

Dr DHIRENDRA KUMAR SINGH

Assistant Professor

Department of Chemistry
Kashi Naresh University, Bhadohi, Uttar Pradesh, India

Mob. 7408480732; 8887501916

Email: dhirendra08352@gmail.com

Email: dhirendrakumarkngpg21@gmail.com

ORCID: <https://orcid.org/0000-0001-6537-8168>

Google Scholar : [Google Scholar Profile](#)



CONTACT INFORMATION

Office Address:

Department of Chemistry
Kashi Naresh University
Bhadohi, Uttar Pradesh, India

Permanent Address:

Village Sikaro, Post Nathapur
Koraon, District Allahabad, Uttar Pradesh, India – 212306

PROFESSIONAL PROFILE

Dr. Dharendra Kumar Singh is an **Assistant Professor of Chemistry** with a Ph.D. from the **Indian Institute of Technology (BHU), Varanasi**, and specialized research experience in **Organic Synthesis and Green Chemistry**.

His research interests primarily encompass the development of new methodologies for **C–C and C–N bond formation, C–H activation and functionalization, oxidative amidation, transition-metal-free organic synthesis, multicomponent reactions, and sustainable chemical transformations**.

His research work emphasizes environmentally benign synthetic methodologies involving **TBHP-mediated transformations, solvent-free reactions, nano-Fe₃O₄ catalysis, Sc(OTf)₃-**

catalysed transformations, ultrasound-assisted synthesis, and visible-light-mediated HAT processes.

As an academician, he is actively engaged in teaching, student mentoring, research guidance, scientific communication, institutional responsibilities, academic committees, science outreach, intellectual property, and interdisciplinary sustainability initiatives.

CURRENT ACADEMIC POSITION

Assistant Professor of Chemistry

Department of Chemistry, Kashi Naresh University, Bhadohi, Uttar Pradesh, India

Major Academic Responsibilities

- Teaching undergraduate and postgraduate Chemistry courses.
 - Student mentoring and academic counselling.
 - Research guidance and project supervision.
 - Development of research-oriented and interdisciplinary academic activities.
 - Participation in university/college academic and administrative committees.
 - Contribution to NEP 2020-related academic initiatives.
 - Student development through research, innovation, entrepreneurship, and scientific communication.
 - Participation in seminars, conferences, workshops, exhibitions, and science outreach programmes.
-

RESEARCH PROFILE

Broad Research Area

Organic Chemistry | Green Chemistry | Sustainable Organic Synthesis

Specific Research Areas

- Organic Synthesis
- Development of New C–C Bond Formation Methodologies
- Development of New C–N Bond Formation Methodologies
- C–H Bond Activation and Functionalization
- Oxidative Amidation
- Transition-Metal-Free Organic Synthesis
- Green and Sustainable Chemistry
- Solvent-Free Organic Synthesis
- Multicomponent Reactions
- Sustainable Synthetic Surrogates

- Visible-Light-Mediated Organic Transformations
 - Ultrasound-Assisted Organic Synthesis
 - Catalytic Organic Transformations
 - Sustainable Chemical Technologies
-

TECHNICAL & RESEARCH EXPERTISE

- TBHP-mediated organic transformations
 - Transition-metal-free synthetic methodologies
 - C–H bond functionalization
 - Oxidative coupling reactions
 - Nano-Fe₃O₄ catalysis
 - Sc(OTf)₃-catalysed reactions
 - Ultrasound-assisted organic synthesis
 - Visible-light HAT processes
 - Solvent-free reactions
 - Multicomponent synthetic methodologies
 - Sustainable chemical transformations
 - Green synthetic protocols
-

EDUCATIONAL QUALIFICATIONS

Doctor of Philosophy (Ph.D.) in Chemistry

Indian Institute of Technology (BHU), Varanasi, Uttar Pradesh, India

Ph.D. Thesis Title:

Tert-Butyl Hydroperoxide (TBHP) Mediated Development of Some New C–C & C–N Bond Formation

Ph.D. Supervisor: Prof. Dr. S. Singh

Master of Science (M.Sc.) in Organic Chemistry — 2015

Banaras Hindu University (BHU), Varanasi, Uttar Pradesh, India

Academic Performance: 8.19 CGPA (77.40%)

Dissertation Title:

Synthesis and Characterization of Nitrogen Containing Heterocycles

Dissertation Supervisor:
Dr. A. K. Tewari

Bachelor of Science (B.Sc.)

Chemistry, Botany & Zoology

Ewing Christian College, University of Allahabad, Uttar Pradesh, India

Academic Performance: 72.19%

FELLOWSHIPS, NATIONAL ELIGIBILITY

Examination / Fellowship	Achievement	Year / Period
CSIR-NET Senior Research Fellowship (SRF)	Fellowship	Dec. 2018 – Dec. 2020
CSIR-NET (JRF)	AIR 73	June 2017
UGC-NET (JRF)	AIR 87	June 2016
UGC-NET (JRF)	AIR 87	Dec. 2015
GATE – Chemistry	AIR 450	2015
GATE – Chemistry	AIR 816	2017

RESEARCH PUBLICATIONS

1.Kumar, D., Kumari, S., Gajaganti, S., Singh, S., & Srivastava, V. (2019). *Et₃N-Catalysed Cascade sp³ C–H Bond Functionalization of Methyl Arene with Active Methylene Compounds under Solvent-Free Condition*. **ChemistrySelect**, 4(7), 2225–2228.

