



# DEEPTI

## Ph.D.

### (Synthetic Organic Chemistry)

**D.O.B. 26/01/1995**  
**Category- General**

### My Contact

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### About Me

- Hard-working, self-motivated, and persistent Organic Chemist with experience in research, Seeking to obtain an Organic Chemist position where I can utilize my education and skills and be part of an organization which would provide me with opportunities for growth and advancement.
- Knowledge to characterize the products of Chemical reactions using appropriate instrumentation including, NMR, IR spectroscopy, mass spectrometry and elemental analysis.
- Ability to maintain focus and drive in stressful environments while still delivering high-quality work on time.

### Hard Skills

- Column chromatography
- Organic Synthesis
- HRMS Data Analysis
- NMR (Operation and Analysis)
- Computer Skills and Microsoft Office
- Sci-finder, Chemdraw and MestreNova, Scientific writing skills

### Soft Skills

- Adaptability
- Work Ethics
- Teamwork
- Decision making
- Communication
- Leadership

### Education Background

- Indian Institute of Technology, Roorkee, Uttarakhand, India  
**Doctor of Philosophy** (*Organic Chemistry*)  
**Thesis Title-** "Synthetic Protocols for the Generation of Aryl/Sulfonyl Succinimides and Diarylmethyl Sulfones"  
**July 2017 – September 2022**
- Hemwati Nandan Bahuguna Garhwal University, Srinagar Garhwal, Uttarakhand, India  
**Master of Science** (*Organic chemistry*)  
**I Division**  
**(2014–2016)**
- Hemwati Nandan Bahuguna Garhwal University, Srinagar Garhwal, Uttarakhand, India  
**Bachelor of Science** (Chemistry, Botany and Zoology)  
**I Division**  
**(2011–2014)**
- Board of School Education Uttarakhand, Tehri Garhwal, Uttarakhand, Intermediate Examination (PCB Group)  
**I Division**  
**(2011)**
- Board of School Education Uttarakhand, Tehri Garhwal, Uttarakhand, High School Examination (Science)  
**I Division**  
**(2009)**

### Awards And Honors

- DST Inspire Fellowship Award Under (AORC) Component of the scheme.
- DST Inspire Scholarship Award Under (SHE) component of the scheme Performance in top 1% in the Class 12 Board examination.
- Association of Chemistry Teachers (ACT) concept test in Chemistry 2012

## RESEARCH EXPERIENCE

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A hands-on experience for the synthesis of 3-aryl/sulfonyl succinimides and diarylmethyl sulfones using a variety of precursors such as maleimides, electron-rich arenes, *p*-quinone methides, arylsulfonyl hydrazides, and arylsulfonyl chlorides. During my Ph.D. work I have developed, a highly facile, metal-free and novel methanesulfonic acid catalyzed Friedel–Crafts protocol to access 3- arylsuccinimide derivatives with C(sp<sup>2</sup>)–H nucleophiles. In subsequent attempts, I developed an iodine- mediated oxidative sulfonylation protocol for the synthesis of various 3-sulfonyl succinimides, and diarylmethyl sulfones.

## List of Publications and Conferences Attended

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- **Gairola, D.; Peddinti, R. K.** "Methanesulfonic acid catalyzed Friedel–Crafts reaction of electron-rich arenes with N-arylmaleimides: A highly efficient metal-free route to access 3-arylsuccinimides" *Synthesis* **2021**, *53*, 1923–1930.
- **Gairola, D.; Peddinti, R. K.** "Metal-free Rapid Sulfonylation of *para*-Quinone methides and N-arylmaleimides with Sulfonyl hydrazides via a free-radical pathway" *Asian J. org. Chem.* (**Accepted sep 2022**).
- **Gairola, D.; Peddinti, R. K.** "Hypervalent iodine-mediated synthesis of diarylmethyl sulfones using arylsulfonyl chlorides as sulfonyl source" *manuscript communicated*.
- **Gairola, D.; Raza, M. S.; Roshani, Km.; Peddinti, R. K.** "DIB-mediated [3+2] cycloaddition reaction of Aldoximes with maleimide for the construction of oxazole fused succinimides" *Manuscript Communicated*.
- **"Contemporary Facets in Organic Synthesis"** Indian Institute of Technology, Roorkee, India, December 22–24 2017.
- **"Science Academies, Lecture Workshop on Emerging Trends in Bioinorganic Chemistry Festival"** Indian Institute of technology Roorkee, India, March 8–10 2018.
- **National conference on "Organic Molecules as synthons and reagents for innovations"** Indian Institute of Technology, Roorkee, India, February 8–10, 2019.
- **"Ethics and Integrity in scholarly publishing"** Indian Institute of Technology Roorkee, India, October 23, 2020.
- **"DST and ACS Virtual Workshop"** October 30, 2020