

IMTIYAZ AHMAD WANI | Ph.D.

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[Imtiyaz Ahmad Wani - Google Scholar](#)

Department of Chemistry, Government Degree College, Pattan-Baramulla, 193121

Higher Education, Government of Jammu and Kashmir, India-190001

Summary

I am currently working as **Assistant Professor (Organic Chemistry)** at **Government Degree College, Pattan**, affiliated to the University of Kashmir, J&K India. I earned my **PhD** from **Indian Institute of Technology Kanpur (IITK)** and a **Masters in Organic Chemistry** from the **Jamia Hamdard**, New Delhi, India. I graduated from Heterocycle and Organocatalysis group (MK Ghorai Lab) at IITK in 2018, working towards developing “*Stereoselective Synthetic Routes to Structurally Diverse and Biologically Significant Aza/Oxa-Heterocycles via Ring-Opening Transformations of Activated Aziridines and Epoxides*”.

In my current role at **Government Degree College, Pattan**, I teach undergraduate courses full time and carrying out academic research in the area of design and development of asymmetric synthetic methods based on green and sustainable chemistry to afford significantly important heterocycles and natural products. Before moving here, I served as an assistant professor at Cluster University Srinagar and Govt. Degree College Mendhar. In this role, I am using my years of teaching and research experience to foster student’s motivation beyond the classroom towards higher education, and innovative research, besides making them aware of our social and environmental responsibilities. Through innovative teaching learning pedagogy and my research initiatives, I aim to inspire students to develop a deeper understanding of chemistry concepts while preparing them for future academic and professional endeavors.

I am always keen to work in an interdisciplinary environment and explore new domains in research. At **Ghorai group** in synthetic chemistry at IIT Kanpur, I explored the exciting and emerging field of enantioselective synthesis of biologically significant heterocyclic compounds via lewis acid-assisted ring transformations of chiral and achiral activated aziridines and epoxides by various carbon and heteroatomic nucleophiles along with their mechanistic studies in detail. During the ring opening transformation study, I came up across many exciting and unprecedented observations like Dearylation (submitted), unprecedented dearomatization (*Org. Lett.* **2022**, **24**, **43**, **7867-7872**) and temperature controlled cycloaddition reactions of vinyl indoles (*Org. Biomol. Chem.* **2018**, **16**, **2910-2922**), which were explored using various studies like DFT calculations, NMR studies, X-ray diffractions etc. This area is coming up with significant application in pharmaceutical, agrochemicals and drug discovery.

As challenge and demanding task for every synthetic organic chemist, I explore and develop a green and stereoselective route to synthesize various classes of pharmaceutically important heterocyclic motifs using phase transfer catalysts and water as the green reaction medium (*Chem. Commun.* **2017**, **53**, **4386-4389**).

I was also granted two patents for the synthesis of pyrrolo-indole and pyrrolo-quinoline based chiral heterocyclic molecules bearing patent number **560597** Published on **19-02-2025** and **558541** Published on **23-01-2025** respectively.

I have published more than **14 peer-reviewed publications** in some renowned journals of American Chemical Society, Royal Society of Chemistry and Wiley, including *Org. Lett.*, *Chem. Commun.*, *J. Org. Chem.*, *Org. Biomol. Chem.*, *Eur. J. Org. Chem.*, *Asian J. Org. Chem.* etc.

With this background and training in development of new synthetic methodologies, asymmetric catalysis and natural product synthesis, I am ready to embark on new opportunities as an independent researcher to further explore new horizons of synthetic organic chemistry and asymmetric catalysis by seeking new collaborations and grants within the country and out of India as well.

