

# Praachi Kakati

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## QUALIFICATION

- Working as Guest Professor at Miranda House, Department of Chemistry for 4 months
- Guest Professor at the Department of Chemistry, University of Delhi for 1 year
- Innovative researcher with 5+ working in material chemistry labs and over 10 years' experience in organic chemistry and biochemistry
- Developed various heterogeneous ionic liquids such as solid support ionic liquid, metal incorporated ionic liquid and covalent polymer based ionic liquid and used it as a catalyst in various organic reactions.
- Mentored 2 undergraduate students while working collaboratively with interdisciplinary teams. Demonstrated exceptional leadership skills through effective management of group members.
- A strong publication record of peer-reviewed journal articles as well as excellent written and oral communication skills.

## ACADEMIC BACKGROUND

Dec.2018- Feb. 2024	Ph.D. under Prof. S. K. Awasthi, Chemical Biology Research laboratory, University of Delhi. Thesis: <i>Design and Synthesis of Diversified Ionic Liquids for its Applications in Organic Reactions</i>
Aug. 2015- July 2017	M.Sc. Chemistry in Organic Chemistry -73.8% Miranda House, University of Delhi Thesis: <i>Recent Developments in Organic Photosensors</i>
July 2012- June 2015	B.Sc. Chemistry (Hons) – 88.06% Miranda House, University of Delhi
2011-2012	XII Board – 95.6% Don Bosco, Central Board of Secondary Education
2010	X Board – 90% S'T Mary's, Board of Secondary Education Assam

## RESEARCH EXPERIENCES

- Research Scholar – University of Delhi (Dec 2018 – Feb 2024)  
Supervisor: **Prof. S.K. Awasthi**  
Worked on Ionic liquid and its applications in organic reactions.  
Key Achievements: -

- Synthesised a simple ammonium ionic liquid as a catalyst and solvent in multicomponent Biginelle, Hantzsch and Niementowski reaction.
  - Developed a solid support ionic liquid by incorporation chitosan in ionic liquid and applied it as catalyst in esterification reaction in a solvent free protocol.
  - Designed a copper entrapped ionic liquid for C-C and C-N Ullmann coupling reactions
  - Built a covalent polymer based polyionic liquid for halogenation reaction
- Master Thesis Project – University of Delhi (Jan 2017 – May 2017)  
Advisor: **Prof. Surender Singh**  
Recent Developments in Organic Photosensors

## PUBLICATIONS

- **P. Kakati**, S.K. Awasthi. Chitosan supported ionic liquid, a multifaceted catalyst for streamlined and efficient synthesis of carboxylic, amino acid and carbohydrate esters. *RSC Adv.*, **2024**, *14*, 36193
- **P. Kakati**, P. Singh, P. Yadav, S.K. Awasthi. Aiding the versatility of simple ammonium ionic liquid by the synthesis of bioactive 1,2,3,4-tetrahydropyrimidine, 2-aminothiazole and quinazolinone derivatives. *New J. Chem.*, **2021**, *45*, 6724.
- P. Yadav, **P. Kakati**, P. Singh, S.K. Awasthi. Application of Sulfonic Acid Fabricated Cobalt Ferrite Nanoparticles as Effective Magnetic Nanocatalyst for Green and Facile Synthesis of Benzimidazoles. *Applied Catalysis A: General*, **2021**, *612*, 118005.

## AWARDS AND ACHIEVEMENTS

- Best Poster Award “De Novo Synthesis of Different Ionic liquids and their Sustainable and Efficient Application as a Catalyst for various Organic Transformations” at **International Conference on Crossroads of Chemistry, Biology & Atmospheric Environment: A Modern Prospective** organized by Department of Chemistry, University of Delhi.
- Qualified **CSIR NET JRF 2023** – Rank 49
- Life Member of **Indian Science Congress**
- **DST SRF** in 2020 (Research Fellowship by INSPIRE, Department of Science and Technology)
- **DST JRF** in 2018 (INSPIRE, Department of Science and Technology)
- Qualified **GATE 2018** (Graduate Aptitude Test for Engineering).
- Secured a position in top 1% students in intermediate examination of Central Board of Secondary Education.
- **INSPIRE SCHOLARSHIP** awarded by Department of Science and Technology, Government of India from year 2012- 2016.
- Received the meritorious award by Government of Assam for excellent performance in 10th board.

## CONFERENCES AND SYMPOSIUM

- **Poster presentation** in International Conference on **International Conference on Crossroads of Chemistry, Biology & Atmospheric Environment: A Modern Prospective** organized by Department of Chemistry, University of Delhi.
- Worked as **Organizer** in **National Conference on Scientific Innovation for Human Wellbeing** of Indian Science Congress, Delhi Chapter in 2023
- **Poster presentation** in International Conference on “**Scientific Innovation for Human Wellbeing**” ISCA Delhi Chapter in 2023
- **Oral Presentation** in International Conference on “**Green Technology: Issues & Challenges**” ISCA Haridwar Chapter in 2022
- Participated in **National Workshop on Indian Contribution to Chemical Sciences (ICCS)** Department of Chemistry, University of Delhi and Vidya Bharti Uchcha Shiksha Sansthan and Samvit Research Foundation in 2022
- Participated in International webinar on “**post-COVID challenges and opportunities for the Chemist**” ISCA Delhi Chapter and DU in 2021
- **Poster presentation** on Indo-UK Virtual Conference on “**Current Innovations and the Future of Therapeutic Developments**” in 2020
- **Oral presentation** in National Conference on **Newer avenues in the field of chemical science**, SKIT, Jaipur in 2020
- **Oral presentation** in **National Conference on Recent Trends and Advancement in Chemical Sciences**, organized by University of Delhi, University of Delhi and Society for Promotion of Education and Sciences In 2019
- Worked as **Organizer** in National Conference on **Recent Trends and Advancement in Chemical Sciences**, organized by University of Delhi.

## SKILLS AND PROFICIENCIES

- IT Skills- Ortep for X Ray Crystallography, Molecular docking software, Jeol Software, Chem Draw, AutoDock, MS Word, MS Excel, PowerPoint, Q-BASIC, ARGUSLAB
- Instruments operated- UV-Vis spectrophotometer, photoluminescence spectrometer, Circular Dichroism spectrophotometer, Lyophilizer, Polarimeter, high-speed centrifuge, pH meter, Conductometer
- Synthesis skills – Organic synthesis, Catalysis, Purification through Column Chromatography, Safe laboratory practices, chemical handling and disposal.