

Curriculum Vitae

Dr. Pragati Fageria, PhD

Assistant Professor
Department of Chemistry
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Education

PhD: Nanotechnology and Nanosciences, Birla Institute of Technology and Science, BITS Pilani, Rajasthan (Aug. 2018)

M.Sc.: Physical Chemistry, University of Rajasthan, Jaipur (July 2012)

M.Sc.: Inorganic Chemistry, University of Rajasthan, Jaipur (July 2012)

B.Sc.: Chemistry Honors, Banasthali Vidyapeeth, Rajasthan (July 2009) (**Gold medalist**)

Research Publications

Source: <https://scholar.google.co.in/citations?user=TE1upTQAAAAJ&hl=en>

1. **Pragati Fageria**, Subhashis Gangopadhyay, Surojit Pande “Synthesis of ZnO/Au and ZnO/Ag Nanoparticles and their Photocatalytic Application using UV and Visible Light” *RSC Adv.*, 2014, 4, 24962. (IF. : 2.936)
2. **Pragati Fageria**, Roshan Nazir, Subhashis Gangopadhyay, Harish C. Barshilia, Surojit Pande “Graphitic-Carbon Nitride Support for the Synthesis of Shape-dependent ZnO and their Application in Visible Light Photocatalysts” *RSC Adv.* 2015, 5, 80397. (IF. : 2.936)
3. **Pragati Fageria**, Shravan Uppala, Roshan Nazir, Subhashis Gangopadhyay, Chien-Hsiang Chang, Mrinmoyee Basu, Surojit Pande “Synthesis of Monometallic (Au and Pd) and Bimetallic (AuPd) Nanoparticles Using Carbon Nitride (C₃N₄) Quantum Dots via the Photochemical Route for Nitrophenol Reduction” *Langmuir* 2016, 32, 10054. (IF. : 3.789)

4. **Pragati Fageria**, Sudharshan K.Y., Roshan Nazir, Mrinmoyee Basu , Surojit Pande “Decoration of MoS₂ on g-C₃N₄ surface for efficient hydrogen evolution Reaction” *Electrochimica Acta* 2017, 258, 1273e1283. (IF. : 5.116)
5. Roshan Nazir, **Pragati Fageria**, Mrinmoyee Basu, Subhashis Gangopadhyay, Surojit Pande “Decoration of Pd and Pt Nanoparticles on Carbon Nitride (C₃N₄) Surface for Nitro- Compounds Reduction and Hydrogen Evolution Reaction” *New J. Chem.* 2017, 41, 9658. (IF. : 3.277)
6. Roshan Nazir, **Pragati Fageria**, Mrinmoyee Basu, Surojit Pande “Decoration of Carbon Nitride Surface with Bimetallic Nanoparticles (Ag/Pt, Ag/Pd, and Ag/Au) via Galvanic Exchange for Hydrogen Evolution Reaction” *J. Phys. Chem. C* 2017, 121, 19548. (IF. : 4.484)
7. Rajesh Kumar Meena, **Pragati Fageria**, Neelu Chauhan “Eco-friendly Production of Silver Nanoparticles from Fenugreek Seeds Extract for Organic Pollutant Degradation” *Res. J. Material Sci.* 2017, 5, 6-11. (IF. : 1.089)
8. Mrinmoyee Basu, Roshan Nazir, **Pragati Fageria**, Surojit Pande “Construction of CuS/Au Heterostructure through a Simple Photoreduction Route for Enhanced Electrochemical Hydrogen Evolution and Photocatalysis” *Scientific Reports* 2016, 6: 34738. (IF. : 5.116)
9. Mrinmoyee Basu, Roshan Nazir, Chavi Mahala, **Pragati Fageria**, Sumita Chaudhary, Subhashis Gangopadhyay, Surojit Pande, “Ag₂S/Ag Heterostructure: A Promising Electrocatalyst for the Hydrogen Evolution Reaction” *Langmuir* 2017, 33, 3178. (IF. : 3.789)
10. Paramita Hajra, Sanjib Shyamal, Harahari Mandal, **Pragati Fageria**, Surojit Pande, Chinmoy Bhattacharya, “Photocatalytic Activity of Bi₂O₃ Nanocrystalline Semiconductor Developed via Chemical-bath Synthesis” *Electrochimica Acta* 2014, 123, 494. (IF. : 5.116)
11. Harahari Mandal, Sanjib Shyamal, Paramita Hajra, Biswanath Samanta, **Pragati Fageria**, Surojit Pande, Chinmoy Bhattacharya, “Improved Photoelectrochemical Water Oxidation using Wurtzite ZnO Semiconductors Synthesized through Simple Chemical Bath Reaction” *Electrochimica Acta* 2014, 14, 294. (IF. : 5.116)