Professional

Department of Higher Education, Government of Jammu And Kashmir- India

Assistant Professor, Organic Chemistry | April, 2017

Science and Engineering Research Board, India, New Delhi

Teachers Associateship for Research Excellence Fellow (TARE) | October, 2022

Education

Indian Institute of Technology Kanpur, U.P, India

PhD.: Synthetic Organic Chemistry, 2018

Thesis Title: "Stereoselective Synthetic Routes to Structurally Diverse and Biologically Significant Aza/Oxa-Heterocycles via Ring-Opening Transformations of Activated Aziridines and Epoxides"

Advisor: Prof. Manas Kumar Ghorai

Jamia Hamdard, New Delhi, India

Master of Science (M.Sc.) Chemistry 2012

Dissertation Project: Preparation and purification of sugar based drug precursors under the supervision of Dr HM Sampath Kumar at Indian Institute of Chemical Technology (IICT), Hyderabad, India

Sri Pratap College of PG Sciences, Srinagar (University of Kashmir)

Bachelor of Science (B.Sc.) Chemistry and Biotechnology 2010

Fellowships

M.Sc.	Merit-cum Means Toppers Scholarship.
Summer Fellowship	Jamia Hamdard Science Outreach Program
PhD	GATE-MHRD Institute Fellowship (not availed) CSIR-UGC Junior Research Fellowship (availed)
Assistant Professor	Teachers Associateship for Research and Excellence Fellowship (Availed, in process)

Awards and Achievements

1. Three Year Research Grant as "Teachers Associateship for Research Excellence" Fellowship (TARE-Fellow) by DST-Science and Engineering Research Board (SERB), India. October, 2022
2. Qualified Council of Scientific and Industrial Research (**CSIR-UGC**) National Eligibility Test for Junior Research Fellowship (**JRF**), June 2014, **All India Rank: 76**
3. Qualified Council of Scientific and Industrial Research (**CSIR-UGC**) National Eligibility Test for Junior Research Fellowship (**JRF**), June 2013, **All India Rank: 64**
4. Qualified graduate aptitude test in engineering (**GATE 2013**) Conducted by IIT Bombay, **All India Rank: 771**
5. Qualified Council of Scientific and Industrial Research (**CSIR-UGC**) National Eligibility Test for Lecturership, June 2011, **All India Rank: 40**

Mentoring activities

1. Mentored **Masters** and **Undergraduate** students over years IIT Kanpur and Cluster University Srinagar
 - **Shafia Pal:** 2022-present, Currently PhD Student at CSIR-IIIM Srinagar India,)
 - **Muzaffar Ahmad:** 2019-present, Currently PhD Student at CSIR-IIIM Srinagar India,)
 - **Mowpriya Das:** 2016-17 (Dissertation Student, IITK), Currently PhD Student with Prof F. Glorious, Uni Munster

- **Shoban Mondal:** 2016-17(Dissertation Student, IITK), Currently Postdoc with Prof. Olofsson, Stockholm University
- **Sunny Das:** 2015-16 (Dissertation Student, IITK), Currently Scientific Officer, ONGC India LTD

