

Curriculum Vitae

PERSONAL INFORMATION

Name: **Abhijit Patra**

Nationality: Indian

Date of birth: 04.01.1979

URL for web site: <https://www.fmliserb.com/>

<https://scholar.google.com/citations?user=l9giKmAAAAAJ>

ORCID ID: [0000-0003-3144-1813](https://orcid.org/0000-0003-3144-1813)



• ☐ EDUCATION

2003-2009: Ph.D. in the general area of Materials Chemistry, Supervisor: Prof. T. P. Radhakrishnan
School of Chemistry, University of Hyderabad, Hyderabad

Dissertation: *Optical and Nonlinear Optical Materials based on Molecular Nano, Micro and Bulk Crystals*

2001-2003: Master of Science (M.Sc.) in Chemistry
Burdwan University, West Bengal, Awarded First Class, 78.33%

1998 – 2001 Bachelor of Science (B.Sc.) in Chemistry, Bankura Christian College, Bankura
Burdwan University, West Bengal, Awarded First Class, 68.75%

• ☐ CURRENT POSITION(S)

Oct. 11, 2023 – Present: Professor, Department of Chemistry, IISER Bhopal

April 2018 – Oct. 10, 2023: Associate Professor, Department of Chemistry, Indian Institute of Science
Education and Research Bhopal (IISERB), Bhopal, India

July 2012 – March 2018: Assistant Professor, Department of Chemistry, Indian Institute of Science
Education and Research Bhopal (IISERB), Bhopal, India

• ☐ PREVIOUS POSITIONS

Sept, 2010 – June 2012: **Alexander von Humboldt fellow**, working on Polymeric materials
Dept. of Macromolecular Chemistry, University of Wuppertal, Germany

June 2009 – June 2010: Post-doctoral fellow in PPSM, ENS Paris-Saclay, France

• ☐ RESEARCH INTEREST

Self-assembly, properties and functions of porous organic polymers and fluorescent optical materials

• ☐ FELLOWSHIPS AND AWARDS

2023: Fellow of The National Academy of Sciences, India, FNASc

2023: Chemical Research Society of India (CRSI) Bronze Medal

2018: Emerging Investigator: *Journal of Material Chemistry C* (Royal Society of Chemistry)

Sept, 2010 – June 2012: Alexander von Humboldt Fellowship awarded in Materials Science

2005: Qualified UGC-CSIR National Eligibility Test (NET) for Senior Research Fellowship (SRF)

2003: Qualified UGC-CSIR National Eligibility Test (NET) for Junior Research Fellowship (JRF)

2003: Qualified Graduate Aptitude Test in Engineering (GATE), AIR: 69

• ☐ SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2012 – Present: Number of students guided: Postdocs: 6, Ph.D.: 14 (*completed: 10*), Master Students: 32 (*completed: 30*), Department of Chemistry, IISER Bhopal, India

• ☐ TEACHING ACTIVITIES (IISER Bhopal, India)

2012 – Present: Chemistry Instructor, taught 27 full courses so far (Physical Properties of Matter, Physical Chemistry of Solutions, Physical Chemistry of Polymers, Classical Thermodynamics, Molecular Spectroscopy, Chemistry and Physics of Materials, Physical Chemistry Lab I, II,)

Received appreciation letter for teaching from the Chairperson, Senate in each offline semester except the first one since joining IISERB

• ☐ INSTITUTIONAL RESPONSIBILITIES

Jan 2024 – Dec 2024: Head, Centre for Science and Society (CS2)

Nov 2022 – Dec 2023: Coordinator, Innovation and Incubation Centre for Entrepreneurship (IICE), IISER Bhopal

2018 – 2022: Dean Alumni and International Relations, IISER Bhopal, India

2019 – 2022: Chairperson, Institute Career Development & Placement Council, IISER Bhopal

July-Sept, 2022: Acting Dean Faculty Affairs, IISER Bhopal, India

Jan-Aug, 2022: Departmental Undergraduate Committee (DUGC) convenor, IISER Bhopal

2016 – 2017: Convener, Cooperative Crèche and Preschool, Aadharshila, IISER Bhopal

