

Dr. Parul Tripathi (Verma)

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Academic qualification

Jan 2017 - Jan 2022	Ph.D. in Material Chemistry (CPGA= 7.5/8.0)	JNCASR (Molmat Lab), India Supervisor: Prof. Tapas K. Maji (http://www.jncasr.ac.in/tmaji/)
Aug 2012 - June 2014	M.Sc. Chemistry (CGPA= 8.14/10)	Banaras Hindu University, India
Aug 2013 - June 2014	P. G. Diploma in Spectroscopy	Banaras Hindu University, India
Aug 2009 - June 2012	B.Sc. Honours in Chemistry (CGPA= 8.35/10)	Banaras Hindu University, India

Employment

Aug 2024 - Present	Assistant Professor at St Aloysius College, MP India
July 2022 - Dec 2023	Postdoctoral Researcher in Prof. Ben L. Feringa's research group at the University of Groningen, Netherlands. Research on smart materials.
Aug 2021 - June 2022	Postdoctoral Researcher in Prof. Tapas K. Maji's research group at JNCASR, Bangalore, India.
June 2015 - Jan 2017	Research Fellow in ISRO Satellite Centre (ISAC) Bangalore, India.
Aug 2014 - May 2015	Lecturer at Sanjay Memorial Women's college, Varanasi, U. P., India.

Ph.D. Thesis Title: Organic and Metal-Organic Hybrid 'Soft' Materials towards **Hydrogen Production, Carbon dioxide Reduction** and Optoelectronic Applications.

List of publications: Citations: 524, h-index: 12, i10-index: 13 (Source: Google Scholar, Link: <https://scholar.google.com/citations?user=M-pmi58AAAAJ&hl=en&oi=ao>)

Details of Research Publications

1. **P. Verma**; D. Samanta; P. Sutar; A. Kundu; J. Dasgupta; T. K. Maji, Biomimetic Approach toward Visible Light-Driven Hydrogen Generation Based on a Porphyrin-Based Coordination Polymer Gel. *ACS Appl. Mater. Interfaces*, 2023, 15, 21, 25173–25183.

<https://pubs.acs.org/doi/abs/10.1021/acscatal.3c00053>

2. F. A. Rahimi; S. Dey; **P. Verma**; T. K. Maji, Photocatalytic CO₂ Reduction Based on a Re(I)-Integrated Conjugated Microporous Polymer: Role of a Sacrificial Electron Donor in Product Selectivity and Efficiency. *ACS Catal.* 2023, 13, 9, 5969–5978.
<https://pubs.acs.org/doi/10.1021/acscatal.3c00053>
3. A. Dey; F. A. Rahimi; **P. Verma**; S. Suresh; T. K. Maji, Charge-Transfer-Regulated Selective Solar Fuel Production in Aqueous Medium by a Tetrathiafulvalene-Based Redox-Active Metal–Organic Framework. *ACS Appl. Energy Mater.* 2023, 6, 9179 - 9187.
<https://pubs.acs.org/doi/abs/10.1021/acsaem.3c00244>
4. **P. Verma**; A. Singh, F. A. Rahimi, P. Sarkar, S. Nath; S. K. Pati; T. K. Maji, Charge-Transfer Regulated Visible Light Driven Photocatalytic H₂ Production and CO₂ Reduction in Tetrathiafulvalene Based Coordination Polymer Gel. *Nature Commun.*, 2021, 12, 7313.
<https://www.nature.com/articles/s41467-021-27457-4>
5. **P. Verma**; F. A. Rahimi; D. Samanta; A. Kundu; J. Dasgupta; T. K. Maji, Visible Light Driven Multi-electron Photocatalytic Reduction of CO₂ using Coordination Driven Metal-Organic ‘Soft’ Nanoscopic Organogel. (*Angew Chem. Int. Ed.*, 2022, 61, e202116094.
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/anie.202116094>
6. **P. Verma**; A. Singh; F. A. Rahimi; T. K. Maji, Colocalization of Light Harvesting and Catalytic Units in ‘Soft’ Coordination Polymer Hydrogel toward Visible-Light Driven Photocatalytic Hydrogen Production. *J. Mater. Chem. A*, 2021, 9, 13608-13614.
<https://doi.org/10.1039/D1TA02425F>
7. **P. Verma**; A. Singh; T. K. Maji, Photo-Modulated Wide-Spectrum Chromism in Eu³⁺ and Eu³⁺/Tb³⁺ Photochromic Coordination Polymer Gels: Application in Decoding Secret Information. *Chem. Sci.*, 2021, 12, 2674-2682.
<https://doi.org/10.1039/D0SC05721E>
8. **P. Verma**; A. Singh; D. Samanta; A. Dey; J. Dey; T. K. Maji, Stabilization of Ultra-Small Gold Nanoparticles in a Photochromic Organic Cage: Modulating Photocatalytic CO₂ Reduction by Tuning Light Irradiation. *J. Mater. Chem. A*, 2021, 9, 5780-5786.
<https://doi.org/10.1039/D0TA12195A>
9. A. Singh; **P. Verma**; D. Samanta; T. Singh; T. K. Maji, Bimodal Heterogeneous Functionality in Redox-Active Conjugated Microporous Polymer toward Electrocatalytic Oxygen Reduction and Photocatalytic Hydrogen Evolution. *Chem. Eur. J.*, 2020, 26, 3810-3817. <https://doi.org/10.1002/chem.201904938>

