

Moulika Hazra

Ph.D. Physics (Material Science)



RESEARCH EXPERIENCE

Dec 2024 - present Research Fellow	University of Cagliari, Italy Study of the optical and structural properties of new phosphors for 3D printing.
Oct 2021- Feb 2025 PhD student	University of Cagliari, Italy Advances in Phenyl-Modified Carbon Nitride: Towards Sustainable Applications.
Oct 2023- April 2024 Visiting Researcher	Vienna University of Technology, Austria Study of 2D WS ₂ as cocatalyst with Phenyl-doped Carbon nitride for H ₂ production.
July 2019- Oct 2021 Project Intern	Birla Institute of Technology Mesra, Ranchi Development of KNN-Sb ceramic and its characterization.
Jan 2020- Jun 2020 Student	Birla Institute of Technology Mesra, Ranchi Study of controllable synthesis of two dimensional WS ₂ via CVD.
Jun 2018-Jun 2018 Summer Intern	Inter University Accelerator Center, New Delhi The study of hybrid detector.

EDUCATION

Degree	University/Board	Percentage/CGPA	Year of Passing
PhD (Physics)	University of Cagliari	With Distinction	2025
Integrated M.Sc. (Physics)	BIT Mesra	8.55	2020
AISSEE	CBSE	95.4%	2015
AISSE	CBSE	10	2013

TRAINING COURSES

May 2024	"EDUC Talents and Entrepreneurial Skills in Europe Days" by EDUC partner Universities.
July 2023	2DQM School organised by the Istituto Italiano di Tecnologia and the Università Degli Studi di Pisa at Lucca, Italy.
June 2023	VISPEC 2023 School at Perugia, Italy organised by the University of Perugia.
June 2022	1st FIT4NANO summer school organized by the ISI Czech Academy of Sciences and CEITEC Brno University of Technology (COST Action project).
Feb 2021	On MedeA VASP Programme, organised by Department of Physics, BIT Mesra, Ranchi.
Sep 2019	National workshop on "Current state of affairs in cyber security & cryptology" (NWCSC) at NIT Durgapur.
Sep 2019	On "Intellectual Property Rights" Sponsored by National Research and Development Corporation (NRDC) an Enterprise of DSIR at BIT Mesra.
Oct-2020-May -2021	Qubit by Qubit's "Introduction to Quantum Computing" year-long course sponsored by IBM quantum.

SEMINARS/CONFERENCES

June 2024	Poster presentation at MACCS1 1st Italian Chinese Swedish workshop “Modeling and Characterization of Complex Systems” by the University of Cagliari, Italy
June 2024	Poster presentation at XIV National conference INSTM sulla Scienza e Tecnologia dei Materiali at Cagliari, Italy.
May 2024	Poster presentation at UniCareer Day 2024 organized by the EDUC alliance at Cagliari, Italy.
Feb 2024	5 th FemChem Scientific Workshop by Faculty of Technical Chemistry, TU Wien, Austria.
Dec 2023	TEDxTU Vienna: “Uncharted – Navigating the Frontiers of Knowledge” at Vienna, Austria
June 2023	Poster presentation at the VISPEC 2023 conference at Perugia, Italy.
May 2023	Oral presentation and member of the organizing team at the EMRS spring meeting 2023 at Strasbourg, France.
March 2023	Speaker and organizer of international conference titled “Applied Sustainability: Today and Tomorrow” under CASSINI Junior 2022 sponsored by Institut Francais Italia and University of Cagliari.

SCHOLARSHIPS/GRANTS

1. CASSINI Junior 2022 grant by the French Embassy in Italy.
2. COST Action grant for FIT4NANO training school.
3. Gianni Licheri grant 2022 from the University of Cagliari.
4. RSC Researcher development and travel grant 2023.
5. ERADOC Erasmus+ Scholarship 2024.

VOLUNTEER WORK

May 2021-Oct 2021 Education Volunteer	Angel Xpress Foundation, Mumbai Tutoring, mentoring and guiding school-going children from slums.
May 2018 – Jun 2018 Intern	Dristi, BIT Mesra Served in the student managed NGO for teaching children of village Pancholi near BIT Mesra.
Jul 2015 – Jul 2017 Volunteer	National Service Scheme, BIT Mesra Organized various awareness programmes in nearby villages and did volunteer teaching service for poor children under the supervision of INDIRA GANDHI NSS AWARD recipient Mr.Prashant Kumar.

EXTRA CURRICULAR QUALIFICATIONS

1. Junior diploma in Fine Arts from Bangiya Sangeet Parishad.
2. Junior diploma in Classical Indian dance- Kathak Nritya from Bangiya Sangeet Parishad.
3. Junior diploma in Indian Classical Vocal from Sarbabharatiya sangeet o sanskriti Parishad.

PUBLICATIONS

1. Porcu, S. *et al.* Visible Light-Mediated Inactivation of H1N1 Virus Using Polymer-Based Heterojunction Photocatalyst. *Polymers (Basel)* **15**, (2023).
2. Hazra, M. *et al.* Elucidation of a Core–Shell Structure in Phenyl-Grafted Carbon Nitride/TiO₂ Nanohybrids for Visible-Light-Mediated H₂ Production with Simultaneous Rhodamine B Degradation. *ACS Appl Nano Mater* (2025) doi:10.1021/acsanm.4c05592.