

Academic & Professional Profile(Dr. Girdhar Joshi)

Dr. Girdhar Joshi

Assistant Professor & Head
Department of Chemistry
HNB Govt. P G College Khatima,
Udham Singh Nagar, Uttarakhand(262308), India

Work Experience: (More than 14 years Teaching and Research Experience)

- 29th April 2025-till date:** Assistant Professor Chemistry, HNB Govt. P G College Khatima, Udham Singh Nagar, Under Higher Education Dept. Govt of Uttarakhand
- 15th Sept 2016-28th April 2025:** Assistant Professor Chemistry, Govt. P G College Gopeshwar, Chamoli Under Higher Education Dept. Govt of Uttarakhand
- 2nd July 2011 to 14th Sept, 2016:** Assistant Professor, University of Petroleum & Energy Studies, Dehradun

Research interests:

- Renewable energy resource (particularly bio-based fuel sources) and their exploration.
- Nano material design and Material chemistry: Synthesis and applications of metal nano particles, inorganic materials for applications such as environmental remediation and heterogeneous catalysis.
- Synthesis and design of different fuel additive such as lubricity enhancer, antioxidants etc.
- Functional group transformations using non-hazardous synthetic routes.
- Conversion of various biomass feeds to fuel and other petrochemicals.

PhD Students Guided:

1. Dr. Devendra Singh Rawat, (**PhD Awarded 2019**) at University of Petroleum & Energy Studies, Dehradun: Role External Supervisor
2. Dr. Sonal Singh (**PhD Awarded 2017**) University of Petroleum & Energy Studies, Dehradun Role External Supervisor

Publications Details:

Text Books Chemistry: 15 (14 Books for Under Graduate + 01 Books for Post Graduate)
Edited Book: 01 (**Environmental Resource Management**)
Research Publications: 29 (Total citation >1350; h-index = 18; i10index= 22)
Average impact factor/paper >5)

International Publications: 27
National Publications: 02

Book Chapters: 05 (03 national Publisher and 2 International Publisher)

Patents and Technology Transfer:

Patent Granted: 02 (one US and one European)
Technologies Transferred/commercialized 07

Conference/Symposia Paper Presented:

More than 15 research paper presented in various national and international conferences in the area of Alternate Energy and Green Chemistry

Received 5 Best paper award during above presentations



Annexure -I (List of Research Papers/Patents/Book/Book Chapters/PhD Guidance/Conference/Professional training etc.)

List of Research Papers/Patents/Book/Book Chapters/PhD Guidance/Conference etc.

1. PhD Guidance

S.No.	Name of Scholar	Affiliation	Year	Title of the Thesis
1	Dr Devendra S Rawat	University of Petroleum & Energy Studies (UPES) Dehradun	2019	Improvement of storage behavior of biodiesels and their diesel blends with the use of antioxidants
2	Dr Sonal Singh	University of Petroleum & Energy Studies (UPES) Dehradun	2017	Photocatalytic and photo-electrochemical property of Zinc Oxide and Bismuth Vanadate for pollutant degradation and water splitting applications