10. A. Singh; **P. Verma**; S. Laha; D. Samanta; S. Roy; T. K. Maji, Photochromic Conjugated Microporous Polymer Manifesting Bio-Inspired pcFRET and Logic Gate Functioning. *ACS Appl. Mater. Interfaces*, 2020, **12**, 20991-20997.
<https://doi.org/10.1021/acsami.0c05182>
11. D. Samanta; M. Kumar; S. Singh; **P. Verma**; K. K. Kar; T. K. Maji; M. K. Ghorai, Triphenylamine and Terpyridine-Zinc(II) Complex based Donor-Acceptor Soft Hybrid as a Visible Light Driven Hydrogen Evolution Photocatalyst. *J. Mater. Chem. A*, 2020, **8**, 21968-21972. <https://doi.org/10.1039/D0TA02318C>
12. D. Samanta; A. Singh; **P. Verma**; S. Bhattacharyya; S. Roy; T. K. Maji, Photoswitchable J-Aggregated Processable Organogel by Integrating a Photochromic Acceptor. *J. Org. Chem.*, 2019, **84**, 10946-10952.
<https://doi.org/10.1021/acs.joc.9b01555>
13. V. S. Mothika; P. Sutar; **P. Verma**; S. Das; S.K. Pati; T. K. Maji, Regulating Charge-Transfer in Conjugated Microporous Polymers for Photocatalytic Hydrogen Evolution. *Chem. Eur. J.*, 2019, **25**, 3867-3874. <https://doi.org/10.1002/chem.201805478>
14. D. Samanta; **P. Verma**; S. Roy; T. K. Maji, Nanovesicular MOF with Omniphilic Porosity: Bimodal Functionality for White-Light Emission and Photocatalysis by Dye Encapsulation. *ACS Appl. Mater. Interfaces*. 2018, **10**, 23140-23146.
<https://doi.org/10.1021/acsami.8b06363>
15. **P. Verma**; S. Anoop; V.S. Rao; A. K. Sharma, U. Rani, Multiwalled Carbon Nanotube-Poly Vinyl Alcohol Nanocomposite Multifunctional Coatings on Aerospace Alloys. *Material Today Proceedings*, 2018, **5**, 21205-21216.
<https://doi.org/10.1016/j.matpr.2018.06.520>

Skills

- **Experimental:** Material Synthesis, Multistep organic synthesis of designing new ligands. (Using Schlenk lines and glove box and purification by column chromatography)
- **Analytical techniques:** Material Characterizations using spectroscopic techniques, instrument operation such as GC, GC-MS, PXRD, FT-IR, UV-PL, AFM, Electrochemical work station, Two-probe Source meter, Rheometer, Newport photocatalytic setup, DLS, Spectro-electrochemistry setup.
- **Supervising Skill:** (a) Jyoti (M. Sc. Project 2018); (b) Subhadip Mallick (M.Sc. Project 2017); (c) Chiddharth M (Project Oriented Chemistry Education (POCE summer project, 2019).

Scientific Conferences and Awards

International

- Best Oral Presentation and Poster Award in International Chemical Science Symposium 2021, by Royal Society of Chemistry.
- Best Poster Award, in international conference (8th ICOPVS, 2020) JNCASR.
- Best Oral and Poster Presentation Award at Chemical Frontiers Goa Conference, 2018.
- 9th Bengaluru India Nano International Conference, India, 2017.
- International Conference of Smart Engineering Materials (ICSEM, 2016) RVCE Bangalore, India.

National

- **National Young Scientist Award 2021** in Chemistry, by International Multidisciplinary Research Foundation (IMRF) of India.
- **International Education Excellence Award 2021** in Chemistry, by Center for Professional Advancement Continuous Education (CPACE) Council of India.
- **Best Oral Presentation Award**, In House Symposium, JNCASR, 2018.
- CSIR (Council of Scientific and Industrial Research) fellowship to pursue doctoral research in India after securing an all India rank of 97 CSIR-JRF examinations in Chemical Sciences 2016.

Declaration: I hereby declare that the information provided is true and correct. I also understand that any willful dishonesty may render for refusal of this application or immediate termination of employment.