

Monojit Roy

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Education

- 2021 – Present Ph.D. in Organometallic chemistry, IISER Mohali, Punjab, India.
- 2019 – 2021 Master of Science (Int. Ph.D.) in Chemical Sciences, IISER Mohali, Punjab, India.
CPI – 9.3/10
- 2016 – 2019 B.Sc. Chemistry (Hons.), Sidho-Kanho-Birsha University, Purulia, WB, India.
Percentage – 74.1%
- 2016 Higher Secondary School, Board-WBCHSE, Raghunathpur G.D.Lang Institution, Purulia, India.
Percentage – 85.6%
- 2014 Madhyamik, Board-WBBSE Raghunathpur G.D.Lang Institution, Purulia, India.
Percentage – 90%

Research Work

Current work:

1. Use of Organic molecules as a Photo-catalyst showing thermally activated delayed fluorescence (TADF) property.
2. *Dehydrogenation and C-C Cross-Coupling Reactions by Metal-Free Organo-catalyst.*
3. *Excited State Organic Anions in cross-coupling reaction.*

Supervisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.

Research Experience

- Aug 2021- Present **Ph.D. Research Scholar**
Research work: Excited State Organic Anions in cross-coupling reaction.
Supervisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.
- May - July 2021 **Summer Project**
Dehydrogenation and C-C Cross-Coupling Reactions by Metal-Free Catalyst.
Advisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.
- Jan - April 2021 **Semester Project (PRJ408)**
Dehydrogenation and C-C Cross-Coupling Reactions by Metal-Free Catalyst.
Advisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.
- Aug -Nov 2020 **Semester Project (PRJ406)**
Transition-metal-free C-C and C-N cross-coupling reaction using the simple organic molecule as a catalyst.
Advisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.

May - July 2020 **Summer Project**

Transition-metal-free C-C and C-N cross-coupling reaction using the simple organic molecule as a catalyst.

Advisor – **Dr. Debashis Adhikari**, Assistant Professor, Department of Chemical Sciences, IISER Mohali.

Online Summer Programme

Summer 2021

International Summer Programme 2021 ~online~ in **Osaka University, Japan**

Guide: Prof. M. Nakano, Prof. Y. Funahashi, Professor, Dept of Materials Engineering Science, Osaka University

Publications

1. Dhananjay Dey^{af}, Abhishek Kundu^{af}, Monojit Roy^a, Subhankar pal^a, and Debashis Adhikari^{a*}
“Aromatization as the driving force for single electron transfer towards C–C cross-coupling reactions”
Published in:- *Catalysis Science & Technology*
DOI <https://doi.org/10.1039/D1CY02229F>

Ongoing research work

1. Excited State Organic Anions in cross-coupling reaction. (Manuscript under preparation)
2. Dehydrogenation and C-C Cross-Coupling Reactions by Metal-Free Catalyst. (Manuscript under preparation)

Achievements and Awards

1. Qualified **GATE** (Chemistry) – 2021.
2. Qualified Joint Admission Test for Masters (**JAM**) in the year 2019.
3. Secured **2nd** rank in the Sidho-Kanho-Birsha University in chemistry Hons.
4. Qualified **UoH** National Entrance Exam 2019 and selected in Hyderabad School of Chemistry.
5. Qualified the national entrance examination of **BHU** in 2019.

Supervising and Mentoring

1. Teaching Assistant (January 2022 – Present)
Course – Chemistry Lab IV (Course Code: CHM412) at IISER Mohali.
2. Trained one Masters’s student (Winter intern) in Winter 2021.
3. Teaching Assistant (August 2021 – November 2021)
Course – Organic Chemistry Lab (Course Code: CHM311) at IISER Mohali

Conferences and Workshops Attended

1. Workshop on Methods of Data Acquisition and Analysis in **NMR** and **HR-MS**, by India **SERB**, Department of Chemistry National Institute of Technology Calicut.
2. Symposium on Quantitative structural analysis using **STEM HAADF-iDPC** organized by Chemistry World Webinars, **CHEMISTRYWORLD ThermoFisher SCIENTIFIC**.
3. Webinars on A chemist’s view on **R&D digitalisation in materials** innovation organized by Chemistry World Webinars, **CHEMISTRYWORLD SCHRODINGER MATERIALS**.

4. **International Webinar** on Promotion of Science & Technology Innovation and Entrepreneurship Development, 2021
5. **RSC-IISER Destop** seminar with OBC in Royal Society of Chemistry, 2021
6. Empowering Women in Organic Chemistry (**EWOC**) Conference and **ACS Division** of Organic Chemistry, 2021
7. International Conference on Emerging Trends in **Chemical and Applied Sciences for Sustainable Future**, HANSRAJ COLLEGE, University of Delhi (30th October 2021)
8. ChemPhotoChem–EurJOC Joint Virtual Symposium on **Photoredox Catalysis**, sponsored by **Wiley**, December 9, 2021
9. "**ChemSci2021: Leaders In The Field Symposium**", jointly organized by **Chemical Science** and **JNCASR** Bangalore, 2021
10. RSC-IISER Desktop Seminar with CrystEngComm is jointly organized by **CrystEngComm** and **IISER Kolkata**, 2021
11. Webinars on **ACS on Campus - Vellore Institute of Technology**, 2021

Research Skills

1. **Analytical skills:** NMR, IR, GC, GCMS, Mass Spectrometry, HPLC for optimizing reactions and characterization of products, and reactive intermediates.
2. **Instrument Handling:** IR (Perkin–Elmer FT-IR), NMR (Nmrready, 60 MHz), NMR (Bruker Biospin Avance III FT-NMR, 400 MHz), GC, Cary 60 UV-Vis Spectrophotometer, Fluorescence spectroscopy, Powder X-Ray Diffractometers, Polarimeter, Cyclic Voltammetry (Experimental and Simulations), Vibrational Spectroscopy (ATR), Atomic Absorption Spectroscopy
3. **Softwares:** GAMESS, Origin2021, Mnova, SciFinder, ChemDraw, Mercury

Extracurricular Activities

1. Secured **1st** position in the Youth Parliament Quiz Competition at Block level organized by the Parliamentary Affairs Department, Government of West Bengal for the year 2013-2014
2. Participated in the Municipality Level Youth Parliament Competition for the year 2011-2012
3. Participated in the Municipality Level Youth Parliament Competition for the year 2012-2013
4. Training of "**FIRST AID ON EMERGENCY**" organized by the Society for General Health & Hygiene, 2013