Publications

1. Goswami, Gaurav; Singh, Bharat; **Wani, Imtiyaz**; Mal, Abhijit; Ghorai, Manas, "A Synthetic Route to Tetrahydro-1H-azepino[4,3,2-cd]indoles via Ring-Opening Cyclization (ROC) of Activated Azetidines with 4-Bromoindole: Towards Vasopressin V2 Receptor". *J. Org. Chem.* **2024**, (Just accepted, Manuscript ID: jo-2024-01270w).
2. **Imtiyaz Ahmad Wani**, Sahid Sk, Abhijit Mal, Arunava Sengupta, Manas K. Ghorai, "Stereoselective Routes to Hexahydropyrroloindoles and Tetrahydropyrroloquinolines from Activated Aziridines and Electron Deficient 3H-Indoles". *Org. Lett.* 2022, 24, 43, 7867-7872. (selected for cover art, OL, Volume 24, Issue 43, **2022**)
3. **Wani, I. A.**; Goswami, G.; Sahid. Sk.; Mal, A.; Sayyad, M.; Ghorai, M. K. A Synthetic Route to 1,4-Disubstituted Tetrahydro- β -Carbolines and Tetrahydropyranoindoles via Ring-Opening/Pictet-Spengler Reaction of Aziridines and Epoxides with Indoles/Aldehydes. *Org. Biomol. Chem.* 18(2), 272-287, **2020**.
4. Tarannum, S.; Sahid. Sk.; Das, S.; **Wani, I. A.**; Ghorai, M. K. Stereoselective Syntheses of Highly Functionalized Imidazolidines and Oxazolidines via Ring-Opening-Cyclization of Activated Aziridines and Epoxides with Amines and Aldehydes. *J. Org. Chem.* 85(2), 367-379, **2019**
5. **Wani, I. A.**; Das, S.; Mondal, S.; Ghorai, M. K. Stereoselective Construction of Pyrazinoindoles and Oxazinoindoles via Ring-Opening/Pictet-Spengler Reaction of Aziridines and Epoxides with 3-Methylindoles and Carbonyls. *J. Org. Chem.* **2018**, 83, 14553-14567.
6. Mal, A.; **Wani, I. A.**; Goswami, G.; Ghorai, M. K. Synthesis of Nonracemic 1,4-Benzoxazines via Ring Opening /Cyclization of Activated Aziridines with 2-Halophenols: Formal Synthesis of Levofloxacin. *J. Org. Chem.* **2018**, 83, 7907-7918.
7. **Wani, I. A.**; Bhattacharya, A.; Sayyad, M.; Ghorai, M. K. Temperature-modulated diastereoselective transformations of 2-vinylindoles to tetrahydrocarbazoles and tetrahydrocycloheptadiindoles. *Org. Biomol. Chem.* **2018**, 16, 2910-2922.
8. Mal, A.; Goswami, G.; **Wani, I. A.**; **Ghorai, M. K.** Synthetic Route to Chiral Indolines via Cu(OAc)₂-Catalyzed Ring-Opening/C(sp²)-H Activation of Activated Aziridines. *Chem. Commun.* **2017**, 53, 10263-10266.
9. **Wani, I. A.**; Sayyad, M.; **Ghorai, M. K.** Domino Ring-Opening Cyclization (DROC) of Activated Aziridines and Epoxides with Nitrones via Dual Catalysis "On Water". *Chem. Commun.* **2017**, 53, 4386-4389.
10. Sayyad, M.; **Wani, I. A.**; Tiwari, D. P.; **Ghorai, M. K.** Synthetic Route to Isomeric Imidazoindoles via Regioselective Ring-Opening of Activated Aziridines Followed by Copper Catalysis C-N Cyclization. *Eur. J. Org. Chem.* **2017**, 2369-2378.
11. Sayyad, M.; **Wani, I. A.**; Babu, R.; Nanaji. Y.; **Ghorai, M. K.** A Synthetic Route to Chiral 1,4-Disubstituted Tetrahydro- β -Carbolines via Domino Ring-Opening Cyclization of Activated Aziridines with 2-Vinylindoles. *J. Org. Chem.* **2017**, 82, 2364-2374.
12. Mal, A.; Sayyad, M.; **Wani, I. A.**; Ghorai, M. K. Domino Ring-Opening Cyclization of Activated Aziridines with Indoles: Synthesis of Chiral Hexahydropyrroloindoles. *J. Org. Chem.* **2017**, 82, 4-11. (Featured Article; Highlighted in cover page)
13. Sayyad, M.; Mal, A.; **Wani, I. A.**; Ghorai, M. K. A Synthetic Route to Chiral Tetrahydropyrroloindoles via Ring Opening of Activated Aziridines with 2-Bromoindoles Followed by Copper-Catalyzed C-N Cyclization. *J. Org. Chem.* **2016**, 81, 6424-6432.

14. Ghorai, M. K.; Shahi, C. K.; Bhattacharyya, A.; Sayyad, M.; Mal, A.; **Wani, I. A.**; Chauhan, N. Syntheses of Tetrahydrobenzodiazepines via S_N2 -Type Ring-Opening of Activated Aziridines with 2-Bromobenzylamine Followed by Cu(I)-Catalyzed C–N Bond Formation. *Asian J. Org. Chem.* **2015**, *4*, 1103-1111.