2016 – 2017: Joint Admissions Committee (JAC) member, IISER Bhopal

2015 – 2016: Nodal person and Joint Admissions Comt. (JAC) member, IISER Bhopal, IISER Berhampur

2013 – 2018: In-charge, Instrument Room, Dept. of Chemistry, IISER Bhopal

• □ COMMISSIONS OF TRUST/MEMBERSHIPS OF EVALUATION BOARD

- 2021 – 2024 Member of the Expert Committee of Teachers Associateship for Research Excellence (EC-TARE program), SERB, India
- 2021 – 2022 Guest Editor of 1 special issue ([Metal-Free Room-Temperature Phosphorescence](#), *Frontiers in Chemistry*)
- 2013 – now Regular reviewer: SERB, national funding agencies, journals published by ACS, Wiley, RSC, Nat. Pub. Gr., etc.

• □ MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- 2020 – Life member of Chemical Research Society (CRSI) of India
- 2020 – Life member of Materials Research Society (MRSI) of India
- 2012 – Member of American Chemical Society (ACS), Royal Society of Chemistry (RSC)

• □ MAJOR COLLABORATIONS

[Dr. Mitradip Bhattacharjee](#), Dept. Elect. Eng. & Comp. Sc., [Dr. Rati Sharma](#), Dept. of Chemistry, IISER Bhopal

[Prof. R. S. Tomar](#), [Dr. A. Chande](#), Department of Biological Sciences, IISER Bhopal

[Prof. Venkata Krishnan](#), Indian Institute of Technology Mandi

[Dr. Rémi Métivier](#), [Dr. Clémence Allain](#), PPSM - ENS Paris-Saclay, University Paris-Saclay, France (CEFIPRA Project)

□ MOST RELEVANT PUBLICATIONS (last five years):

