

## Upendra Sharma, PhD (Organic Chemistry), FRSC, Professor (AcSIR)

C-H Activation & Phytochemistry Laboratory

Chemical Technology Division

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Personal site: <https://sites.google.com/view/usharmagroup?usp=sharing>



### RESEARCH FOCUS

**Phytochemical Investigation of Medicinal Plants:** Our group primarily focuses on validating traditional plant knowledge through the isolation of marker compounds, using them as quality-control standards, and evaluating their biological activities. Developing innovative approaches, including a) Replacing traditionally used organic solvents for targeted extraction with eco-friendly and reusable **Natural Deep Eutectic Solvents (NADES)**; b) Developing a **Chemomatrix** Database for quality assurance of medicinal plants & c) **Biochemomatrix** Approach for the identification of putative marker compounds, to achieve these targets is the main goal.

**Synthesis of Bioactive Molecules via C-H Activation:** One of our group's aims is to develop green, efficient catalytic methods for synthesizing bioactive molecules *via* C-H activation/functionalization. We mainly focus on the functionalization of N-heterocycles using novel catalytic techniques, with an in-depth study of the reaction mechanism. Recently, we have initiated work on atroposelective C-H activation.

### PROFESSIONAL EXPERIENCE

September 2021 to present	Principal Scientist, CSIR-IHBT, Palampur, India
September 2017 to August 2021	Senior Scientist, CSIR-IHBT, Palampur, India
September 2014 to August 2017	Scientist, CSIR-IHBT, Palampur, India
March 2014 to August 2014	Postdoc Fellow, KAIST, South Korea
May 2013 to March 2014	Young Scientist-DST Fast Track, IIT Bombay, India
November 2012 to May 2013	Research Assistant, IIT Bombay, India

### EDUCATION

2012	Ph.D. (Organic Chemistry)	Awarded	GNDU, Amritsar/CSIR-IHBT, Palampur
2005	MSc. (Chemistry)	1 <sup>st</sup> Division	DAV Collage Jalandhar, GNDU, Amritsar
2002	B.Sc. (Non-Medical)	1 <sup>st</sup> Division	Himachal Pradesh University

### AWARDS/FELLOWSHIPS/RECOGNITION

- NABL Assessor, ISO17025:2017 for testing (2024-)
- Involved in establishing and getting NABL accreditation of Chemical Technology Lab, CSIR-IHBT, as per ISO17025:2017 for testing under Ayush Drug group (2025-2029)
- Master Trainer for Rastrya Karoyogi Jan Seva Program (2025-)
- Member, Sports Promotion Board (SPB), CSIR (2025-)
- Fellow of the Royal Society of Chemistry (FRSC), London, UK.
- Life member of the Chemical Society of India
- Life Member of the Catalysis Society of India
- Life member of the Analytical Society of Analytical Scientists
- One Year Advance Promotion, *i.e.*, Merit Promotion from Scientist to Senior Scientist
- Member, Early Career Advisory Board, *Science of Synthesis* (2021-2024)
- Member, Early Career Advisory Board, *Asian Journal of Organic Chemistry* (2020-)
- Member, Editorial Board, *Scientific Reports* (2024-)
- Manjushree Pal Memorial Award from the Ethanopharmacology Society of India, Kolkata (2017)
- Thieme Chemistry Journal Award (2016)
- D S Kothari Postdoc Fellowship (2012)

- Fast Track Young Scientist project for three years (2012)
- Postdoc Fellowship KAIST, South Korea (2014)
- CSIR Junior/Senior Research Fellowship (2007, 2009)

#### HUMAN RESOURCE DEVELOPMENT

22 students awarded PhD degrees and 01 submitted theses.

08 Postdoc/Research Associates, 26 project assistants, and 36 MSc/MPharma trainees worked in the lab.

#### CSIR/INSTITUTIONAL RESPONSIBILITIES

- Member, Technical and Purchase Committee (2019-)
- Chairman, Students' Selection Committee in Chemical Sciences (2025-)
- Member, Publication Committee (2023-)
- DAC Member, Ph.D. students enrolled in AcSIR, Ghaziabad-201002, India
- Member, Students' selection committee in Chemical Sciences (2015-2023)
- Member, Lab Health, Safety and Environment Management Committee (2023-25)

#### PROJECT HANDLED: 30

Completed: 20

Current: 10

External Funded: 11

#### RESEARCH PUBLICATION: 226

#### Patents: 5

Citation: >7451

h-index: 43

i-10 index: 165

Book Edited: 01

Book Chapter: 13

Popular Hindi Article: 14

Invited/Oral Presentations: 44

#### REPRESENTATIVE PUBLICATIONS IN LAST THREE YEARS

Natural Product Chemistry	Organic Synthesis
Food Res Int. 2026; 225: 117931.	Org Lett. 2026; accepted.
J. Food Compos. Anal. 2026; 153: 109031.	Chem Commun. 2026; 62: 4963.
Microb Pathog. 2026; 211: 108220.	Chem Commun. 2025; 61: 17416.
Sep Purif Technol. 2025; 354: 128699.	Chem. Asian J. 2025; 20: e202401266.
Food Bioscience, 2025; 71: 107377.	Org. Biomol. Chem. 2025, 23: 2572.
Nat Prod Res. 2025; 39: 4006..	Coord Chem Rev. 2024; 499: 215453.
Nat Prod Res. 2024; 39: 5126..	Trends in Chem., 2024; 6: 705.
Microchem. J. 2025; 208: 112620.	Org Lett. 2024; 26: 8515.
Fitoterapia, 2025; 180, 106279.	J. Catal., 2024; 439: 115756.
Microchem. J. 2025; 208: 112137.	J Org Chem. 2024; 89: 15893.
Trends in Chem., 2024; 6: 277.	Org Lett. 2024; 26: 5027.
J Ethanopharmacol. 2024; 320: 117385.	Org Chem Front. 2024; 11: 4986.
Microchem. J. 2024; 205: 111210.	Chem Commun. 2024; 60: 5626.
Fitoterapia, 2024: 175: 105925.	J Org Chem. 2024; 89: 14880.
Microchem J. 2024, 199: 110129.	J. Catal., 2024; 438: 115673.

