

SOUMYA PAUL

PhD Scholar



10th July, 1995

Polymer Research Centre
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Gender: Male
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Bengali
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Prime Minister Research
Fellowship (PMRF)
(2021-2024)

CSIR-JRF Fellowship
(June, 2019) Rank: 68

IAS Summer Fellowship
(2017)

Inspire Scholarship
(2015-2020)

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● CAREER OBJECTIVE

I, Soumya Paul, am seeking for a postdoctoral position in Polymer Science to expand my expertise, particularly in new polymerization techniques and their industrial and biomedical applications. I have BSMS (integrated 5 years) and PhD (2020 – 2024) degree, with the experience in RAFT polymerization and complex multi-step synthesis.

● EDUCATION

- ✓ Secondary Education (WBBSE): Kanchrapara Harnett High School (H.S.), 2012, **89.14%**
- ✓ Higher Secondary Education (WBCHSE): Kanchrapara Harnett High School (H.S.), 2014, **86.67%**
- ✓ Integrated BS-MS: Indian Institute of Science Education and Research Kolkata, 2015-2020, **8.89** (CGPA)
- ✓ PhD dissertation: "**Photo-stimulated Polymeric Nitric Oxide donor: Synthesis and Their Therapeutic Applications**" at Indian Institute of Science Education and Research Kolkata, 2020-2024

● RESEARCH EXPERIENCE

- ✓ Graduate Student, IISER Kolkata, India. (August 2020 - June 2024)
Photo-stimulated Polymeric Nitric Oxide donor: Synthesis and Their Therapeutic Applications
 - Ultraviolet Light-or pH-Triggered Nitric Oxide Release from a Water-soluble Polymeric Scaffold
 - Photostimulated Extended Nitric Oxide (NO) Release from Water-soluble Block Copolymer to Enhance Antibacterial Activity
 - Chemically Engineered Water-soluble Naphthalimide-based Polymer for Photo-triggered Nitric Oxide (NO) Release and Bioimaging
 - Visible Light-triggered Nitric oxide (NO) Releasing Anthraquinone-based Water-soluble Polymer for Cancer Therapy[Advisor: **Prof. Priyadarsi De**; Co-advisor: **Prof. Arindam Mukherjee**]
- ✓ MS Project, IISER Kolkata, India (August 2019 - May 2020)
Effect of Aliphatic and Aromatic Groups in Water Soluble Nitric Oxide Releasing Polymers and Their Applications
[Advisor: **Prof. Priyadarsi De**; Co-advisor: **Prof. Arindam Mukherjee**]
- ✓ IAS Summer Internship, IICT Hyderabad, India. (May 2017 - July 2017)
Transformation of Functional Groups in Aromatic System
[Advisor: **Dr. S Chandrasekhar**]
- ✓ Summer Internship, IACS Kolkata, India. (May 2016 - July 2016)
Synthesis and Characterization of Carbazole containing Fluorene moiety to construct D-A architecture
[Advisor: **Dr. Sudip Malik**]

● TEACHING EXPERIENCES

- ✓ Mentoring students on MS project
- ✓ Teaching Assistant, Department of Chemistry, IISER, Kolkata, India
 - **General Physical Chemistry** (Spring 2022)
 - **Advanced Physical Chemistry Laboratory** (Autumn 2022)
 - **General Physical Chemistry** (Spring 2023)
- ✓ Teaching Assistantship in, Department of Chemistry, IISER, Kolkata, India
 - **Introduction To Polymer Science** (Autumn 2022)
Instructor: Prof. Dibakar Dhara (IIT Kharagpur)
 - **Organometallic Chemistry** (February 2022 - March 2022)
Instructor: Prof. Debabrata Maiti (IIT Bombay)

● RESEARCH EXPERTISE

- ✓ Multi-step organic synthesis, column Chromatography
- ✓ Controlled radical polymerizations
- ✓ Development of stimuli-responsive polymers
- ✓ Spectroscopic Techniques: ^1H , ^{13}C NMR, UV-Vis, FT-IR, Fluorescence, HR-MS
- ✓ Size Exclusion Chromatography (SEC)
- ✓ Dynamic Light Scattering (DLS)
- ✓ Microscopy: Scanning Electron Microscopy
- ✓ Transmission Electron Microscopy
- ✓ Dialysis, Lyophilization
- ✓ Cell viability assay
- ✓ Fluorescence-activated cell sorting (FACS)
- ✓ Confocal imaging

