
Dr. Arpita Sarkar

CONTACT INFORMATION

Permanent Address: Flat-3D, Orchid Tower, 12/8, Madhyapara, Rahara, Post Office: Rahara, District: 24 Pgons.(North), Kolkata, West Bengal, India, Pin-700118

Mobile: 9477550240

Email: 80.arpita@gmail.com

SPECIALIZATIONS

Inorganic Chemistry, Material Chemistry, Nanomaterial Synthesis.

TEACHING INTERESTS

Engineering Chemistry, Inorganic Chemistry, Nanomaterial.

RESEARCH INTERESTS

Functional Mesoporous Materials, Nanomaterials Synthesis and their applications.

TOTAL EXPERIENCES

Teaching 6 yrs and research 9 years

EDUCATION

- ❑ PhD, 2011
Department of Chemistry,
Indian Institute of Technology (IIT) Kharagpur, Kharagpur, India
PhD Topic: Syntheses of Mesoporous Materials Through Soft Template Assisted Routes.
- ❑ Master of Science, 2004,
Chemistry (Specialization in Inorganic Chemistry),
University of Calcutta, Kolkata, India.
66.5 % marks, 1st Class
- ❑ Bachelor of Science, 2002
Chemistry (Honors), Physics and Mathematics,
University of Calcutta, Kolkata, India.

HONORS AND AWARDS

CSIR-NET Research Fellowship' (JRF (2 years) and SRF (3 years), Total 5 years), Government of India, 2005.

TEACHING EXPERIENCE

1. **Associate Professor**, July, 2022- till date.
Department of Chemistry, **Swami Vivekananda University**, Barrackpore, Kolkata, West Bengal
2. **Assistant Professor**, (more than 3 years 11 months).
Department of Chemistry, **Brainware University**, Barasat, Kolkata
3. **Teaching Assistant**, 2006-2010
Four years (seven semesters) experience in teaching (as teaching assistance) of B. Tech. students and integrated M. Sc. students (Chemistry) in **IIT Kharagpur** (both theoretical and practical classes)

ADMINISTRATIVE EXPERIENCE

1. **Head of the Department**, January, 2023-August, 2024
 - Department of Chemistry, **Swami Vivekananda University**, Barackpore, Kolkata, West Bengal
 - All the departmental activities (DAC, BOS, IQAC, NAAC related works etc.),
2. **Head of the Department**, October, 2019-May, 2022
 - Department of Chemistry, **Brainware University**, Barasat, Kolkata, West Bengal
 - All the departmental activities (DAC, BOS, IQAC, NAAC related works etc.),
 - Member of Academic Council of Brainware University
 - Chairman of BOS Committee,
 - Chairman of DAC Committee,
 - Departmental NAAC coordinator.

Postdoctoral EXPERIENCE

RESEARCH

- ❑ **Postdoctoral Research, 2011-2013 (2 years), South Korea**
KRICT-EPFL Global Research Laboratory, Korea Research Institute of Chemical Technology (KRICT), South Korea
Research Topic: Inorganic-Organic Hybrid Heterojunction Solar Cells Containing Methylammonium Lead Halide Perovskite Compound, Well-Organized Mesoporous TiO₂ as Photoelectrodes for Inorganic-Organic Hybrid Perovskite Solar Cells.
- ❑ **Postdoctoral Research, 2014-2015 (1 year), India**
Department of Chemistry,

Indian Institute of Technology (IIT) Delhi, New Delhi, India
 Research Topic: Inorganic Solar Cells.