2. Research papers Published in Peer reviewed Journals

S. No	Full Journal paper (Scopus indexed)	ISSN	Impact Factor
1	G. Kuar, A S Bartwal, R. S. Sajwan, G Joshi, S C Sati, Comparative Study on the Bioactivity of Silver and Zinc Metal Nanoparticles Synthesized from Leaves of F. Auriculata via Greener Route, Research Journal of Chemistry and Environment , 2026 , 30(2)	0972-0626	0.55
2	R. Verma, G. Joshi; Xanthium Strumarium based activated carbon as low cost bioadsorbent for efficient removal of antidepressant drug Imipramine; IOP Conf. Series: Earth and Environmental Science , 1382 (2024) 012009, doi:10.1088/1755-1315/1382/1/012009.	1755-1315 (online) 1755-1307 (print)	0.3
3	S. Dutta, V. Madav, G. Joshi, N. Nail, S. Kumar; Directional synthesis of aviation-, diesel-, and gasoline range hydrocarbon fuels by catalytic transformations of biomass components: An overview; Fuel , April-2023, 347, 128437.	0016-2361	7.4
4	G. Joshi, An Overview on the Biodiesel Oxidative Stability: Its Causes, Consequences and Inhibition; https://doi.org/10.56703/SNYR9030/Zwni1878 Journal of Sustainable Science and Transformative Research-Reviews & Letters , 2023 , 2(1), 55-60.	2583-4118	indexed
5	DS Rawat, G Joshi*, JK Pandey, BY Lamba, P Kumar; Algal biodiesel stabilization with lower concentration of 1: 3 ratios of binary antioxidants–Key factors to achieve the best synergy for maximum stabilization; Fuel , Feb-2018, 214, 471-479.	0016-2361	7.4
6	BY Lamba, G Joshi, DS Rawat, S Jain, S Kumar, Study of oxidation behavior of Jatropa oil methyl esters and Karanja oil methyl esters blends with EURO-IV high speed diesel; Renewable Energy Focus , Dec 2018 27, 59-66.	1755-0084	4.8
7	KK Bhatt, MK Lily, G Joshi, K Dangwal; Benzo(a)pyrene degradation pathway in Bacillus subtilis BMT4i (MTCC 9447); Turkish Journal of Biochemistry ; May 2018; 43, 6, 693–701.	1303-829X	0.7
8	G Joshi*, JK Pandey, S Rana, DS Rawat; Challenges and opportunities for the application of biofuel; Renewable and Sustainable Energy Reviews , Nov 2017; 79, 850-866	1364-032	15.9
9	S Singh, R Sharma, G Joshi*, JK Pandey; Formation of intermediate band and low recombination rate in ZnO-BiVO ₄ heterostructured photocatalyst: Investigation based on experimental and theoretical studies; Korean Journal of Chemical Engineering ; 2017 34 (2), 500-510	0256-1115	2.7
10	G Joshi*, DS Rawat, AK Sharma, JK Pandey; Microwave enhanced alcoholysis of non-edible (algal, jatropa and pongamia) oils using chemically activated egg shell derived CaO as heterogeneous catalyst; Bioresource technology ; Nov 2016; 219, 487-492	0960-8524	11.4
11	AK Sharma, PK Sahoo, S Singhal, G Joshi; Exploration of upstream and downstream process for microwave assisted sustainable biodiesel production from microalgae Chlorella vulgaris; Bioresource Technology ; June 2016; 216, 793-800	0960-8524	11.4

