral Professional Researcher, University of Ulsan, Ulsan, South Korea (September, 2018-February, 2023; December, 2023-February, 2024)
- Visiting Faculty, Department of Chemistry, P. K. College, Contai, India (December, 2021- September, 2023)

Research Areas:

Nanomaterials, Green Hydrogen, Water splitting, Spectroscopy, Sensing

Awards and fellowships:

- SERB-National Post-Doctoral Fellowship (NPDF) by SERB, DST-GOI (2024).
- Silver Medal in M.Sc, Vidyasagar University (2012).
- CSIR-UGC fellowship and Lectureship in Chemical Sciences, UGC, New Delhi (2012).
- SET lectureship - Chemistry, WBCSC (2011)
- GATE - Chemistry (2012).

Membership:

- Associate Member of Royal Society of Chemistry
- Life member of Indian Society for ElectroAnalytical Chemistry

Selected Publications:

1. Jana, J.; Sharma, T. S. K.; Chowdhury, S.; Ghanem, M. A.; Babu, B. M.; Hwa, K. Y.; Kang, S. G.; Chung, J. S.; Choi, W. M.; Hur, S. H. Exploring the impact of electrocatalysis on transition metal selenides (TMSe, TM=Ti, V, Cr & Mn) with DFT study. International Journal of Hydrogen Energy, 2025, 140, 375-384
2. Jana, J.; Sharma, T. S. K.; Ghanem, M. A.; Choi, W. M.; Gopinath, C. S.; Hur, S. H. Europium oxide on carbon nitride for electrocatalytic glycerol oxidation coupled with hydrogen evolution reaction. Separation and Purification Technology, 2025, 372, 133442.

3. Jana, J.; Sharma, T. S. K.; Chowdhury, S.; Ghanem, M. A.; Babu, B. M.; Kang, S. G.; Chung, J. S.; Choi, W. M.; Hur, S. H. Au-decorated α-Fe2O3-based electrochemical sensor for the detection of propyl gallate for monitoring preservative levels in packaged foods. Food Chemistry, 2025, 486, 144597.
4. Jana, J.; Sharma, T. S. K.; Babu, B. M.; Ansar, S.; Chowdhury, S.; Sriram, S.; Wang, S. F.; Kang, S. G.; Chung, J. S.; Choi, W. M.; Hur, S. H. Integration of Samarium Vanadate/Halloysite Nanotubes through synergy: Electrochemical Detection of Furaltadone using flexible electrode. Small Structures, 2024, 2400287.
5. Jana, J.; Sharma, T. S. K.; Babu, B. M.; Huyn N. D.; Chung, J. S.; Choi, W. M.; Hur, S. H. n-/p-effect induced orientation of electrocatalytic activity of cobalt boro-carbon nitride nanoaggregates for fuel reduction/oxidation. International Journal of Hydrogen Energy, 2024, 77, 1276-1285.