

Dr. Manju Sheokand



Personal Information

Name	Dr. Manju Sheokand
Date of Birth	14 th January 1993
Nationality	Indian

Current Position

September 2025- Current	Assistant Professor of Instruction Department of Chemistry and Biochemistry, Texas State University, San Marcos, TX, USA
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<https://scholar.google.com/citations?user=aNjFKZQAAAAJ&hl=en>

Formal Education

May 2024 –
August 2025

Postdoctoral Fellow

Research Advisor

Prof. Jennifer Irvin/ Prof. Sean Kerwin
Professor, Department of Chemistry
and Biochemistry, Texas State
University, San Marcos

PhD (2023)

MSc (2016)

Organic Chemistry (65.5%)
Department of Chemistry, P.G.G.C, SEC-11,
Chandigarh (PU)

B. Sc. (2014)

Chemistry, Physics, Mathematics
(63.2 %)
P.G.G.C.G, SEC-11, Chandigarh (PU)

Awards/Fellowships/Scholarships Held

- **Senior Research Fellowship**, Council of Scientific and Industrial Research, New Delhi, 2019-2022
- **Junior Research Fellowship**, Council of Scientific and Industrial Research, 2017-2019
- Qualified GATE 2014 (Chemistry)
- CSIR NET-JRF (AIR-49)

Transferable Skills

- Tutored and instructed B. Tech students for Organic Chemistry and Chemistry Practical during academic years 2017-2019 in Indian Institute of Technology Indore.
- During PhD tenure, assisted and taught various experimental techniques to MSc Chemistry first year and final year students during their lab projects.

Experimental, Analytical and Instrument Handling Skills

➤ Synthesis Skills

- Multistep synthesis of organic molecules
- Synthesis and characterization of organic molecules via various coupling reactions (Suzuki cross coupling, and Sonogashira cross coupling reactions).
- Bromination, alkylation, arylation of conjugated derivatives.
- Amination of halogenated molecules via Buchwald-Hartwig coupling.
- Oxidation of sulfur containing derivatives with the help of oxidizing agents like H₂O₂ and m-CPBA.
- Modification of PAN fibre.
- Polymerization

➤ Purification Skills

- Column chromatography and crystallization techniques

➤ Analysis Skills

- ¹H, and ¹³C NMR spectroscopy, 2D-HSQC NMR spectroscopy, Mass spectrometry, High-performance liquid chromatography (HPLC) and Elemental Analysis (CHNS), GC-MS.
- Single crystal X-ray crystallography (SCXRD), Mounting and diffraction of crystals (in brief)
- Powder X-ray diffraction (XRD)
- Solid-state and liquid state UV-vis absorption spectroscopy and fluorescence spectroscopy
- Thermo gravimetric analysis (TGA) and DSC.
- Electrochemical techniques: Cyclic voltammetry (CV) of organic and inorganic materials
- Scanning Electron Microscopy (SEM)
- FT-IR, GC, GC-MS

➤ Instrument Handling Skills

- Agilent Technologies (Oxford Diffraction) Super Nova CCD for Crystal diffraction (in brief)
- BRUKER Daltronics Micro-TOF-Q II for LCMS
- Varian Cary 100 Bio UV-Visible spectrophotometer and Perkin Elmer Lambda 1050 for UV-Vis analysis
- CHI620D for cyclic voltammetry
- Mettler Toledo TGA/DSC 1 for Thermo gravimetric analysis.
- Electro-spinner
- Software Handling Skills: Microsoft Office, Origin 8.5, ACD and Mastronova (NMR), ChemDrawUltra, Mendeley, CASA,) Gaussian 09, Putty, Mercury.

Skills and Abilities

- Problem-solving and critical thinking aptitude.
- Multifaceted and goal-driven professional with hands-on experience in laboratory and research work.
- Excellent communication and presentation skills, the capacity to work both independently and as part of a cross-functional team.

