

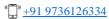
Maansi Aggarwal

Research Scholar, IIT Patna

Objective: To contribute to the ever-expanding field of biochemistry with carbon dot conjugation and biomass polymers for the advance development in nanosized bioadhesives.

https://maansi-aggarwal.vercel.app/

maansi_2121ch12@iitp.ac.in



2 #206, Department of Chemistry, IIT Patna

Academic Background	
Ph.D. in Chemistry	2021-Present
CGPA: 8.79/10	
M.Sc. in Chemistry	2018-2020
☼ Thapar Institute of Engineering and Technology, Patiala	
CGPA: 9.74/10	
B.Sc. Non-Medical	2015-2018
A.C.M DAV College for Women, Chandigarh, Punjab University	
Percentage: 83.25%	
12 th Class (CBSE)	2014-2015
2 Holy Heart Senior Secondary School, Nahan, Himachal Pradesh	
Percentage: 92%	
10th Class (CBSE)	2012-2013
Holy Heart Senior Secondary School, Nahan, Himachal Pradesh	
CGPA: 9.80	

Publications

- Method To Fabricate Adhesive Patch from Polymeric Protein Dots for Tissue Reinforcement and Wound Healing. Maansi Aggarwal, Diptiman Choudhury, Prolay Das (<u>Patent Filed</u>, 2025)
- Bromine-doped Carbon Dot: Concentration-Dependent Multicolor Emission, Nanozyme Activity, and Visible-light-induced Photodynamic Bacterial Inactivation. Suman Nayak, Maansi Aggarwal, Prolay Das (Carbon Letters, 2025)
- Carbonized Polymer Dot-Tannic Acid Nanoglue: Tissue Reinforcement with Concurrent Fluorescent Tracking, Insulin Delivery, and Reactive Oxygen Species Regulation for Normal and Diabetic Wound Healing. **Maansi Aggarwal,** Deepinder Sharda, Shruti Srivastava, Dinesh Kumar Kotnees, Diptiman Choudhury, Prolay Das (Small, 2024)
- Multifunctional Self-Healing Carbon Dot-Gelatin Bioadhesive: Improved Tissue Adhesion with Simultaneous Drug Delivery, Optical Tracking, and Photoactivated Sterilization. **Maansi Aggarwal**, Harekrishna Panigrahi, Dinesh Kumar Kotnees, Prolay Das (Biomacromolecules, 2024)
- Machine Learning-Mediated Ultrasensitive Detection of Citrinin and Associated Mycotoxins in Real Food Samples Discerned from a Photoluminescent Carbon Dot Barcode Array. **Maansi Aggarwal,** Pranab Sahoo, Sriparna Saha, Prolay Das (Journal of Agricultural and Food Chemistry, 2023)
- Simultaneous Sustained Drug Delivery, Tracking, and On-Demand Photoactivation of DNA—Hydrogel Formulated from a Biomass-Derived DNA Nanoparticle. Ravi Shankar, Suman Nayak, Sneha Singh, Abhik Sen, Nitesh Kumar, Rashmi Bhushan, Maansi Aggarwal, Prolay Das (ACS Applied Bio Materials, 2023)
- Preparation and Characterization of Curcumin Incorporated Soy Protein Isolate Biopolymeric Films.
 Shikha Rani, Priya Rani, Maansi Aggarwal, K Dinesh Kumar, Rakesh Kumar (Journal of Polymers and the Environment, 2022)
- Two-dimensional ultrathin metal-based nanosheets for photocatalytic CO₂ conversion to solar fuels.
 Maansi Aggarwal, Nagaraj P Shetti, Soumen Basu, Tejraj M Aminabhavi (Journal of Environmental Management, 2022)
- Photocatalytic carbon dioxide reduction: Exploring the role of ultrathin 2D graphitic carbon nitride (g-C₃N₄). **Maansi Aggarwal**, Soumen Basu, Nagaraj P.Shetti, Mallikarjuna, N.Nadagouda, Eilhann, E.Kwon, Young-Kwon Park, Tejraj M.Aminabhavi (Chemical Engineering Journal, 2021)
- Photocatalytic conversion of CO₂ into valuable products using emerging two-dimensional graphene-based nanomaterials: A step towards sustainability. Maansi Aggarwal, Soumen Basu, Nagaraj P Shetti, Mallikarjuna N Nadagouda, Tejraj M Aminabhavi (Chemical Engineering Journal, 2021)

Awards and Honours

- 2024 Best Poster Award at FINS Conference
- 2022 Prime Minister's Research Fellow (ID-2702444 July cycle)
- 2021 GATE Qualified (Chemistry)
- 2019 Summer Internship fellowship programme by IAS-NASI-INSA (Assigned IIT Ropar)
- 2018 Merit Scholarship during M.Sc. awarded by Thapar Institute of Engineering and Technology
- 2018 IIT JAM Qualified (Chemistry)
- 2015 Merit Scholarship during B.Sc. awarded by Punjab University

Teaching Experience

- CH-103: Introductory Chemistry, IIT Patna
- CH-440: Inorganic Practical, IIT Patna
- PC-100103: Atomic and Molecular Structure, NSIT, Patna
- PC-100203: Periodic Properties and Stereochemistry, NSIT, Patna
- PC-100203: Spectroscopic Techniques, NSIT, Patna
- PC-100203: Thermodynamic Functions and Water Chemistry
- CHEM 130: Physical Chemistry and Introduction to Organic Chemistry to Canadian students

Conferences

- 18th International Conference on Biomedical Engineering (ICBME 2024) at NUS, Singapore
- Frontiers in Nanomaterials Science: Aspects in Biotechnology and Chemical Engineering (FINS 2024) at NIT Patna
- International Conference on Advanced Nanomaterial and Nanotechnology (ICANN 2023) at IIT Guwahati
- Recent Trends in Chemical Science and Technology (RTCST 2024) at IIT Patna