Patents

1. "A process for preparation of hexahydropyrrolo [2,3-b] indole derivatives via dearomative domino ring opening cyclization". Ghorai, M.K, **Wani, I.A**, Patent No.: 560597-India, Published on 19-02-2025
2. "A process for preparation of tetrahydropyrrolo[4,3,2-de]quinoline derivatives via dearomative domino ring-opening cyclization". Ghorai, M.K, **Wani, I.A**, Docket No.: 558541-India, Published on 23-01-2025

Research and Teaching Experience

Title	Domino Ring Opening Cyclization Reactions of Small Ring Heterocycles with Indole Nucleophiles using Green Solvents
Organization	Amar Singh College-Srinagar In Collaboration With Indian Institute of Integrated Medicine (IIIM), Srinagar
Host	Dr Bilal Ahmad Wani
Duration	Mar2019 - July 2022
Title	Stereoselective Synthetic Routes to Structurally Diverse and Biologically Significant Aza/Oxa-Heterocycles via Ring-Opening Transformations of Activated Aziridines and Epoxides
Organization	Indian Institute of Technology Kanpur, Kanpur
Supervisor	Prof. Manas Kumar Ghorai
Duration	July 2013 –Mar 2018
Title	Preparation and Purification of Sugar Precursors for Total Synthesis and Drug Molecules
Organization	Indian Institute of Chemical Technology, Hyderabad
Supervisor	Dr HM Sampath Kumar
Duration	June 2012 – July 2012
Title	Synthesis and Bio-Evaluation of Five and Six Membered Heterocycles via Pericyclic Reactions
Organization	Jamia Hamdard, New Delhi, India
Supervisor	Prof. Syed Shafi
Duration	July 2011 – June 2012

Teaching: Asstant Professor, Chemistry-Higher Education Department, Government of Jk, India

S.No	Programme	Name of the Course	Semester
1	B.Sc-Under Graduate	General organic chemistry-I & II	1 st
2	B.Sc-Under Graduate	Stereochemistry-I & II	2 nd
3	B.Sc-Under Graduate	Compounds with functional groups containing Halogens and oxygen	3 rd
4	B.Sc-Under Graduate	Spectroscopy and heterocyclic compounds	4 th
5	B.Sc-Under Graduate	Organic reaction mechanism and name reactions	5 th
6	B.Sc-Under Graduate	Analytical chemistry	6 th

Professional memberships

1. Red Ribbon Club and Aids control Organization, Kashmir Unit, 2021-23.
2. Indhira Gandhi National Open University, Full time.
3. National Innovation and Incubation Cell, 2022-23.
4. Asian Polymer Association, Life Member.
5. American Chemical Society on Campus, Life Member.

Grants

1. Teachers Associateship for Research and Excellence (TARE) grant for 3 Years On the Project titled: ***“Domino Ring Opening Cyclization Reactions of Aziridines and Epoxides with Indole Nucleophiles: An Approach towards Diverse Bioactive Indole-containing Heterocyclic Constructs”*** by DST Science and Engineering Research Board (SERB), India. October, 2022

Invited Presentations

1. Delivered a talk in two days multidisciplinary national conference on **“Innovations and Recent Advances in Science”** organized by SKC GDC Poonch and SCS GDC Mendhar in collaboration with Indian Science Congress Association (ISCA), Jammu Chapter on 2nd and 3rd March, 2024.
2. Delivered an invited talk in the intra college seminar on **“Drug Abuse and Illicit Effects”** organized by SCS GDC Mendhar in collaboration with JK Science technology and innovation council, UT of JK on 22-11-2023.
3. Delivered an invited talk in the inter college exhibition on **“Science Models/Innovations and Start ups”** organized by SCS GDC Mendhar in collaboration with JK Science technology and innovation council, UT of JK on 18-11-2023.
4. Delivered an extensive lecture on **“Green Chemistry and Sustainable Development”** at Sri Pratap College Srinagar on 5th June 2023.
5. Delivered an oral presentation at the 1st international conference on **“recent development in science, Humanities and management-2018”** organized by Amar Singh college, cluster university, Srinagar IIT Delhi and Jamia Hamdard, New Delhi (17-18 April 2018).
6. Delivered an oral presentation at the **National symposium on Frontiers in chemical science (FICS)-2017** held at Government Degree College, Sopore (04-05 November 2017).
7. Delivered an oral presentation on **“New Synthetic Routes to Biologically Active Heterocycles”** at the annual **J-NOST conference**, Department of Chemistry, CDRI Lucknow U.P (24-27 November, 2016).

