



Sangeeta

PhD, Polymer and Material Chemist

I am a self-motivated, adaptive, and meticulous person with experience in polymer and material chemistry, and good analytical skills.

ACADEMIC QUALIFICATION

2020 – present Ph.D. in Polymer Chemistry, Shiv Nadar Institution of Eminence, India.

Thesis: *Knitting of sulfur in biobased polybenzoxazine network: New arena of applications.*

Supervisor: *Prof. Bimlesh Lochab*

2015 – 2017 M.Sc. Applied Chemistry, Amity University, India.

2012 – 2015 B.Sc. Applied Chemistry, University of Delhi, India.

SKILLS & EXPERTISE

- Design of experiment (**DoE**) for monomer and polymer **synthesis**, and **polymerization**.
- Biobased Polybenzoxazines (PBz), benzoxazine-sulfur copolymers, elastomers, PBz vitrimers, covalently adaptable networks (CANs), and polysiloxanes.
- Expertise in polymer applications like **debondable adhesives**, mid-wave infrared (**MWIR**) **transparent optics**, polymer cathode for **Li-S battery**, **self-healing** polymer, benzoxazine-grafted-chitosan **antibacterial copolymer films**, and composites for **heavy metal removal** from water.
- **Rheology** (frequency and temperature sweep, stress relaxation, and glass transition temperature), **DSC**, **TGA**, **UTM**, **GPC**, **FTIR**, **NMR**, **Hot-Stage Microscopy**, **HPLC**, **DLS**, **MALDI-TOF**, Solid and liquid state **UV-visible** spectrophotometer, **Raman** spectrometer, and **DOSY NMR** for diffusion coefficient measurement
- Basic computer and software skills: MS-office, TopSpin, MestReNova, Agilent Mass Hunter, Mettler Toledo eStar, Origin, Adobe Photoshop, Rheo-compass, Endnote, and data analysis of XPS, SEM, BET.

PUBLICATIONS

Author of 6 research articles (2 under review) + 1 patent + 2 book chapters in reputed international journals and publishing houses. Details are provided in the appendix I.

AWARDS

- **Best poster award** on the paper “Benzoxazine-grafted-chitosan biopolymer films with inherent disulfide linkage: Antimicrobial properties” in the 5th international symposium on “Polybenzoxazines,” ISPBZ 2024, organized by Chulalongkorn University, Thailand, 9th to 11th January 2024, with a 1000 USD cash prize.
- **CSIR Foreign Travel grant**, “CSIR-FTG” (TG/12395/23-HRD) for participation in the “5th international symposium on polybenzoxazines, ISPBZ 2024”, organized by Chulalongkorn University, Thailand, 9th to 11th January 2024.
- **CSIR Foreign Travel grant**, “CSIR-FTG” (TG/11905/23-HRD) for participation in the international conference on “Frontiers in polymer science”, organized by Elsevier, Sweden, Europe, 29th May 2023 to 1st June 2023, not availed.
- **SERB International Travel Grant**, “SERB-ITS” (ITS/2023/001157) for participation in the international conference on “Frontiers in polymer science”, organized by Elsevier, Sweden, Europe, 29th May 2023 to 1st June 2023.
- **Best Poster award** “Chitosan-grafted-polybenzoxazine: Fully bio-based films” in the International e-Conference on ‘Polymeric Biomaterials & Bioengineering’ organized by Asian Polymeric Association (APA) Bioforum, 27 to 28 August 2021.
- **Certificate of merit** for being the topper of the year 2013-2014, B.Sc., University of Delhi, India.

CONFERENCE AND WORKSHOPS ATTENDED

Attended 10 national and international conferences and symposiums abroad (Sweden, Thailand) and in India at various universities, institutes, and organizations, including SPSI MACRO, APA, Syngenta, ACS, CSIR, IISER, and IIT. Details are provided in the appendix II.

CONTACT

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sngt65@gmail.com

PERSONAL DETAILS

DOB: 10th March 1994

Gender: Female

Marital Status: Unmarried

STRENGTH

Teamwork

Leadership

Lab management

Technical writing

Communication

SOCIAL MEDIA LINKS

[Sangeeta Sahu | LinkedIn](#)

[Sangeeta Sahu \(researchgate.net\)](#)

LANGUAGES

Hindi – Native

English – Proficient

German – Elementary

HOBBIES

Traveling and reading

REFERENCES

1. Prof. Bimlesh Lochab, HoD, Department of Chemistry, School of Natural Sciences, Shiv Nadar Institution of Eminence, Gautam Buddha Nagar, Uttar Pradesh, 201314, India. Email: bimlesh.lochab@snu.edu.in
2. Prof. Subhabrata Sen, Department of Chemistry, School of Natural Sciences, Shiv Nadar Institution of Eminence, Gautam Buddha Nagar, Uttar Pradesh, 201314, India. Email: subhabrata.sen@snu.edu.in
3. Dr. Animesh Samanta, Department of Chemistry, School of Natural Sciences, Shiv Nadar Institution of Eminence, Gautam Buddha Nagar, Uttar Pradesh, 201314, India. Email: animesh.samanta@snu.edu.in

