



Dr. Rajesh K. Sharma

Assistant Professor

Department of Chemistry

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Education

- 10th from Govt. Senior Secondary School Shorshan in 2007
- 12th from Lucknow Public School, Lucknow, U.P. in 2009
- B.Sc. (Non-medical) from Govt. College Sanjauli, Shimla, H.P. in 2012
- M.Sc. (Physical Chemistry) from H.P.U. Summer Hills, Shimla, H.P. in 2014
- Ph.D. from IIT Mandi in 2025

Achievements

- Gold medal in B.Sc. for securing first position in Himachal Pradesh University (2012)
- Recipient of merit cum means fellowship for Post-Graduation (2012-2014)
- CSIR-JRF (Rank 54) qualified (December, 2015)

- GATE Chemistry (Rank 450) qualified (February, 2015)
- Selected for JRF position at IGCAR, DAE, Kalpakkam, T.N. and BARC Mumbai (August, 2014) based on BARC OCES exam
- Research scholar at IGCAR, DAE, Kalpakkam, T.N. (August, 2014 – October, 2015)
- PhD student at IIT Kanpur (October, 2015 –June, 2017)
- Selected for Assistant Professor in Chemistry by HPPSC (February, 2017)

Research interests:

- Heterogeneous photocatalysis
- Conducting polymers (CPs) nanocomposites
- Heterojunction photocatalysts of bismuthoxyhalides (BiOX, X=Cl, Br, I) and CPs.
- Environmental remediation using BiOX and CPs based composites.

Publications:

1. **Rajesh Kumar**, Rituporn Gogoi, Kajal Sharma, Astha Singh, Prem Felix Siril. “Facile synthesis of Z-scheme Fe-nPPy/BiOI nanocomposites for enhanced visible light driven photocatalytic activity”. *Environ. Sci.: Adv.*, **2024**, 3, 85.
2. **Rajesh Kumar**, Swadhin Kumar Jena, Million Mulugeta Habtegbrel, Rituporn Gogoi, Astha Singh, and PremFelix Siril. “RoomTemperature Synthesis ofVisible LightActive PANI/BiOBr Z-Scheme Heterojunction for the Photocatalytic Degradation of RhodamineB”. *ChemistrySelect*, **2025**, 10, 14, e202405902.
3. **Rajesh Kumar**, Swadhin Kumar Jena, Million Mulugeta Habtegbrel, Neha Luhakra, Abhilekha Borah, Aarya Sharma and PremFelix Siril. “Influence of PANI on the visible light photocatalytic activities of BiOX (X = Cl, Br and I)”. *Manuscript under preparation*.
4. Rituporn Gogoi , Swadhin Kumar Jena , Astha Singh , Kajal Sharma , Kirti Khanna , Sumanta Chowdhury , **Rajesh Kumar** , Prem Felix Siril. “Mechanically pulverized covalent organic framework as a metal-free photocatalyst for fenton-like degradation of organic pollutants and hexavalent chromium reduction”. *J. Environ. Chem. Eng.*, **2024**, 11200.

5. AsthaSingh, RitupornGogoi, Kajal Sharma, **Rajesh Kumar**, Prem Felix Siril. “Continuous flow synthesis of disordered covalent organic framework for ultra-high removal of industrial pollutants in flow”. Sep. Purif. Technol, **2023**, 307, 122739.
6. Astha Singh, Rituporn Gogoi, Kajal Sharma, Swadhin Kumar Jena, **Rajesh Kumar**, Najla Fourati , Chouki Zerrouki , Samy Remita, Prem Felix Siril. ”Engineering the physical properties and photocatalytic activities of a β -ketoenamine COF using continuous flow synthesis”. Chemosphere, **2024**, 361, 142524.

Conferences/Seminars/Workshops:

1. **Presented poster** in International conference on Recent trends in Bio and material sciences organized by Him science congress association at Sardar Patel University Mandi on 10-11 Oct, 2022.
2. **Presented poster** in International Conference on Fundamental and Advanced Research in Chemistry (FARC - 2024), organized by IIT Mandi on 6th-8th June, 2024.
3. **Presented poster** in 1st SCS Research Meet; organized by School of Chemical Sciences, IIT Mandi, India; January 25, 2025.
4. **Presented research paper** titled “Facile synthesis of Z-scheme Fe-nPPy/BiOI nanocomposites for enhanced visible light driven photocatalytic activity” in National conference on Mountain Ecosystem: A Biodiversity Focus, organized by Govt. College Kullu on Sept, 2024.
5. **Presented research paper** titled “Facile synthesis of Z-scheme Fe-nPPy/BiOI nanocomposites for enhanced visible light driven photocatalytic activity” in International conference on Recent Advances on Material and Biological Science, organized by Govt. College Sanjauli on 19-20 Nov, 2024.
6. Attended workshop on nanomaterials and nanomedicines organized by Bioscience and Bioengineering department, IIT on 9-10 January, 2025.
7. Attended workshop on Advance Energy Materials & devices 2022, organized by CSIR - Central Glass & Ceramic Research Institute, Kolkata on 3rd March, 2022. (Online)
8. Attended National conference on “Sustainable Environment Challenges and Opportunities” organized by Centre for Continuing Education, Dr B R Ambedkar National Institute of Technology (NIT) Jalandhar from September 8 -9, 2021.

9. Attended International Virtual Workshop Under Indo-French SPARC Scheme of Ministry of Education on Recent Advances & Applications of Conducting Polymer Nanostructures & Nanocomposites (RA2CPNC) (June, 2021).

Orientation program/Refresher course/Faculty development program:

1. Successfully completed a 4-week Induction/Orientation Programme for faculty in Universities/Colleges/Institutes of Higher Education, organized by Teaching Learning Centre, Ramanujan College University of Delhi from 19 July - 17 August, 2021.
2. Successfully completed a 2-week Refresher course organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education from 13-27 July, 2022.
3. Successfully completed 2-weeks Refresher course on Physical and Chemical Sciences organized by Malviya Mission of Teacher's Training, CU Jammu from 10/12/2024 to 23/12/2024.

Teachings:

1. ATOMIC STRUCTURE, BONDING, GENERAL ORGANIC CHEMISTRY & ALIPHATIC HYDROCARBONS (Course Code: CHEM 101 TH).
2. STATES OF MATTER, CHEMICAL KINETICS & FUNCTIONAL ORGANIC CHEMISTRY (Course Code: CHEM 102 TH).
3. SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & ORGANIC CHEMISTRY (Course Code: CHEM 201 TH).
4. POLYNUCLEAR HYDROCARBONS, DYES, HETEROCYCLIC COMPOUNDS AND SPECTROSCOPY (UV, IR ,NMR) (Course Code: CHEM 301 TH)

Other assignments:

1. Member of career counseling and guidance cell of GC Kullu.
2. Member of the sports advisory committee of the college.
3. Member of waste management committee of the college.

4. Member of the Red Ribbon Club of the college.

5. Member of the purchase committee of the department.

Publications

Research interests

Teachings

- CHEM 101, CHEM 102
- CHEM 201, CHEM 202, CHEM SEC 203, CHEM SEC 204
- CHEM 301, CHEM 304, CHEM 305, CHEM SEC 307, CHEM 308 SEC

Major assignments

- Member of question paper setting panel of H.P.U. for B.Sc.
- Examiner for evaluation in panel of H.P.U. for B.Sc.
- Member of various college committees