1. S. Sarkar, T. K. Dutta, K. Jana, B. P. Mandal, A. Patra* Microporous Organic Ladder Polymer with Vertically Aligned Quinones for Sodium-ion Battery, *Small* **2025**, *21*, 2407756. [Link](#) ([Cover art](#))
2. M. Sarkar, S. Sarkar, M. Saha, K. Luvani, A. Patra* Intriguing Facets of Solution Processable Cross-linked Porous Organic Polymers, *Acc. Mater. Res.* **2024**, *5*, 1353-1365. [Link](#)
3. T. K. Dutta, S. Das, M. Sarkar, M. Bhattacharjee,* A. Patra* Multistate Electrochromic Covalent Organic Framework Film for Electronic Safety Indicator, *Chem. Mater.* **2024**, *36*, 8027-8036. [Link](#) ([Front Cover Article](#))
4. S. Das, A. Batra, S. Kundu, R. Sharma, A. Patra,* Unveiling Autophagy and Aging through Time-resolved Imaging of Lysosomal Polarity with a Delayed Fluorescent Emitter, *Chem. Sci.* **2024**, *15*, 102-112 ([back cover page](#)). [Link](#)
5. S. Sarkar, T. K. Dutta, B. P. Mandal, A. Patra* Porous Organic Polymer for Symmetric Sodium Dual-Ion Battery Through Adsorption-Intercalation-Insertion Mechanism, *Chem. Commun.* **2024**, *60*, 5010-5013. [Link](#)
6. S. Jaiswal, A. Giri, D. Mandal, M. Sarkar, A. Patra,* UV-to-NIR Harvesting Conjugated Porous Polymer Nanocomposite: Upconversion and Plasmon Expedited Thioether Photooxidation, *Angew. Chem. Int. Ed.*, **2023**, *62*, e202312910. [Link](#) ([highlighted in The Hindustan Times](#), [Times of India](#), [The Hindu](#), [ANI News](#), [Indian Economic Observer](#), [Indian News Network](#), [The Free Press Journal](#), [The News Room](#), [Humara Metro](#), [Drumpe](#))
7. A. Giri, G. Shreeraj, T. K. Dutta, A. Patra,* Transformation of Imine Cage to Covalent Organic Framework Film at the Liquid-Liquid Interface, *Angew. Chem. Int. Ed.* **2023**, *62*, e2022190 ([frontispiece](#)). [Link](#) ([highlighted in The Hindustan Times](#), [The Free Press Journal](#), [The Hindu Business Line](#), [Careers360](#), [Prabha Sakshi](#), [Business World – Education](#), [The Hindu](#)).
8. S. Kundu, S. Das, A. Patra,* Fluorescence Correlation Spectroscopy and Fluorescence Lifetime Imaging Microscopy for Deciphering the Morphological Evolution of Supramolecular Self-assembly, *Chem. Commun.* **2023**, *59*, 8017. [Link](#)
9. S. Kundu, B. Sk, N. Saha, S. Das, T. K. Dutta, A. Batra, R. S. Tomar,* A. Patra,* Unraveling Molecular Assembly and Tracking Lipid Droplet Dynamics Using Fluorescent Phenanthroimidazole Derivatives, *ACS Mater. Lett.* **2023**, *5*, 27. [Link](#)
10. M. Sarkar, A. Patra,* *N,N'*-octyl Biphenothiazine and Dibenzothiophene Dioxide-based Soluble Porous Organic Polymer for Biphasic Photocatalytic Hydrogen Evolution, *Chem. Commun.* **2023**, *59*, 2584 (*Chem. Commun. HOT Articles 2023*). [Link](#)
11. A. Giri, S. Biswas, M. W. Hussain, T. K. Dutta, A. Patra,* Nanostructured Hypercrosslinked Porous Organic Polymers: Morphological Evolution and Rapid Separation of Polar Organic Micropollutants, *ACS Appl. Mater. Interfaces* **2022**, *14*, 7369. [Link](#) ([highlighted in The Better India](#), [The Telegraph](#), [Vigyan Prasar](#), [India Today](#), [NDTV](#), [The Hindustan Times](#) and [The Hindu](#), featured in Sansad TV in [Science Monitor](#) and [Gyan Vigyan](#) episodes).
12. A. Giri, Y. Khakre, G. Shreeraj, T. K. Dutta, S. Kundu, A. Patra,* The order-disorder conundrum: a trade-off between crystalline and amorphous porous organic polymers for task-specific applications, *J. Mater. Chem. A* **2022**, *10*, 17077. [Link](#)
13. S. Kundu, A. Chowdhury, S. Nandi, K. Bhattacharyya,* A. Patra,* Deciphering the Evolution of Supramolecular Nanofibers in Solution and Solid-state: A Combined Microscopic and Spectroscopic Approach, *Chem. Sci.* **2021**, *12*, 5874. [Link](#)
14. B. Sk, S. Sharma, A. James, S. Kundu, A. Patra,* N-rich Electron Acceptors: Triplet Harvesting in Multichromophoric Pyridoquinoxaline and Pyridopyrazine-based Organic Emitters, *J. Mater. Chem. C* **2020**, *8*, 12943. [Link](#)
15. M. W. Hussain, V. Bhardwaj, A. Giri, A. Chande,* A. Patra,* Multifunctional Ionic Porous Frameworks for CO₂ Conversion and Combating Microbes, *Chem. Sci.* **2020**, *11*, 7910. [Link](#)

List of Patents:

1. A. Patra, A. Chande, M. W. Hussain, V. Bhardwaj, Nanoporous Organic Framework of Metal Chelated Triaminoguanidinium, **Indian Patent No.: 544617** (Term: March 2019 - March 2039).
2. A. Patra, B. Sk, M. Sarkar, S. Kundu, Dibenzopyridoquinoxaline based Derivatives, **Indian Patent No.: 558358** (Term: October 2019 - October 2039).
3. A. Patra, M. Bhattacharjee, T. K. Dutta, S. Das, A Smart Electronic Safety System, Complete specifications for patent (IPR) filed on 01.05.2024, Application No. 202421031809.
4. A. Patra, M. Bhattacharjee, M. Sarkar, A. Krishnan, S. Das, Photoelectrochemical Cell-Based Power Converter for Electrochromic Display and Thereof, Complete specifications for IPR filed on 22.06.2024, Application No. 202421047377.