List of Publications

1. Huang, P.,^{\$} **Manju**,^{\$} Kazim, S., Sivakumar, G., Salado, M., Misra, R., & Ahmad, S. (2020). Pyridine bridging diphenylamine-carbazole with linking topology as rational hole transporter for perovskite solar cells fabrication. *ACS applied materials & interfaces*, 12(20), 22881-22890 (<https://dx.doi.org/10.1021/acsami.0c03584>). [IF= 10.38]
2. Lee, D. Y., Sivakumar, G., **Manju**, Misra, R., & Seok, S. I. Carbazole-based Spiro [fluorene-9, 9'-xanthene] as an efficient hole-transporting material for perovskite solar cells. *ACS applied materials & interfaces*, 12(25), 28246-28252 (<https://dx.doi.org/10.1021/acsami.0c06318>). [IF= 10.38]
3. Huang, P.,^{\$} **Manju**,^{\$} Kazim, S., Lezama, L., Misra, R., & Ahmad, S. Leverage of pyridine isomer on phenothiazine core: organic semiconductors as selective layers in perovskite solar cells. *ACS Applied Materials & Interfaces*, 14(4), 5729-5739 (<https://doi.org/10.1021/acsami.1c21996>). [IF= 10.38]
4. Huang, P., **Manju**, Kazim, S., Lezama, L., Misra, R., & Ahmad, S. Tailoring of a phenothiazine core for electrical conductivity and thermal stability: hole-selective layers in perovskite solar cells. *ACS Applied Materials & Interfaces*, 13(28), 33311-33320 (<https://doi.org/10.1021/acsami.1c08470>). [IF= 10.38]
5. **Sheokand, M.**, Rout, Y., & Misra, R. Recent development of pyridine based charge transporting materials for organic light-emitting diodes and perovskite solar cells. *Journal of Materials Chemistry C*, 10(18), 6992-7017 (10.1039/d2tc00387b). [IF= 8.06]
6. **Sheokand, M.**, Mencaroni, L., Ekbote, A., Bianconi, T., Mancuso, M. A., Elisei, F., ... & Misra, R. (2023). Enabling Peculiar Photophysics and Mechanochromic Luminescence by Introducing Bromine in Push–Pull Pyridine Derivatives. *J. Phys. Chem. C*, 127, 4176–4187 (10.1021/acs.jpcc.2c07355). [IF= 4.17]
7. **Sheokand, M.**, Alsaleh, A. Z., D'Souza, F., & Misra, R. (2023). Excitation Wavelength-Dependent Charge Stabilization in Highly Interacting Phenothiazine Sulfone-Derived Donor–Acceptor Constructs. *The Journal of Physical Chemistry B*, ([10.1021/acs.jpcc.2c08472](https://doi.org/10.1021/acs.jpcc.2c08472)) [IF= 3.46]
8. Chiara Montanari,^{1,\$} Tommaso Bianconi,^{1, \$} **Manju Sheokand**,^{2\$} Giulia Cavalletti,¹ Titouan Teunens,^{3,4} Jérôme Cornil,⁴ Rajneesh Misra,^{2,*} Benedetta Carlotti^{1,*}, Enabling Red Thermally Activated Delayed Fluorescence by Increasing the Push-Pull Strength in Naphthalimide-Phenothiazine Derivatives, *Journal of Materials Chemistry C*, (Just Accepted)
9. **Sheokand, M.**, Nikhil Ji Tiwari and Rajneesh Misra^{*,a}, (2023). Near-IR absorbing 1,1,4,4-

tetracyanobutadiene-functionalized Phenothiazine Sulfones. *Organic & Biomolecular Chemistry*. (doi.org/10.1039/D3OB00361B). [IF= 3.89]

10. Peng Huang, **Manju Sheokand**, David Payno, Samrana Kazim, Luis Lezama, Rajneesh Misra, and Shahzada Ahmad, Molecular Tailoring of Pyridine Core-Based Hole Selective Layer for Efficient and Stable Cs₂AgBiBr₆ Perovskite Solar Cells, *ACS Applied Energy Materials*.
11. **Manju Sheokand** and Rajneesh Misra^{*,a}, Excited state studies of multi-modular phenothiazine derivatives with change in the oxidation state of sulfur atom from +2 to +6 state in thiazine ring.

Conferences/ Workshops

- Oral Presentation: Manju, Role of Pyridine based positional isomers as effective hole-transporting materials in the Perovskite solar cells, *MRSI Conclave*, 2021.
- Participated in International conference on Emerging Trends in Chemistry" IIT Indore on 12-15 July , 2019

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