LIST OF PUBLICATIONS

1. Aqueous Synthesis of Mesoporous FeNbO₄ for Efficient Degradation of Organic Contaminants in Sunlight Assisted Advanced Oxidation Process at Near Neutral pH. **Sarkar A.**, Gupta N., Biswas S. K., **Journal of Porous Material (2023)**, (Just Accepted), **SCI, Impact Factor = 2.523. (As Corresponding author)**
2. Hydrothermal Synthesis of Mesoporous FeTiO₃ for Photo-Fenton Degradation of Organic Pollutants and Fluoride Adsorption, Gupta N., **Sarkar A.**, Pradhan B., Biswas S. K., **Engineering Proceeding (2023)**, (Just Accepted)
3. Bimodal Mesoporous α -Fe₂O₃/SiO₂ Composite: A Highly Efficient Heterogeneous Solar-Driven Photo-Fenton Catalyst. **Sarkar A.**, Gupta N., Biswas S. K., **Journal of Molecular Structure (2023)**, 1284, 15 135373, **SCI, Impact Factor = 3.841. (As Corresponding author)**
4. Mesoporous Zirconium-Niobium Mixed Oxide (Zr₆Nb₂O₁₇): An Effective Catalyst Towards Bromination of Phenol Red Reaction. **Sarkar A.**, Biswas S. K., **Catalysis in Industry (2020)**, 12, No. 2, 110–118, **Impact Factor = 1.00. (As Corresponding author), Citations = 1**
5. Facile synthesis of Ti-W-O mixed oxide photoanode for photoelectrochemical solar water oxidation, Biswas S. K., **Sarkar A.**, **AIP Conference Proceedings (2020)**, 2273, 050063- 050065.
6. Efficient Inorganic-Organic Hybrid Heterojunction Solar Cells Containing Perovskite Compound and Polymeric Hole Conductors. Heo J. H., Im S. H., Noh J. H., Mandal T. N., Lim C.-S., Chang J. A., Lee Y. H., Kim H. - J., **Sarkar A.**, Nazeeruddin Md. K., Grätzel M., Seok S. I., **Nature Photonics**, (2013), 7, 486-491, **Impact Factor = 32.521, Citations = 2723.**
7. Well-Organized Mesoporous TiO₂ Photoelectrodes by Block Copolymer-Induced Sol-Gel Assembly for Inorganic-Organic Hybrid Perovskite Solar Cells. **Sarkar A.**, Jeon N. J., Noh J. H., Seok S. I., **Journal of Physical Chemistry C (2014)**, 118, 16688–16693, **Impact Factor = 4.536, Special Issue: Michael Grätzel Festschrift, Citations = 58.**

8. Design of A New Nanostructure Comprising Mesoporous ZrO_2 Shell and Magnetite Core ($\text{Fe}_3\text{O}_4@m\text{ZrO}_2$) and Study of Its Phosphate Ion Separation Efficiency, **Sarkar, A.**, Biswas, S. K., Pramanik, P., **Journal of Materials Chemistry**, (2010), 20, 4417-4424, **Impact Factor = 6.626, Citations = 128.**

9. Investigation of the Catalytic Efficiency of a New Mesoporous Catalyst SnO_2/WO_3 towards Oleic Acid Esterification, **Sarkar, A.**, Ghosh, S. K., Pramanik, P., **Journal of Molecular Catalysis A: Chemical**, (2010), 327, 73-79, **Impact Factor = 4.397, Citations = 70.**

10. Synthesis of Mesoporous Niobium Oxophosphate using Niobium Tartrate Precursor by Soft Templating Method, **Sarkar, A.**, Pramanik, P., **Microporous and Mesoporous Materials**, (2009), 117, 580–585, **Impact Factor = 3.649, Citations = 60.**

11. A Novel Sol-gel Synthesis of Mesoporous $\text{ZrO}_2\text{-MoO}_3/\text{WO}_3$ Mixed Oxides, **Sarkar, A.**, Pramanik, S., Achariya, A., Pramanik, P., **Microporous and Mesoporous Materials**, (2008), 115, 426–431, **Impact Factor = 3.649, Citations = 40.**

12. Studies on the Gas Sensing Behaviour of Nanosized CuGaO_4 towards Ammonia, Hydrogen and Liquefied Petroleum Gas, Biswas, S. K., **Sarkar, A.**, Pathak, A., Pramanik, P., **Talanta**, (2010), 81, 1607-1612, **Impact Factor = 4.244, Citations = 27.**