2.Kumar, D., Maury, S. K., Kumari, S., Kamal, A., Singh, H. K., Singh, S., & Srivastava, V. *TBAI-Catalysed C–N Bond Formation through Oxidative Coupling of Benzyl Bromides with Amine: A New Avenue to the Synthesis of Amides*.

3.Kumar, D., Singh, S., & Srivastava, V. *One-Pot Oxidative Amidation of Benzylmercaptan with Amine Using TBHP as an Oxidant*.

4.Kumar, D., Singh, S., & Srivastava, V. *One-Pot TBHP-Mediated Oxidative Coupling of Indole with Active Methylene Compounds.*

5.Gajaganti, S., Kumar, D., Singh, S., Srivastava, V., & Allam, B. K. (2019). *A New Avenue to the Synthesis of Symmetrically Substituted Pyridines Catalyzed by Magnetic Nano-Fe₃O₄: Methyl Arenes as Sustainable Surrogates of Aryl Aldehydes.* **ChemistrySelect**, **4(31)**, 9241–9246.

6.Kumari, S., Kumar, D., Gajaganti, S., Singh, S., & Srivastava, V. (2019). *Sc(OTf)₃-Catalysed Multicomponent Synthesis of Chromeno[2,3-d]pyrimidine-Triones under Solvent-Free Condition.* **Synthetic Communications**, **49**, 431–443.

7.Maury, S. K., Kumar, D., Kamal, A., Singh, H., Kumari, S., & Singh, S. (2020). *A Facile and Efficient Multicomponent Ultrasound-Assisted ‘On Water’ Synthesis of Benzodiazepine Ring.* **Molecular Diversity**. DOI: 10.1007/s11030-019-10031-y

8.Gajaganti, S., Kumari, S., Kumar, D., Allam, B., Singh, S., & Srivastava, V. (2018). *An Efficient, Green, and Solvent-Free Multi-Component Synthesis Benzimidazolo/Benzothiazolo Quinazolinone Derivatives...* **Journal of Heterocyclic Chemistry**, **55**, 2578–2584.

9.Singh, H. K., Kamal, A., Kumari, S., Kumar, D., Maury, S. K., Srivastava, V., & Singh, S. (2020). *Eosin Y-Catalyzed Synthesis of 3-Aminoimidazo[1,2-a]Pyridines via the HAT Process under Visible Light...* **ACS Omega**, **5**, 29854–29863.

EDITORIAL CONTRIBUTIONS

Chief Editor

360° Multidisciplinary Perspectives: Integrating Knowledge for Global Sustainability

Publisher: Willconic

ISBN: 978-93-49478-18-3

Publication: March 2026

Editorial Role: Chief Editor

Recognition:

Awarded a **Certificate of Appreciation** for invaluable contribution as Chief Editor.

BOOK CHAPTERS

1. Sustainable Chemical Technologies for Clean Energy, Water, and Environment: A Systems Thinking Perspective In: *360° Multidisciplinary Perspectives: Integrating Knowledge for Global Sustainability*

Publisher: Willconic

Publication: March 2026

2. Advanced Materials for Energy Storage: Batteries, Supercapacitors, and Beyond

In: *Sustainable and Renewable Power: An Interdisciplinary Approach*

Publisher: Willconic

Publication: April 2026

PATENTS & INTELLECTUAL PROPERTY

Published National Patent Application

A Living Biofilm-Coated Roofing Tiles for Self-Cooling and Air Detoxification in Urban Buildings

Patent/Application Number: 202521049190 A

Patent Type: Patent Application

Level: National

Status: Published

Publication Date: 13 June 2025

This innovation relates to the development of **living biofilm-coated roofing tiles** aimed at self-cooling building surfaces and supporting air detoxification in urban environments.

ACADEMIC & RESEARCH GUIDANCE

Postgraduate Student Project Guidance

Provided academic and research guidance to postgraduate students in Chemistry, with projects successfully completed .

Awarded & Verified PG Projects

S. No.	Student	Subject	Submission	Award Date
1	Ms. Shraddha Gupta	Chemistry	16-10-2025	24-07-2025
2	Ms. Saumya Shukla	Chemistry	19-10-2025	24-07-2025
3	Ms. Sakshi Pal	Chemistry	20-07-2025	24-07-2025
4	Ms. Roli	Chemistry	20-07-2025	24-07-2025
5	Ms. Tahseen Naaz	Chemistry	11-09-2024	11-09-2024
6	Ms. Sheetal Bind	Chemistry	05-09-2024	11-09-2024
7	Ms. Maurya Chanchal Rakesh	Chemistry	11-09-2024	11-09-2024

- Postgraduate academic and project guidance.
- Research methodology and project planning.
- Scientific problem identification.
- Experimental/research-oriented guidance.
- Data interpretation and scientific presentation.
- Guidance towards successful project completion.

