

## Faculty Profile

- **Name:** Dr. Debrina Jana
- **Designation:** Assistant Professor
- **Date of Joining:** 14.10.2020
- **E-mail:** debrina.chem@gmail.com
- **Phone no.:** 7744029918
- **Address (office):** Gour Mohan Sachin Mandal Mahavidyalaya, Bireswarpur, South 24 Parganas, Pin-743336
- **Educational Qualifications:**

Course	Board/University	Passing year
10 <sup>th</sup>	WBBSE	2000
12 <sup>th</sup>	WBCHSE	2002
B.Sc (Chemistry Hons.)	University of Calcutta	2005
M.Sc (Chemistry)	University of Calcutta	2007
PhD	Jadavpur University (Work done in CSIR-Central Glass and Ceramic Research Institute)	2012

- **Courses taught/teaching:**  
All Physical Chemistry courses
- **Specialization/Research Interest:** Specialization-Physical Chemistry  
Research interest- Materials Chemistry
- **Teaching Experience:**

Affiliation	Designation	Tenure (years)
Gour Mohan Sachin Mandal Mahavidyalaya	Assistant Professor	3.5 years
IISER Mohali	DST-INSPIRE Faculty	4.2 years

- **Research Experience:**

Affiliation	Designation	Tenure (years)
IISER Mohali	DST-INSPIRE Faculty	4.2 years
IISER Pune	Postdoctoral research associate	1.6 years
University of Cincinnati, USA	Postdoctoral research associate	2 years

- **Industry Experience:**

Name of the Organization	Designation	Tenure (years)
NA		

➤ **Research projects:**

Project name	Funding Agency	Tenure	Status
Metal nanoparticles for plasmonics and sensing (Major project)	DST, Govt. of India	6 years	Completed

➤ **Publications:**

Total no. of publications in Journals: 21

Total no. of publications as Book chapters/Books: 2

**List of Publications (Mention maximum 10 publications of your choice):**

Paper title	Author(s)	Journal Name	Year	Volume and Page No.	ISSN/ISBN
Layered Cs <sub>4</sub> CuSb <sub>2</sub> Cl <sub>12</sub> Nanocrystals for Sunlight-Driven Photocatalytic Degradation of Pollutants	Ashitha P. P, Mayank Joshi, Deepraj Verma, Sachin Jadhav, Angshuman Roy Choudhury and Debrina Jana*	<i>ACS Applied Nano Materials</i>	2021	Vol: 4 Page: 1305-1313	2574-0970
Stable CsPbI <sub>3</sub> -Mesoporous Alumina Composite Thin Film at Ambient Condition: Preparation, Characterization and Study of Ultrafast Charge Transfer Dynamics	Samita Misra, Daimiota Takhellambam, Arijit Kumar De and Debrina Jana*	<i>Journal of Physical Chemistry C</i>	2021	Vol: 125, Page: 3285-3294	1932-7447
Stable Mn-Doped CsPbCl <sub>3</sub> Nanocrystals inside Mesoporous Alumina Films for Display and Catalytic Applications	Isabella Antony K. J., Debrina Jana*	<i>ACS Applied Nano Materials</i>	2020	Vol: 3 Page: 2941-2951	2574-0970
Room temperature synthesis of blue and green	Daimiota Takhellambam, Tinku Ram	<i>Chemical Communications</i>	2019	Vol: 55, Page: 4785-4788	1359-7345

emitting CsPbBr <sub>3</sub> perovskite nanocrystals confined in mesoporous alumina film	Meena and Debrina Jana*,				
V-shaped active plasmonic meta-polymers	Debrina Jana*, Adarsh B. Vasista, Harshvardhan Jog, Ravi P. N. Tripathi, Monica Allen, Jeffery Allen and G. V. Pavan Kumar	<i>Nanoscale</i>	2019	Vol: 11, Page: 3799-3803	2040-3372
How Does "Wormhole" Mesoporous $\gamma$ -Alumina Matrix Direct the Morphology of Pt Nanocrystals?	Debrina Jana* and Goutam De	<i>Cryst. Growth Des.</i>	2019	Vol: 19, Page: 1494-1501	1528-7483
Surface Enhanced Raman Spectroscopy of a Au@Au Core-Shell Structure Containing A Spiky Shell	Debrina Jana, Zohre Gorunmez, Jie He, Ian Bruzas, Thomas Beck, and Laura Sagle*	<i>J. Phys. Chem C</i>	2016	Vol: 120, Page: 20814-20821	1932-7447
Capping Agent-Free Gold Nanostars Show Greatly Increased Versatility And Sensitivity For Biosensing	Debrina Jana, Carlos Matti, Jie He and Laura Sagle*	<i>Analytical Chemistry</i>	2015	Vol: 7, Page: 3964-3972	1520-6882
High Raman enhancing shape-tunable Ag nanoplates in alumina: A reliable and efficient SERS technique	Debrina Jana, Abhijit Mandal and Goutam De*	<i>ACS Applied Materials and Interfaces</i>	2012	Vol: 4, Page: 3330-3334	1944-8244
Synthesis of Thick Mesoporous $\gamma$ -Alumina Films, Loading of Pt Nanoparticles, and Use of the Composite Film	Anirban Dandapat, Debrina Jana and Goutam De*	<i>ACS Applied Materials and Interfaces</i>	2009	Vol: 1, Page: 833-840.	1944-8244

as a Reusable Catalyst					
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### **Published Book Chapter**

