

Curriculum Vitae – Dr. Ratul Paul

Contact Information

Nationality: India

Email: paulratul73@gmail.com; paul.r.aa@m.titech.ac.jp

Mobile: +91 7005363960, +81 8078067323



Current Affiliation

JSPS Postdoctoral Fellow

Laboratory for Zero-Carbon Energy, Institute of Innovative Research
Institute of Science Tokyo (formerly Tokyo Institute of Technology)

Research Interests

- Design and synthesis of porous materials: COFs, POPs, MOFs.
- Heterogeneous catalysis for biomass conversion and CO₂ utilization.
- Photochemical detoxification and CO₂ photoreduction.
- Porous single-atom catalysts and adsorbents for gas separation.

Education

Ph.D. in Chemical Sciences – CSIR-Indian Institute of Chemical Technology, Hyderabad, 2023.

M.Sc. in Chemistry – Tripura University, 2017 (Ranked 1st, CGPA: 9.92).

B.Sc. in Chemistry – Maharaja Bir Bikram College, 2015 (79.37%).

Fellowships and Awards

- JSPS Postdoctoral Fellowship, Japan (2024–2026).
- DST-INSPIRE Fellowship (JRF & SRF), Govt. of India.
- Best Poster Presentation Awards – CPIMC 2022, NANO-SA 2023.
- Qualified GATE and CSIR-UGC NET (2018–2019).

Teaching & Mentoring

- Mentored M.Sc. students at CSIR-IICT.
- Participated in Orientation-cum-Training Programme (6 months) at CSIR-IICT.

Selected Publications

- **Paul, R.*** et al., Harmonizing Between Chemical Functionality and Surface Area of Porous Organic Polymeric Nanotraps for Tuning Carbon Dioxide Capture. [*Chem Asian J.* **2024**, *19*, e202400515.](#)
- **Paul, R.** et al., Pyrolysis Free Out-of-Plane Co-Single Atomic Sites in Porous Organic Photopolymer Stimulates Solar-Powered CO₂ Fixation. [*Small* **2023**, *23*, 2305307.](#)
- **Paul, R.** et al., Purification of Waste-Generated Biogas Mixtures Using Covalent Organic Framework's High CO₂ Selectivity. [*ACS Appl. Mater. Interfaces* **2024**, *16*, **17**, 22066–22078.](#)
- **Paul, R.** et al., Tweaking Photo CO₂ Reduction by Altering Lewis Acidic Sites in Metalated-Porous Organic Polymer for Adjustable H₂/CO Ratio in Syngas Production. [*Angew. Chem. Int. Ed.* **2023**, e202311304.](#)
- **Paul, R.** et al., Linker Independent Regioselective Protonation Triggered Detoxification of Sulfur Mustards with Smart Porous Organic Photopolymer. [*Small* **2023**, *23*, 2302045.](#)
- Das, R., **Paul, R.** et al., Engineering the Charge Density on an In_{2.77}S₄/Porous Organic Polymer Hybrid Photocatalyst for CO₂-to-Ethylene Conversion Reaction. [*J. Am. Chem. Soc.* **2022**, *145*, 422-435.](#)
- **Paul, R.** et al., Progress and Outlook of Solar-Powered Biomass for Biorefineries: A Minireview. [*Energy Fuels* **2022**, *36*, **24**, 14573-14583.](#)
- **Paul, R.** et al., Ferrocene-derived Fe-metalated porous organic polymer for the core planarity-triggered detoxification of chemical warfare agents. [*Chem. Commun.* **2022**, *58*, 7789-7792.](#)
- **Paul, R.** et al., Organogel-assisted porous organic polymer embedding Cu NPs for selectivity control in the semi hydrogenation of alkynes. [*Nanoscale* **2022**, *14*, 1505-1519.](#)
- **Paul, R.** et al., Benzothiazole-Linked Metal-Free Covalent Organic Framework Nanostructures for Visible-Light-Driven Photocatalytic Conversion of Phenylboronic Acids to Phenols. [*ACS Appl. Nano Mater.* **2021**, *4*, **11**, 11732-11742.](#)
- **Paul, R.** et al., Realizing catalytic acetophenone hydrodeoxygenation with palladium-equipped porous organic polymers. [*ACS Appl. Mater. Interfaces* **2020**, *12*, **45**, 50550-50565.](#)
- **Paul, R.** et al., Porous - Organic - Polymer - Triggered Advancement of Sustainable Magnetic Efficient Catalyst for Chemoselective Hydrogenation of Cinnamaldehyde. [*ChemCatChem* **2020**, *12*, 3687-3704.](#)

Referees

Dr. John Mondal

Senior Scientist

CSIR-Indian Institute of Chemical Biology (IICB), Kolkata, India

Email: johncuchem@gmail.com

Prof. Asim Bhaumik

Senior Professor, School of Materials Science

Indian Association for the Cultivation of Science (IACS), Kolkata, India

Email: msab@iacs.res.in; abhaumik68@yahoo.co.in

Dr. Pravin R. Likhari

Chief Scientist, Catalysis & Fine Chemicals Division

CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, India

Email: plikhar@iict.res.in