13. A New and Facile Route to Prepare Mesoporous Tantalum Oxophosphate with High Surface Area using Tantalum Tartrate Precursor, **Sarkar, A.**, Pramanik, P., **Journal of Non-Crystalline Solids**, (2010), 356, 2709–2713, **Impact Factor = 2.488, Citations = 10.**

Total Publications = 13

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

CONFERENCES/ WEBINARS ATTENDED	WORKSHOPS/ 1. International Conference on Recent Advances in Science and Engineering (RAiSE-2023) Held on October 04-05, 2023
-----------------------------------	--

	<p>Paper presentation Organized by Manipal Institute of Technology (MIT), India Topic of Paper: Hydrothermal Synthesis of Mesoporous FeTiO₃ for Photo-Fenton Degradation of Organic Pollutants and Fluoride Adsorption.</p>
	<p>2. International Conference on “Green initiatives in Chemical Sciences for Sustainable Development (ICGICSSD – 2022) On the occasion of International Year of Basic Sciences for Sustainable Development 2022 (IYBSSD-2022) Held on November 18-19, 2022 Organized by Department of Chemistry, Sikkim Manipal Institute of Technology, India in joint collaboration with Association of Chemistry Teachers and Indian National Science Academy (INSA), New Delhi. Topic of Abstract in proceeding: Bioinspired Artificial Photosynthesis for Anthropogenic CO₂ recycling: A Review</p>
	<p>3. Nanotechnology 2021 38th Global Nanotechnology Congress (International Conference) Held on November 01-02, 2021 Organizing Committee member Keynote speaker Topic of Presentation: Mesoporous Materials for Adsorption, Catalysis and Solar Cells.</p>
	<p>4. International Conference on Synthetic Potent Molecule and Its Application (ICSPMIA 2018) Held on October 30-31, 2018 Oral Presentation Organized by Department of Chemistry, Sikkim Manipal Institute of Technology (SMIT) in collaboration with Royal Society of Chemistry Eastern India Section Topic of Presentation: Inorganic-Organic Hybrid Heterojunction Solar Cell: Perovskite Material as Sensitizer or Light Harvester</p>
	<p>5. International Conference -RAICMHAS 2019 Organized by Brainware University, Barasat, Kolkata, February 2-4, 2019.</p>
	6. Workshop on Nano Probe Techniques

	Indian Institute Technology Delhi Organized by Indian Institute Technology Delhi, New Delhi, July, 2014.
	7. 2nd DAE-BRNS International Symposium on Materials Chemistry (ISMC-2008) held at Central Complex Auditorium, during December 2-6, 2008. Topic of Presentation: Synthesis of Mesoporous Niobium Oxophosphate by Soft Templating Method using Niobium Tartrate Precursor.
	8. Sixth One Day National Symposium in Chemistry Indian Institute Technology Kharagpur Organized by Department of Chemistry, IIT Kharagpur, November 8, 2008.
	9. National Seminar on Current Trends in Chemistry-II University of Kalyani Organized by Department of Chemistry, University of Kalyani, March 4, 2008.
INTERNATIONALSCIENTIFICTALKS	Arpita Sarkar, <i>“Mesoporous Materials for Adsorption, Catalysis and Solar Cells”</i> . Nanotechnology 2021, 38 th Global Nanotechnology Congress (International Conference and Webinar) (Keynote Speaker) November 01-02, 2021
	Arpita Sarkar, <i>“Inorganic-Organic Hybrid Heterojunction Solar Cell: Perovskite Material as Sensitizer or Light Harvester.”</i> International Conference on Synthetic Potent Molecule and Its Application (ICSPMIA 2018), held on October 30-31, 2018 Oral Presentation Organized by Department of Chemistry, Sikkim Manipal Institute of Technology (SMIT) in collaboration with Royal Society of Chemistry Eastern India Section
	Arpita Sarkar, <i>“Synthesis of Mesoporous Niobium Oxophosphate by Soft Templating Method using Niobium Tartrate Precursor”</i> . <u>2nd DAE-BRNS International Symposium</u> on Materials Chemistry (ISMC-2008) held at Central Complex Auditorium, during December 2-6, 2008. (Oral presentation)