Total IF: 42 h-index: 07

Research Interest

1. Construction of different morphologies of semiconductor metal oxide and sulfide nanomaterials with tailored shape and sizes using different synthetic routes and decoration of the surface of metal oxide/sulfide nanomaterials with metal (Au, Ag, Pd, and Pt) nanoparticles.
2. Designing of the heterostructure by combining two different semiconducting metal oxide and sulfide nanomaterials with suitable energy levels to enhance the charge separation at the heterojunction interfaces.
3. Study the chemistry of nanomaterials in photocatalysis, electrocatalysis, and biological fields.
4. Synthesis of emerging 2D materials for OER and HER applications.

Skills

- Synthesis and fabrication of mono- and bi-metallic nanoparticles, Quantum dots, graphitic CN, metal oxide and metal sulfide semiconductor nanoparticles using different synthetic routes.
- Wet chemistry: Synthesis of nanomaterials (Hot air oven, High temperature furnace, Spin coater, Vacuum oven, Centrifuge, Ultra sonicator etc.)
- Hydrothermal synthesis: For direct growth of various nanomaterials on substrates
- Applications of metal, metal oxide and sulfide nanoparticles in catalysis and dye degradation and their recovery after the reaction.
- Application of metal oxide and metal sulfide nanoparticles in hydrogen evolution reaction (HER) and oxygen evolution reaction (OER).
- Optical microscope: FESEM, TEM, and spectroscopy techniques UV-Vis-NIR spectroscopy, FT-IR, EDS, XPS, Photoluminescence and Raman
- BET surface area, Powder X-Ray, Zeta Potential

Academic Award

- ✓ Scored highest marks in B.Sc. (Chemistry Hons.) and received **Gold Medal** at University level.

- ✓ Qualified **CSIR-UGC NET in Chemical Sciences**, University Grant Commission, New Delhi, held in 2010 & 2011.
- ✓ Qualified **GATE-examination** in Chemistry, held by Indian Institute of Technology, Delhi, in 2012.
- ✓ Qualified **SET-examination** held by Rajasthan Public Service Commission, Ajmer in 2012.
- ✓ **Best Oral Presentation award from Material Research Society of India (MRSI)** in NFM-2017 organized by BITS Pilani.
- ✓ **Best Poster Presentation award from Birla Institute of Technology and Science, Pilani** in NFM-2017 at BITS Pilani.

Teaching Experience

Courses taught at UG level:

1. CH-203 Paper - III Physical Chemistry (B.Sc.)
2. Paper- VI Physical Chemistry (B.Sc. Hons.)
3. Lab sessions and Tutorials (B.Tech.) at Birla Institute of Technology and Sciences, BITS Pilani, Rajasthan from 2012-2014 as Graduate Teaching Assistant.