12	DS Rawat, G Joshi*, BY Lamba, AK Tiwari, P Kumar; The effect of binary antioxidant proportions on antioxidant synergy and oxidation stability of Jatropa and Karanja biodiesels; Energy , May 2015 ; 84, 643-655.	0360-5442	9.0
13	G Joshi*, DS Rawat, BY Lamba, KK Bisht, P Kumar, N Kumar, S Kumar; Transesterification of Jatropa and Karanja oils by using waste egg shell derived calcium based mixed metal oxides; Energy Conversion and Management , 2015 ; 96, 258-267.	0196-8904	10.4
14	P Kumar, S Kumar, S Jain, BY Lamba, G Joshi, S Arora; All Solid State Chromium(III) Selective Potentiometric Sensor Based on 2-(1-(2-((3-(2-Hydroxyphenyl)-1H-pyrazol-1-yl)methyl)benzyl)-1H-pyrazol-3-yl)phenol; Electroanalysis , Oct 2014 ; 26 (10), 2161-2167	1521-4109	3.0
15	DS Rawat, G Joshi*, BY Lamba, AK Tiwari, S Mallick; Impact of additives on storage stability of Karanja (PongamiaPinnata) biodiesel blends with conventional diesel sold at retail outlets; Fuel , March 2014 , 120, 30-37	0016-2361	7.4
16	BY Lamba, G Joshi, AK Tiwari, DS Rawat, S Mallick; Effect of antioxidants on physico-chemical properties of EURO-III HSD (high speed diesel) and Jatropa biodiesel blends; Energy , Oct 2013 ; 60, 222-229	0360-5442	9.0
17	G Joshi, BY Lamba, DS Rawat, S Mallick, KSR Murthy; Evaluation of additive effects on oxidation stability of Jatropa curcas biodiesel blends with conventional diesel sold at retail outlets; Industrial & Engineering Chemistry Research , May 2013 ; 52 (22), 7586-7592	0888-5885	4.2
18	G Joshi, E Suresh, S Adimurthy; KHSO ₄ -Catalyzed Synthesis of 1, 1'-Oxybis (2-bromoethane-1, 1-diyl) dibenzenes and 1-(1-(Benzyloxy)-2-bromoethyl) benzenes Under Solvent-Free Conditions; Synthetic Communications , Jan 2013 , 43 (4), 587-599.	0039-7911	2.1
19	G Joshi, RD Patil, S Adimurthy, Green bromine: in situ generated catalyst for the selective oxidation of alcohols using H ₂ O ₂ as a benign oxidant; RSC Advances , 2012 , 2 (6), 2235-2239	2046-2069	3.9
20	G Joshi, S Adimurthy, Environment-Friendly Bromination of Aromatic Heterocycles Using a Bromide-Bromate Couple in an Aqueous Medium; Industrial & Engineering Chemistry Research , Oct 2011 , 50 (21), 12271-12275	0888-5885	4.2
21	G Joshi, S Adimurthy; New Method for the Synthesis of Benzyl Alkyl Ethers Mediated by FeSO ₄ ; Synthetic Communications , 2011 , 41(5), 720-728	0039-7911	2.1
22	KC Chunavala, G Joshi, E Suresh, S Adimurthy; Catalyst- and Solvent- Free Synthesis of Substituted Imidazo[1,2-a]pyridines; Synfacts , 2011 , 5, 0478	1861-1958	Highlighted article
23	KC Chunavala, G Joshi, E Suresh, S Adimurthy; Thermal and microwave-assisted rapid syntheses of substituted imidazo [1, 2-a] pyridines under solvent-and catalyst-Free conditions; Synthesis , 2011 , 4, 635-641	0039-7881	2.96
24	RD Patil, G Joshi, S Adimurthy; KHSO ₄ : a highly efficient and reusable heterogeneous catalyst for hydroarylation of styrenes; Monatshefte für Chemie-Chemical Monthly , Oct 2010 , 141 (10), 1093-1099	0026-9247	1.8
25	RD Patil, G Joshi, S Adimurthy; HBr- H ₂ O ₂ : A Facile Protocol for Regioselective Synthesis of Bromohydrins and α -Bromoketones and Oxidation of Benzylic/Secondary Alcohols to Carbonyl Compounds under Mild Aqueous Conditions; Industrial & Engineering Chemistry Research , July 2010 , 49 (17), 8100-8105	0888-5885	4.2
26	G Joshi, S Adimurthy, High atom efficient and environment-friendly preparation of herbicides bromoxynil and ioxynil; Ind. J. Chem. 2010 , 49B, 1678-1680	0376-4699	0.46
27	S Adimurthy, G Joshi; A Fast and Highly Efficient Method for the Synthesis of Tertiary Amines in Aqueous Medium; Ind. J. Chem. B2010 , 49B, 771-775	0376-4699	0.46
28	G Joshi, S Bhadra, S Ghosh, M K Agrawal, B Ganguly, S Adimurthy, P K Ghosh, B C Ranu; Making full use of the oxidizing equivalents in bromate in the selective oxidation of thiols, sulfides, and benzylic/secondary alcohols into disulfides, sulfoxides, and aldehydes/ketones; Industrial & Engineering Chemistry Research , Dec 2009 , 49 (3), 1236-1241	0888-5885	4.2
29	RD Patil, G Joshi, S Adimurthy, BC Ranu; Facile one-pot synthesis of α -bromoketones from olefins using bromide/bromate couple as a nonhazardous brominating agent; Tetrahedron Letters , May 2009 , 50 (21), 2529-2532	0040-4039	1.8