Conferences, Workshops and Seminars

1. Participated in Seven Days Workshop titled **“Preparation of Self Study Report for NAAC Accreditation”** organized by IQAC GDC Mendhar, from 15-23 January, 2024.
2. Attended two weeks long refresher course in chemistry organized by Ramanujan College, University of Delhi, from 15-29 December, 2023.
3. Participated in online Two Week Refresher Course in Chemistry organized by Teaching Learning Centre. Ramanajun College-University of Delhi from 29 November to 13 December, 2022.
4. Participated in Two Day National Workshop on **“Entrepreneurship, Innovation and Starts-Ups”** organized by Centre for Innovation and Entrepreneurship Development, S. P. College Srinagar in Collaboration with JK Science and Innovation Council, Department of Science and Technology from 15 November to 16 November, 2022.
5. Participated in One Week Faculty Development Programme on **“Amazon Web Services”** organised by Dept. of Computer Applications, Amar Singh College, Srinagar in collaboration with Brainovision Solutions India Pvt.Ltd& All India Council For Technical Education - AICTE from 22nd August 2022 to 27th August 2022.

Curriculum Vitae Imtiyaz Ahmad Wani

6. Participated in One Week Online Faculty Development Programme on “**Emerging Technology**” organised by Department of Computer Science and Techno College of Engineering Agartala Tripura from 09 May to 13 May, 2022.
7. Participated in One Week International Virtual Faculty Development Programme on “**Tools and Techniques in Research**” organized by Amar Singh College, Srinagar in collaboration with Cape Comorin Trust, India from 07 – 13 March, 2022.
8. Participated in One Week Online Faculty Development Programme on “**Use of ICT with Special Emphases on LMS in Teaching Learning Process: A Shift from traditional to Digital Orientated LMS Based Teaching Learning and Assessment Process**” organised by Government Degree College for Women, Baramulla from 07-15 March, 2022.
9. Participated and attended the **National conference on advanced functional materials (NCAFM)**, Department of Chemistry, Jamia Millia Islamia, New Delhi (Nov, 20-21, 2019).
10. Attended and presented a poster at the **Symposium on Organic Synthesis** organized by the department of chemistry, IIT Kanpur (18 February 2018).
11. Attended and participated in the RSC-IIT Kanpur **Symposium in Chemical Sciences**, IIT Kanpur (2015).
12. Attended and participated in the one day workshop on **American Chemical Society, ACS on Campus**, organized by the Department of Chemistry, IIT Kanpur (2014).
13. Participated and attended the **APA International Congress on Advances in Human Healthcare Systems**, organized by IIT Delhi and Jamia Hamdard, New Delhi (20-24 February 2012).

Public Outreach and Extra-Curricular Activities

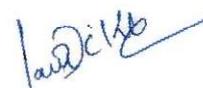
- As Convener of Career Counselling and Placement Cell of the College, I am involved in organizing and conducting various awareness camps and recruitment drives for the outgoing undergraduate students, (Recent April 2024).
- As Convener of College Red Ribbon Club, I organized many drives and awareness programmes related to drug de-addiction and blood donation, 2021-2024.
- As member of college Internal Quality Assurance Cell committee, organized seven days workshop on the theme “**Preparation of Self Study Report for NAAC Accreditation of College**” organized by IQAC-GDC Mendhar, from 15-23 January, 2024.
- As faculty of my college, Participating in annual Republic day parades, Alumni meets, General orientation programmes, celebration of national science day events, etc is a routine, 2017-2014.
- As a member of college sports committee, coordinating and organizing annual intra and inter College tournemnets in Cricket, basket ball, Hockey, Football and Road Races are compulsory practices.
- As mentor, facilitating my students of different under graduate semesters to visit various chemical laboratories for interships and basic training of research and methodology is a blessing.

Hobbies

- *Playing football and listening to somefavourite music.*
- *Watching discovery and adventure trekking are my passion.*

I hereby declare that the information furnished above is accurate and true to my knowledge.

Thanking you,



Sincerely Yours
Imtiyaz Ahmad Wani