ACADEMIC LEADERSHIP & INSTITUTIONAL SERVICE

DST-FIST Scheme

Appointed as **Member/Expert** for the DST-FIST Scheme.

Co-Convener — National Seminar

Served as **Co-Convener** for the National Seminar on: “**Self-Reliant India: Challenges and Prospects**” Kashi Naresh Government P.G. College **March 2023**

Intellectual Property Awareness & Training

Completed **Intellectual Property Awareness/Training** organized by the **Intellectual Property Office, India**, in February 2023.

ACADEMIC & ADMINISTRATIVE RESPONSIBILITIES

- Member, **UG/PG Admission Committee**
- Member, **Sports Committee**
- Member, **AISHE-related institutional activities**
- Member, **Library Committee**
- Member, **College Magazine Committee**
- Member, **Website Committee**
- Member, **E-Library Committee**
- Participation in **NEP 2020 curriculum-related academic activities**
- Contribution to **Minor and Skill Development Courses**
- Participation in interdisciplinary academic initiatives
- Student mentoring and academic guidance
- Contribution to institutional academic and administrative activities

TEACHING & STUDENT MENTORING

- Teaching Chemistry at undergraduate and postgraduate levels.
- Academic mentoring and counselling of students.
- Guidance of **B.Sc. project work**.
- Guidance and mentoring of **M.Sc. survey/research projects**.
- Development of students' research aptitude and analytical thinking.
- Laboratory and experimental research guidance.
- Academic guidance for higher education and competitive examinations.
- Delivery of lectures on **entrepreneurial skills** through the **Kashi Naresh Institute Innovation Council**.
- Promotion of innovation, research, scientific communication, and interdisciplinary learning.

CONFERENCES, SEMINARS & WORKSHOPS

iC2IS-2024

Participant
Kashi Naresh Government P.G. College, Bhadohi
2024

CTFM-2019

Poster Presenter

Research Topic:
Et₃N-Catalysed Cascade C–H Bond Functionalization

Banaras Hindu University
2019

RACCB-2017

Poster Presenter
Indo-German Workshop
IIT-BHU & Max Planck Institute
2017

GIAN Workshop — 2016

Participant

Workshop:

Modeling and Simulations at Nanoscale and Nanostructures

MNNIT Allahabad
2016

SCIENCE COMMUNICATION & OUTREACH

Actively engaged in science communication and educational outreach, with an emphasis on making advanced chemical concepts accessible to students and the wider academic community.

Areas of Engagement

- Science communication
- Chemistry education
- Student-oriented academic content
- Research awareness
- Science outreach
- Competitive examination mentoring
- Research aptitude development
- Scientific problem-solving
- Innovation and entrepreneurship awareness

PROFESSIONAL & ACADEMIC INTERESTS

- Organic Chemistry
- Green Chemistry
- Sustainable Chemical Technologies
- Organic Synthesis
- Chemical Education
- Scientific Communication
- Research Mentorship
- Interdisciplinary Research

- Environmental Applications of Chemistry
 - Innovation and Entrepreneurship
 - Sustainable Materials and Technologies
-

ACADEMIC ENGAGEMENT & PERSONAL INTERESTS

- **Science Communication:** Translating complex chemical concepts into accessible and engaging academic content.
 - **Academic Mentorship:** Supporting students in research, experimental design, laboratory work, higher education, and career development.
 - **Sustainable Horticulture:** Interest in environmentally responsible cultivation and green spaces.
 - **Analytical & Cognitive Activities:** Engagement with analytical puzzles and logic-based activities to strengthen reasoning and problem-solving skills.
-

KEY PROFESSIONAL STRENGTHS

- Strong foundation in Organic Chemistry and Green Chemistry.
 - Research experience in sustainable organic synthesis.
 - Experience in C–C and C–N bond formation methodologies.
 - Experience with transition-metal-free and catalytic transformations.
 - Research publication experience in international journals.
 - Academic and postgraduate student guidance experience.
 - Editorial and book chapter contributions.
 - Intellectual property and innovation exposure.
 - Experience in academic committees and institutional responsibilities.
 - Science exhibition, seminar, workshop, and outreach experience.
 - Strong interest in interdisciplinary and sustainability-oriented research.
-

DECLARATION

I hereby declare that the information furnished in this Curriculum Vitae is true and correct to the best of my knowledge and belief.

Place: Bhadohi, Uttar Pradesh

Date: _____

Dr. Dhirendra Kumar Singh

Assistant Professor of Chemistry
Department of Chemistry

Kashi Naresh University, Bhadohi
Uttar Pradesh, India