2 (i) Books Published by National Publishers

S. No.	Title of the book	Name of the Publisher	Place of Publication	Year	ISBN
1	Integrated Chemistry-III (Physical & Organic) BSc III Sem HNBGU	PragatiPrakashan Meerut	Meerut (India)	2017	978-93-87151-28-4
2	Integrated Instrumental methods in Spectroscopic and Separation Techniques, BSc VI Sem HNBGU	PragatiPrakashan Meerut	Meerut (India)	2018	978-93-87151-68-0
3	Inorganic Chemistry-I BSc I Sem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2018	978-93-88151-22-1
4	Organic & Physical Chemistry-I BSc I Sem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2018	978-93-88151-52-8
5	Inorganic Chemistry-II BSc II Sem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2019	978-93-88438-76-6
6	Organic and Physical-II BSc II Sem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2019	978-93-88438-97-1
7	Inorganic and Physical Chemistry-III BSc IIISem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2019	978-93-89403-39-8
8	Organic Chemistry-III BSc III Sem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2019	978-93-89403-38-1
9	A Text Book of Chemistry BSc IVSem SDSUV	PragatiPrakashan Meerut	Meerut (India)	2020	978-93-89961-33-1
10	Fundamentals of Chemistry-I BSC 1 st Sem Uttarakhand edition	PragatiPrakashan Meerut	Meerut (India)	2022	978-93-5531-702-5
11	Organic Synthesis (Reaction Mechanism and Reagents) for Post Graduate courses	MedTech Publication	New Delhi	2023	978-93-93168-13-9
12	Fundamentals of Chemistry-II BSC 2 nd Sem Uttarakhand edition	PragatiPrakashan Meerut	Meerut (India)	2023	978-81-19067-69-5
13	General Chemistry III BSC 3 rd Sem Uttarakhand edition	PragatiPrakashan Meerut	Meerut (India)	2023	978-93-5854-054-3
14	General Chemistry-II BSC 4 th Sem Uttarakhand edition	PragatiPrakashan Meerut	Meerut (India)	2024	978-93-5854-628-6
15	Organic Chemistry BSc 5 SEM Uttrakahnd Edition	PragatiPrakashan Meerut	Meerut (India)	2024	978-93-5854-570-8

(ii) Editor of Book by National Publishers

S. No.	Title and Editors	Publisher & ISBN
1	“Current Trends in Environment Resource Management” 2014, S. Naithani, Girdhar Joshi, S. S. Mohanty	Gaura Publisher New Delhi, 978-81-929248-1-6

(iii) Book Chapters

S. No.	Title of book and Chapter name, page number	ISBN
1	Ethnopharmacology: Indian trends, perspectives and Innovations (2015); Y-zeolite mediated selective hydroarylation of styrene: A green and efficient method for synthesis of important pharmacophores; pp-225; Radha publications; New Delhi	978-81-7487-947-9
2	Organic Chemistry-IB.Sc. I year (2017) Publisher: Uttarakhand Open University; Stereochemistry-I pp 52-92	978-93-85740-54-1
3	Organic Chemistry-IB.Sc. I year (2017) Publisher: Uttarakhand Open University; Stereochemistry-II pp 93-124	978-93-85740-54-1
4	Biodiesel Production, Storage Stability, and Industrial Applications: Opportunities and Challenges G Joshi, in Clean and Renewable Energy Production 2024, pp-437-488, 2024 Scrivener Publishing LLC (Wiley) https://doi.org/10.1002/9781394174805.ch18	978-1-394-17480-5

5	Targeted Synthesis of Hydrocarbon Fuels and Fuel Oxygenates by Catalytic Conversion of Biomass Components, NavyaSubray Bhat, Saikat Dutta, and Girdhar Joshi, in WastetoBiofuelTechnology-Future Energy, 2024, pp 43-72, 2024 Springer https://doi.org/10.1007/978-981-97-4561-6 https://link.springer.com/chapter/10.1007/978-981-97-4561-6_3	Hardcover ISBN978-981-97-4560-9 Softcover ISBN978-981-97-4563-0 eBook ISBN978-981-97-4561-6
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3. Patent (02 Patent filed and licensed by)