Courses taught at PG level:

CHE-X01 : Solid States and Nanomaterials
CHE-C07 : Advanced Nanoscience and Nanotechnology
CHE 903 : Advanced Electrochemistry-I
Chemistry Core and Elective Labs

Conferences

1. **Fageria P.** and Pande S. 'International Conference on Nanoscience and Technology (ICONSAT-2014)' at Mohali, Punjab. (*poster*)
2. **Fageria P.** and Pande S. 'National Conference on Nano-and Functional Materials (NFM-2014)' at BITS Pilani. (*Best poster award*)
3. **Fageria P.** and Pande S. 'National Conference on Frontiers at the Chemistry - Allied Sciences

Interface (FCASI-2015)' at University of Rajasthan, Jaipur. (*poster*)

4. **Fageria P.** and Pande S. 'National Conference On Recent Advancements In Chemical Sciences (RAICS-2015) at MNIT Jaipur. (*poster*)

5. **Fageria P.** and Pande S. 'International Conference on Nascent Developments in Chemical Sciences: Opportunities for Academia-Industry Collaboration (**NDCS-2015**) at BITS Pilani, Rajasthan. (*poster*)

6. **Fageria P.** and Pande S. 2nd International Conference on Emerging Technologies-Micro to Nano (ETMN-2015) at Manipal University Jaipur, CSIR-CEERI Pilani and BITS Pilani. (*poster*)

7. One Day Workshop on 'Social Relevance of Research' at UGC-Human Resource Development Centre, University of Rajasthan, Jaipur.

8. **Fageria P.** and Pande S. National Science Symposium in Hindi on 'Need of Environment Protection in Changing Scenario' at University of Rajasthan, Jaipur.

9. **Fageria P.** and Pande S. International Conference on Nanoscience and Technology (ICONSAT-2016) at Indian Institute of Science Education and Research (IISER), Pune. (*poster*)

10. **Fageria P.** and Pande S. National Conference on Frontiers at the Chemistry - Allied Sciences Interface (**FCASI-2016**) at University of Rajasthan, Jaipur. (*oral*)

11. **Fageria P.** and Pande S. International Conference on Advances in Nanomaterials and Nanotechnology (ICANN-2016), at Centre for Nanoscience and Nanotechnology, Jamia millia Islamia, New Delhi, India. (*poster*)

12. INUP Familiarization Workshop on Nanofabrication Technologies (INUP-2016) organized by MNIT Jaipur.

13. **Fageria P.** and Pande S. International Conference on Soft Materials (ICSM-2016) at Malaviya National Institute of Technology, Jaipur. (*oral*)

14. **Fageria P.** and Pande S. National Symposium on Global Environmental Challenges: Present Scenario (GECPS-2017) at Department of Botany, University of Rajasthan, Jaipur. (*oral*)

15. INUP Familiarization Workshop on Nanofabrication Technologies organized by Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science, (IISc) Bangalore, India.

16. **Fageria P.** and Pande S. 2nd National Conference on new Frontiers in Chemistry- from fundamentals to applications-II (NFCFA-2017), at BITS Pilani, K K Birla Goa Campus, Goa. (*poster*)

17. **Fageria P.** and Pande S. International Conference on Frontiers at the Chemistry - Allied

Sciences Interface (FCASI-2017) at University of Rajasthan, Jaipur. (*oral*)

18. **Fageria P.** and Pande S. International National Conference on Nano-and Functional Materials (NFM-2017) at BITS Pilani, at Birla Institute of Technology and Sciences, BITS Pilani, Rajasthan. (*Best oral award*)

19. One day workshop on Soft Materials and Society at MNIT Jaipur organized by Soft Materials Research Society (SMRS) Jaipur and Dept. of Physics, Malaviya National Institute of Technology, MNIT Jaipur.

20. **Fageria P.** and Pande S. International Conference on Nano-materials for Energy Conversion and Storage Applications (NECSA-2018) at The Solar Research & Development Center (SRDC), PDPU Gujarat. (*oral*)

Memberships

- ◆ Soft Material Research Society (SMRS)
- ◆ American Chemical Society (ACS)
- ◆ Indian Society of Chemists and Biologists (ISCB)
- ◆ Several Departmental working committees

The best way to get something done is to BEGIN!!
