



Aakanksha Jain

Prime Minister's Research Fellow

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A dedicated and focused researcher passionate about technology development for gas sensors with a special interest in areas of transport phenomena, chemical reaction engineering, materials processing, and micro/nanofabrication.

Education

2019- to date	Ph.D. in Chemical Engineering CGPA: 9.25/10	<i>IIT Kanpur, India</i>
2015- 2019	B.Tech in Chemical Engineering CGPA: 8.64/10	<i>NIT Calicut, India</i>
2013- 2015	Senior Secondary Education CBSE- 95.4%	<i>MVM, Chennai, India</i>
2011- 2013	Secondary Education CBSE- CGPA: 10/10	<i>MVM, Chennai, India</i>

Scholastic Achievements

- Prime Minister's Research Fellow
- AWSAR Award 2022 under the Best Stories in PhD category sponsored by DST, India
- Class of 1968 Creative Research Proposal Prize
 - ✓ *Awarded cash prize for best creative research proposal based on a piece of Ph.D. work (among all Ph.D. students of the 2019 batch)*

Project Work

Ph.D.: Department of Chemical Engineering and National Centre for Flexible Electronics, IIT Kanpur.
Advisor: Prof. Siddhartha Panda

- **Topic:** 2D material-based gas sensors
 - ✓ Research interest focuses on fabricating high-performance gas sensors operating at **lower temperatures**.
 - ✓ Develop **new class of sensing materials** for gas detection.
 - ✓ To utilize these devices for real-time sensing to **monitor food quality and disease detection**.
- **Skills:**
 - ✓ **Analytical:** FTIR Spectroscopy, UV-vis Spectroscopy, XRD, XPS, TGA, Raman Spectroscopy, NMR spectroscopy
 - ✓ **Instruments handled:** PL Spectrometer, UV-Vis Spectrophotometer, DLS, Four Probe
 - ✓ Spin coating, Screen printing technology for fabrication of gas sensing device.
 - ✓ Lithography technique, Nanomaterial synthesis, Oxidative Polymerization
 - ✓ **Software and Languages:** MS Office Products, C++, MATLAB

- **Conferences:**
 - ✓ The IEEE International Conference on Flexible, Printable Sensors and Systems (FLEPS 2023), 9th -12th July 2023, Boston, **Massachusetts, USA**. (Accepted for Oral presentation)
 - ✓ Indian Chemical Engineering Congress & 75th Annual Session of Indian Institute of Chemical Engineers, CHEMCON 2022, 27th – 30th December 2022, **Kanpur, India**. (Oral presentation)
 - ✓ 6th International Conference on Emerging Electronics, IEEE, 11th-14th December 2022, **Bangalore, India**. (Poster presentation)
 - ✓ Research Scholar's Day, Department of Chemical Engineering, IIT Kanpur, 9th April 2023, **Kanpur, India**. (Poster presentation)

B. Tech Major Project: Department of Chemical Engineering, NIT Calicut.

- **Topic:** Synthesis of CuO-doped ZnO Nanoparticles and its Application in Waste Water Treatment
 - ✓ Highlights ZnO-CuO composites' photocatalytic activity, which serves as the application

Internships

- ONGC Chennai 2017
 Summer Training at Regional R&D Centre under Mr. P.K. Nag (DGM Chemical)
 Geoscience Lab for exploring and developing alternate energy resources like shale gas.

Research Interest

- Gas Sensors
- Food quality monitoring
- Nanoscience (Nanosensors, Nanocomposites)
- Energy and Environment

Positions of Responsibility

- Students Senate Nominee - Departmental Postgraduate Committee (DPGC) IIT Kanpur.
- ***Conducted weekly lectures*** on Chemical Reaction Engineering under ***PMRF at HBTU, Kanpur***.
- Part of a content management team for a science outreach program organized by ***Science for Rural India, Indian Institute of Science, Bengaluru***, under PMRF, to inspire students from rural backgrounds towards science by teaching them hands-on science experiments.
- ***Conducted workshops*** on MATLAB under ***PMRF at CSJM, Kanpur***.
- Cultural Secretary, Indian Cultural Association, NIT Calicut.
- Senior Executive at DRAV- Technical Symposium of Department of Chemical Engineering, NITC.