S. No.	Patent Details	File No.	Patent filed to International / National/State / Central Agency
1	An improved process for the eco-friendly preparation of 3,5-dibromo-4-hydroxybenzonitrile (Bromoxynil),	US Patent US2013/0331596 A1 Indian Patent 349/DEL/2009, dt 25/02/2009). International Patent , Pub.No.:WO/2010/097812 EP2408736 A AU2010217236 CA 2753644	India (National) United States (International) European Patent (International) Australian patent (International) Canadian Patent (International)
2	Improved process for the synthesis of para-nitrobenzyl bromide	Indian patent, 2513/DEL/2008 (Patent published dt-01.01.10, Journal No 01/2010 International Patent WO/2010/052536, 2010 EP Patent 2,365,960, 20-11 2011 AU2009312512	India (National) World Patent (International) European Patent (International) Australian patent (International)

4. Invited lectures/Resource Person/paper presentation in Seminars/Conferences [International (Within Country) / National/ State/ University]

S. No.	Title of the Lecture	Title of Conference / Seminar/ Workshop	Organized by
1	Xanthium Strumarium based activated carbon as low cost bio-adsorbent for efficient removal of antidepressant drug Imipramine	1st Global Summit on Sustainable Science and Technology, 2022, organized during 15th -16th September 2022	School of Basic and Applied Sciences,Adamas University
2	Green Facile and Selective Oxidation of Benzylic and Secondary Alcohols Using KBr-H ₂ O ₂ : A reusable Reagent System	National Conference on Climate Change: Its Impacts on Bio-resources of The Himalayan Region (ccibhr-2011) 5 th and 6 th June 2022	Department of Chemistry, Govt Post Graduate College Dwarahat Almora
3	Biomass Valorization to Produce Hydrocarbon Fuels and Fuel Oxygenates: A Recent Perspective	Plenary speaker at International Conference on Recent Trends in Green Aspects of Science & Technology (25-26, Feb 2022)	Organized by TMU Moradabad
4	Importance of 1:3 ratios of additive on antioxidants synergy, stabilization factor and induction period of Non-edible biodiesel	National conference on recent advancement in natural product chemistry and nanotechnology (RANPCN-2019) dated 09-11 Sept 2019	Department of Chemistry, HNB Garhwal University Srinagar Uttarakhand
5	Microwave enhanced alcoholysis of non-edible (algal, Jatropha and karanja) oils using chemically activated egg shell derived CaO as heterogeneous catalyst	National conference on Recent Advances in Chemical and Nano Sciences HNBGU BGR Campus Pauri on 29-30 oct 2018	HNBGU BGR Campus Pauri
6	Challenges and opportunities in Indian Biofuel Sector	National Conference on Progressive Sciences and Engineering (NCPSE-2017)	Institute of Technology Gopeshwar