1. "Nanosheet structures of Pb Halide and Pb-free Halide Perovskites" by Debrina Jana, *Nova Science Publishers, Inc.*, in the book entitled 'Properties and Applications of Nanosheets', 2024, ISBN: 979-8-89113-381-5, Page 79-112.
2. "Noble Metal Nanoparticles To Probe and Alter Biological Phenomena" by Debrina Jana, Sarah Unser, Ian Bruzas and Laura Sagle, *World Scientific Publishers*, Volume 1: Noble Metal Nanoparticles for Biomedical Applications, The World Scientific Encyclopedia of Nanomedicine and Bioengineering I, **2016**, ISBN: 978-981-4667-65-4, Page 103-149.

### ➤ **Research Guidance:**

**Total no. of Bachelors/Master's thesis guidance:** 13 (Guide)

**Total no. of PhD thesis guidance:** Nil

### ➤ **Conference/Seminars/Workshops attended:**

**Total no. of Conference/Seminars attended:** 18

**Total no. of workshops attended:** 5

**List of Conference/Seminars/Workshops (Mention maximum 10 of your choice):**

<b>Title of the presentation</b>	<b>Name of Conference/Seminars/Workshops</b>	<b>Organized by</b>	<b>Date</b>
Synthesis of Au@Pd nanoparticles in alumina sols	20th AGM of Materials Research Society of India	Materials Research Society of India	2009
PVP assisted shape conversion of Ag nanoparticles in alumina sol and influence of shape on SERS	International Conference on Advanced Nanomaterials and Nanotechnology	IIT Guwahati	2011
Probing The Inside Of Core-Shell Nanoparticles Using Surface Enhanced Raman Spectroscopy	246 <sup>th</sup> American Chemical Society meeting	American Chemical Society	2013
Improved biosensing using capping agent free Au nanostars	Pittcon Conference, Chicago	The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy	2014

Improved biosensing utilizing LSPR of noble metal nanoparticles both in solution and on solid substrate	Gordon Conference on Noble Metal nanoparticles, Boston, MA	Gordon Conference committee	2014
Plasmon mediated multipolar fluorescence emission from a single Au core-silica shell nanoparticle	International Discussion Meeting on Emerging Themes in Nanophotonics	Tata Institute of Fundamental Research-Mumbai	2015
Nanostructured films for functional applications: catalysis, biosensing and plasmonics	Recent advances in nanostructures powders, films and devices	INST Mohali	2017
Synthesis of nanocrystals in mesoporous host	ICEFN 2019	Kumaun University	2019
Perovskite nanomaterials: new paradigm in photovoltaics and optoelectronics	International Conference on Chemistry in Daily Life	Diamond Harbour Womens' University	2022
Pb halide perovskite and ZnSe chalcogenide core-shell structure: Improved stability and enhanced luminescence lifetime	5 <sup>th</sup> Regional Science and Technology congress	Department of Science and Technology and Biotechnology and Maulana Azad College	2023

➤ **Conference/Seminars/Workshops organized**

Name of Conference/Seminars/Workshops	Organized by	Convener/Organizing Committee member	Date
Webinar on 'Scope of Chemistry in Industry'	Dept. of Chemistry, GSM Mahavidyalya	Convener	03.01.2023
Webinar on 'Research on Nanomaterials'	Dept. of Chemistry, GSM Mahavidyalya	Convener	14.03.2023
Student's seminar	Dept. of Chemistry, GSM Mahavidyalya	Convener	22.12.2022

➤ **Faculty Development program/Refresher course/Short term courses attended:**

Type of the program	Name of the program	University/organization	Duration	Date
Faculty Development program	Faculty Induction Program (FIP 7)	UGC-HRDC-University of Calcutta	1 month	01.02.2022 to 08.03.2022

Refresher course	Subject Refresher Course in Chemistry	UGC-HRDC-Aligarh Muslim University	2 weeks	14.09.2023 to 28.09.2023
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➤ **Awards:**

<b>Name of the Award</b>	<b>Awarding body</b>	<b>Year</b>
Nanoscale Horizons' community board member	Royal Society of Chemistry	2020
INSPIRE Faculty award	DST, Govt. of India	2016
Postdoctoral Research fellowship	IISER Pune	2015
Postdoctoral Research fellowship	University of Cincinnati, USA	2013
Best Poster Award	2nd International Conference on Advanced Nanomaterials and Nanotechnology, IIT Guwahati	2011
Best Poster Award	International conference on Advances in Nanomaterials held at CSIR-CGCRI	2010
Best Poster Award	20th AGM of Materials Research Society of India at Kolkata	2009
DST and CSIR Research Fellowship		2007, 2009
Governor's proficiency certificate for standing first in Howrah district in Secondary examination	Governor, West Bengal	2002
National Scholarship for standing first in Howrah district in Secondary examination	Govt. of West Bengal	2002

➤ **Membership of Professional/Academic Bodies:**

<b>Member of</b>	<b>Duration</b>
American Chemical Society (ACS)	7 years
Materials Research Society of India (MRSI)	Life Member