● PUBLICATIONS

10. **Paul, S.**; Ghosh, S.; Maity, T.; Behera, P. P.; Mukherjee, A.; De, P. [Photocleavable Visible Light-Triggered Anthraquinone Derived Water-Soluble Block Copolymer for Peroxynitrite Generation in Cancer Therapy](#). *ACS Macro Lett.* **2024**, 13, 288-295. (Editors' Choice)
9. **Paul, S.**; Ghosh, S.; Kumar, M.; Maity, T.; Mukherjee, A.; De, P. [Water-Soluble Naphthalimide-Conjugated N-Nitrosamine-Based Block Copolymers for Photoinduced Nitric Oxide Delivery and Cell Imaging](#). *ACS Appl. Polym. Mater.* **2024**, 6, 1075-1085.
8. **Paul, S.**, Ashrit, P., Kumar, M.; Mete, S.; Ghosh, S.; Vemula, P. K.; Mukherjee, A.; De, P. [Photostimulated Extended Nitric Oxide \(NO\) Release from Water-soluble Block Copolymer to Enhance Antibacterial Activity](#). *Biomacromolecules* **2024**, 25, 77-88.
7. Maity, T.[#]; **Paul, S.**[#] De, P. [Designing Functionalized Polymers through Post-Polymerization Modification of Side Chain Leucine-Based Polymer](#). *Eur. Polym. J.* **2023**, 199, 112445. [[#] equal contributions]
6. **Paul, S.**; Kumar, M.; Mukherjee, A. and De, P. [Biomedical applications of polymeric Nitric oxide donors in Nitric Oxide in Health and Disease](#), Eds. L. Morbidelli, B. Bonavida and J. Muntané, Academic Press, 2023, pp. 21-53.
5. Sahoo, S.; **Paul, S.**; Pan, S.; Pal, D.; Das, S.; Maiti, S.; Mukhopadhyay, B.; Tecilla, P.; De, P. [Multifunctional Alternating "Bitter-Sweet" Macromolecular Architecture](#). *ACS Appl. Polym. Mater.* **2023**, 5, 1474-1486.
4. Maity, T.; **Paul, S.**; De, P. [Side-chain Amino Acid-based Macromolecular Architectures](#). *J. Macromol. Sci. Pure Appl. Chem.* **2023**, 60, 2-17.
3. Bag, S.; Ghosh, S.; **Paul, S.**; Khan, M. E. H.; De, P. [Styrene- Maleimide/Maleic Anhydride Alternating Copolymers: Recent Advances and Future Perspectives](#). *Macromol. Rapid Commun.* **2021**, 42, 2100501.
2. **Paul, S.**; Pan, S.; Mukherjee, A.; De, P. [Nitric Oxide Releasing Delivery Platforms: Design, Detection, Biomedical Applications, and Future Possibilities](#). *Mol. Pharmaceutics* **2021**, 18, 3181-3205.
1. **Paul, S.**; Pan, S.; Chakraborty, A.; De, P.; Mukherjee, A. [Ultraviolet Light- or pH-Triggered Nitric Oxide Release from a Water-Soluble Polymeric Scaffold](#). *ACS Appl. Polym. Mater.* **2021**, 3, 2310-2315.

● CONFERENCES & PRESENTATION

Oral Presentations

- ✓ "Scopes of Polymer Sciences" at *Rishi Bamkim Chandra College*, WB, India (25 November, 2022)
- ✓ "Contribution of Chemistry to the Well-being of Mankind" at *Raghunathpur College*, WB, India (24 September, 2022)

Poster Presentations

- ✓ DCS Day seminar, *IISER Kolkata*, India (10 May 2023)
- ✓ PMRF Annual Symposium 2023, *IIT Madras*, India (17-18 February 2023)
- ✓ 17th Pacific Polymer Conference, *Brisbane Convention Centre*, Australia (11-14 December 2022)

● REFERENCES

Prof. Priyadarsi De

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IISER Kolkata, India
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