7	Development of waste egg shell derived calcium based mixed metal oxide catalysts for biodiesel production	10 th Uttarakhand state council for science and technology congress 2015-16, on 10-12 Feb 2016 at VigyanDhaam UCOST Dehradun	UCOST-UPES
8	Study of oxidation behavior or Karanja biodiesel blends with conventional diesel	9 th Uttarakhand state council for science and technology congress 2014-15, on 26-28 Feb 2015 at Grafic Era Hill University Dehradun	UCOST-Grafic-Era Hill University Dehradun
9	Storage Stability of Karanja Methyl Ester	International conference on Engineering and Applied Sciences June 17-18, 2013	Society of Engineering and Applied Sciences Hardwar
10	Environmentally Benign methods in Organic Chemistry	Green Technologies and Sustainable Environmental Management March, 22-23, 2013	SENR, Doon University Dehradun
11	Recent Developments on heterogeneous catalysis for chemical conversion of CO ₂ to non-conventional fuel	National conference on Innovation in Ethanopharmacology, recent developments in biological and chemical sciences for Societal Benifits March, 1-3, 2013	Department of Zoology, LSM PG Collage Pithoragarh Uttarakhand
12	Rapid Synthesis of Imidazo[1,2,a]pyridines (A Potent Drug Moiety) without use of any Solvent and Catalyst	“The National Conference on Emerging Trends on Chemistry Biology Interface, ETCBI-2011” Nov, 3-5 2011	Chemistry Department, D S B Campus Kumaun University Nainital Uttarakhand.
13	HPLC- Techniques & Applications Chemistry	Workshop cum Hands-On-Training on HPLC & UV spectroscopy 2010 Dec, 15-16, 2010	Dolphin (PG) Institute of Biomedical & Natural Sciences Dehradun
14	KHSO ₄ -A highly efficient and reusable heterogeneous catalyst for hydroarylation of styrene	The 3 rd International Symposium on Materials Chemistry, ISMC-2010 Dec, 7-10, 2010	Bhabha Atomic Research Center (BARC) Trombay, Mumbai.
15	Facile oxidation of benzylic and secondary alcohols with recyclable bromide/bromate reagent [†] .	3 rd International Conference on Frontiers in Chemical Research, 2008 Dec, 29-31, 2008	Dept. of Chemistry, Mangalore University, Karnataka (India)

Professional Training/Development Program

1. Faculty Induction Program (Orientation Program) conducted by UGC-HRDC Kumaun University Nainital, from **06/02/2018 to 08/03/2018**.
2. Online Refresher Course under Annual Refresher Program in Teaching (ARPIT) in Chemistry for Higher Education Faculty – **2019** arp19-ap51, conducted by National Resource Centre of MHRD at Guru Angad Dev Teaching Learning Centre, (a centre under PMMMNMTT) at SGTB Khalsa College, University of Delhi from **01/09/2019 to 31/12/2019**, (extended for Self-study till 16/02/2020).
3. One Week Training on Teaching- Learning-Evaluation conducted by Govt P G College Gopeshwar Chamoli in association with National Institute of Technical Teachers' training and Research, Bhopal from **02/03/2020 to 06/03/2020**.
4. One Week Faculty Development Program (Online) conducted by Guru Angad Dev Teaching Learning Centre, (a centre under PMMMNMTT) at SGTB Khalsa College, University of Delhi from **30/06 2020 to 04/07 2020**.
5. Two week online faculty development program (equivalent to Refresher Course) in **Chemistry-The Catalysis for Change** conducted for Higher Education Faculty by Teaching Learning Centre, (a centre under PMMMNMTT) at Ramanujan College, and Department of Chemistry Miranda House, University of Delhi from **14/07/2021 to 28/07/2021**.
6. One Week Online National Faculty Development Program on **Assessment and Evaluation in Higher Education** organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education from **14th July to 20th July 2021**.

7. Two - week FDP in “Chemical Sciences” conducted by Teaching Learning Centre, Ramanujan College University of Delhi In collaboration with IQAC, Miranda House University of Delhi under the aegis of ministry of education Pandit Madan Mohan Malaviya national mission on teachers and teaching from **01 – 15 February, 2022.**
8. Online Refresher Course in **Chemistry** for Higher Education Faculty conducted by UGC-HRDC Aligarh Muslim University, Aligarh from **14/09/2023 to 28/09/2023.**

REVIEWER (International Journal)

1. Energy Elsevier
2. Renewable Energy Elsevier
3. Fuel Elsevier
4. Energy Conversion & Management Elsevier
5. RSC Advances
6. Industrial & Engineering Chemistry Research ACS.
7. Energy and Fuel ACS.
8. Fuel Processing Technology Elsevier
9. Korean Journal of Chemical Engineering Springer
10. Bio-fuel Taylor & Francis

Date: 03/07/2026

Place: Khatima

(Dr Girdhar Joshi)