

Aakrati Kushwaha

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Graduate Student

Sustainable Energy | Photo Chemist | Photo Physics | Polymer Chemist | Synthetic Chemist | Analytical Chemist

Education

BOWLING GREEN STATE UNIVERSITY – Bowling Green, OH

August 2022 – Present

Major: Photochemical Sciences

- Candidate for Ph.D. degree | Graduation (expected): January 2027, GPA: 3.863/4.0
- Gel Permeation Chromatography (GPC) | High Performance Liquid Chromatography (HPLC) | X-Ray Diffraction (XRD) | Gas Chromatography Mass Spectrometry (GCMS) | Laser flash photolysis | Photoluminescence spectrometer (FLS-1000) | Matrix-assisted Laser Desorption/Ionization (MALDI)

INDIAN INSTITUTE OF TECHNOLOGY – Madras, India

Jul 2020 – May 2022

Major: Chemistry

- Master of Sciences
- UV visible spectrophotometer | NMR spectroscopy machine | Cyclic voltammetry | High Resolution Mass Spectrometry | IR spectroscopy | Python (primary level)

MIRANDA HOUSE, UNIVERSITY OF DELHI – Delhi, India

August 2016 – May 2019

Major: Chemistry

- Bachelor of Science
- Rudimentary handling knowledge of Titrimetric analysis | pH meter | Potentiometer | Q-Basic (primary level) | SQL (primary level) | C++ | MS Office

Research | Internships

BOWLING GREEN STATE UNIVERSITY – Bowling Green, OH

August 2022 – Present

Synthesizing biomass derived photo initiators for light responsive polymeric materials and investigating novel excited states photo transformations, Ph.D. Thesis

- **Publications:** Ahuja, S., Baburaj, S., Valloli, L.K., Rakhimov, S.A., Manal, K., Kushwaha, A., Jockusch, S., Forbes, M.D. and Sivaguru, J., *Angew. Chem. Int. Ed.*, 63, 2024.

INDIAN INSTITUTE OF TECHNOLOGY – Madras, India

Jul 2020 – May 2022

- Synthesized the organic redox electroactive molecules (ORM) and investigated their redox active behavior for redox flow batteries in non-aqueous media.

CSIR-NEIST SRTP - India

Summer 2020

- Comparative analysis of slow codons and slow di-codons in the genes encoding tricarboxylic acid (TCA) cycle enzymes of Mycobacterium tuberculosis KZN 1435 and Mycobacterium gilvum Spyr1 conducted online.

INDIAN INSTITUTE OF REMOTE SENSING, ISRO - India

Summer 2020

- Successfully completed Outreach Program on “Remote Sensing and Digital Image Analysis” conducted by IIRS-ISRO.

Leadership Activities

- **Center for Photochemical Sciences, Department of Chemistry, Bowling green state University**

August 2022-2024

Teaching Assistant instructor: Organic lab teaching assistant (O-CHEM)

Supervised and helped students during lab sessions and office hours, coordinated a team of graduate teaching assistants to facilitate students' evaluation process, and helped students troubleshoot the course-related challenges.

- Serving as Secretary in GSPDA (Graduate Students and Post Doctorates' Association) at Bowling Green State University

Aug 2024 - Present

- Coordinated PICNICS (Parents Involvement with Children Nurturing Intellectual Curiosity in Science program) program at BGSU, department of chemistry.

Jul 2024

- Student mentor for summer undergraduate research fellow.

2024

- Supervised the Robot tour event at BGSU Science Olympiad.

2024

- Student volunteer for international student orientation at BGSU.

August 2023

- Received outstanding teaching assistant award.

2023

- Attended Ohio Photochemical Society conference organized by BGSU.

July 2023

- Student mentor for high school student during parents' involvement with children nurturing intellectual curiosity in science

(PICNICS) program funded by NSF at BGSU.

June 2023- July 2023

- Student volunteer at BGSU Science Olympiad. March 2023
 - Served as a bridge between class and academic authorities by being a class Representative in M.Sc. Chemistry. 2020-2022
 - Attended spotlight lecture series held at IIT Madras. Feb 25, 2021- Feb 28, 2021
 - Participated in COWCE-21, web based chemistry orientation workshop on competitive examinations 2021.
 - Volunteered in organized cleaning and restoration campaigns in National Service Scheme.
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Technical Skills | Certificates

- **Technical skills:** NMR, FTIR, XRD, GPC, HPLC, XRD, GCMS.
- **Maintenance:** Regular inspection and calibration of Ecossec-GPC instrument, HPLC waters and XRD-Bruker D8 Quest.
- Participated in the one day workshop on "Artificial Intelligence in Drug Discovery" organized by CSIR-NORTHEAST INSTITUTE OF SCIENCE AND TECHNOLOGY, JORHAT. September 2020
- Participated in the webinar on "Chemistry and Biology of Natural Products" organized by CSIR-NEIST, JORHAT, ASSAM, INDIA. July 24-25, 2020
- Participated in "Material Chemistry Workshop for Beginners" organized under the DU Innovation Project MH 306. July 27, 2016
- Successfully completed "Bridge Course on Laboratory Safety and Handling of Equipment" conducted by Department of chemistry, Miranda House. August 3-4, 2016
- Participated in "Science Conclave: Research on the Frontiers" organized under the D S Kothari Centre for Research and Innovation in Science Education, Miranda House University of Delhi. January 10-12, 2018