APPENDIX-I

1. **Sangeeta Sahu** and Bimlesh Lochab*, Sustainable Benzoxazine-Sulfur Copolymer with Dynamic Linkages: Recycling, Reprocessing, Self-Healing, and Shape Recovery (R^2S^2), **2024**, *ACS Sustainable Chem. Eng.*, accepted.
2. Bimlesh Lochab and **Sangeeta Sahu** Benzoxazine - sulfur copolymer, method for preparation thereof, Indian Patent, Application No. **202311076304**, priority date November 08, **2023**.
3. **Sangeeta Sahu**, Rashmi Niranjana, Richa Priyadarshani, and Bimlesh Lochab*, Benzoxazine-grafted-chitosan biopolymer films with inherent disulfide linkage: Antimicrobial properties, **2023**, *Chemosphere*, <https://doi.org/10.1016/j.chemosphere.2023.138587>.
4. **Sangeeta Sahu** and Bimlesh Lochab*, Facile strategy for room temperature knitting of sulfur in polybenzoxazine: A new class of solution processable copolymers, **2022**, *ACS Sustainable Chem. Eng.*, <https://doi.org/10.1021/acssuschemeng.2c03633>.
5. Monisha Monisha, **Sangeeta Sahu**, Bimlesh Lochab*, Self-polymerization promoting monomers: *In situ* transformation of disulfide-linked benzoxazines to thiazolidine structure, **2021**, *Biomacromolecules*, <https://doi.org/10.1021/acs.biomac.1c00981>
6. Rohit Goyal[†], **Sangeeta Sahu**[†], Santanu Mitra, Rashmi Niranjana, Richa Priyadarshini, Bimlesh Lochab*, Nanocellulose-reinforced 4D printed hydrogels: Thermoresponsive shape morphing and drug release, **2024**, *ACS App. Polym. Mater.*, († Equal Contribution) <https://doi.org/10.1021/acsapm.3c02420>.
7. Ann-Christine Albertsson, Indra Kumari Varma, Bimlesh Lochab, Anna Finne-Wistrand, **Sangeeta Sahu** and Kamlesh Kumar, "Design and synthesis of different types of poly(lactic acid)/polylactide copolymers, in "Poly(lactic acid): synthesis, properties, processing and applications", **2022**, Eds. Rafael A. Auras, Loong-Tak Lim, Susan E. M. Selke, and Hideto Tsuji, *John Wiley & Sons*, <https://doi.org/10.1002/9781119767480.ch4>.
8. Saad Zafar, **Sangeeta Sahu**, Soumyasri Nikhilesh Mahapatra and Bimlesh Lochab, Cathode materials for lithium-sulfur batteries (LSBs): Fundamentals, challenges, and solutions, pp 61-116 in Maniam S. (ed.), "Batteries – The future of energy storage", *Jenny Stanford Publishing*, Singapore, **2024**.
9. **Sangeeta Sahu**, Arnab Ghosh*, Monisha Monisha, Murali Krishna, Shakir Ali Siddiqui, Sagar Mitra*, and Bimlesh Lochab*, A sulfur-rich sustainable copolymer cathode with fast redox kinetics and enhanced solubility of lithium sulfide for Li-S batteries, **2024**, manuscript under review.
10. **Sangeeta Sahu**, Prashansa Gupta, Shivani Yadav, and Bimlesh Lochab*, Effect of disulfide bond on adhesion and self-healing of biobased polybenzoxazines, (manuscript under preparation).

APPENDIX-II

1. Oral presentation at the International "ISPBZ 2024" conference, organized by Chulalongkorn University, Thailand, 9th to 11th January 2024.
2. Poster presentation at the seventh International symposium, "Frontiers in Polymer Science" organized by Elsevier, Gothenburg, Sweden, 29th May 2023 to 1st June 2023.
3. Oral presentation at the International "ACS Spring 2023" conference, organized by American Chemical Society, Indianapolis, USA, 26th to 31st March 2023.
4. Oral presentation at the International conference, "Polymers for Advanced Technology" organized by Asian Polymeric Association (APA), held in Goa, 23rd to 25th February 2023.
5. Poster presentation at the international conference, "SPSI MACRO 2022" organized by CSIR- National Chemical Laboratory and Indian Institute of Science Education and Research, Pune, 2nd to 4th Nov 2022.
6. Oral presentation at the International e-Conference, "Biopolymers" organized by Asian Polymeric Association (APA) Bioforum, 14th to 16th July 2022.
7. Poster presentation at the "28th CRSI National Symposium in Chemistry" organized by the Indian Institute of Technology (IIT) Guwahati, 25th to 27th March 2022.
8. Oral presentation at the International Conference on "Advances in Green Chemistry and Sustainable Technology" organized by Syngenta Biosciences Private Limited, 29th to 30th September 2021.
9. Poster presentation at the International Conference on "Advanced Materials for Better Tomorrow (AMBT 2021)" organized by IIT (BHU) and Society for Interdisciplinary Research in Materials and Biology (SIRMB), 13th to 17th July 2021.
10. Poster presentation at the International Conference on "Progress and Challenges in Modern Day Science (PCMDS-2021)" organized by the Department of Chemistry, B. Borooah College, in association with Assam Science Society, 17th to 18th June 2021.