

## Dr. Manzoor Ahmad Rather

**Assistant Professor**

Department of Chemistry, Islamic University of Science and Technology,  
Awanti pora, Srinagar, Jammu and Kashmir.

**Qualification:** M. Sc, M. Phil, Ph. D (Organic Chemistry).

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### Online Links:

- ❖ Google scholar profile; <https://scholar.google.com/citations?user=D8TAVOkAAAAJ>
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<https://orcid.org/0000-0003-3083-5482>
- ❖ Scopus profile  
<https://www.scopus.com/authid/detail.uri?authorId=6603071187>
- ❖ Phytomedicine editorial board  
<https://www.sciencedirect.com/journal/phytomedicine/about/editorial-board>
- ❖ Academic editor Journal of Chemistry (Hindawi publisher, London, UK)  
<https://www.hindawi.com/journals/jchem/editors/>
- ❖ Academic editor Evidence Based Complementary and alternative Medicine (Hindawi publisher, London, UK)  
<https://www.hindawi.com/journals/ecam/editors/>
- ❖ Technical editor-International Journal of Pharmacology  
<https://scialert.net/eboard.php?issn=1811-7775>
- ❖ Topical advisory panel for metabolites journal  
[https://www.mdpi.com/journal/metabolites/topical\\_advisory\\_panel#](https://www.mdpi.com/journal/metabolites/topical_advisory_panel#)

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## **Career Objective:**

- My career objective is to teach Organic Chemistry at college and University levels along with inspiring students towards scientific research in organic chemistry finding solutions to challenging problems in this field.
- To inculcate a culture of skill development and entrepreneurship development among the students towards technology based new innovations and ideas.
- Natural product chemistry research aimed at finding new and novel molecules from plants and their screening for various biological activities.
- Chemical modification of these natural products to fine tune their biological properties.
- Innovations in aroma sector

## **Educational Qualification:**

- **Ph.D** in Chemistry from Department of chemistry, University of Kashmir and Indian Institute of Integrative Medicine (IIIM-CSIR) Sanat Nagar, Srinagar.
- **M.Phil** in Chemistry from Department of chemistry, University of Kashmir and Indian Institute of Integrative Medicine (IIIM-CSIR) Sanat Nagar, Srinagar.
- **M.Sc** Chemistry from Department of chemistry, University of Kashmir.

## **Teaching Experience: (07 years of teaching experience) (CONTRACT POSITION)**

- Worked as **Assistant Professor** in Department of Chemistry, Sheikh-ul Alam Memorial Degree College, Budgam from 13-06-2015 to 29-02-2016.
- Worked as **Assistant Professor** in Department of Chemistry, Sheikh-ul Alam Memorial Degree College, Budgam from 04-05-2016 to 02-12-2016.
- Worked as **Assistant Professor** in Department of Chemistry, Islamic University of Science and Technology, Awantipora, Srinagar, Jammu and Kashmir, from 04-12-2016 to 31-01-2018.
- Worked as **Assistant Professor** in Department of Chemistry, Islamic University of Science and Technology, Awantipora, Srinagar, Jammu and Kashmir, from 26-02-2018 to 22-02-2019.
- Worked as **Assistant Professor** in Department of Chemistry, Islamic University of Science and Technology, Awantipora, Srinagar, Jammu and Kashmir, from 26-02-2018 to 22-02-2019.
- Worked as **Assistant Professor** in Department of Chemistry, Islamic University of Science and Technology, Awantipora, Srinagar, Jammu and Kashmir, from 22-02-2019 to 13-07-2022.

## **Courses Teaching in post-graduate programmes**

I have been teaching the core papers of **organic chemistry** in addition to some other discipline centric papers including:

- Stereochemistry and Reaction Intermediates. (CC)
- Mechanism of Organic Reactions. (CC)
- Laboratory Course in Organic Chemistry. (CC)
- Pericyclic Reactions and Organic Photochemistry. (CC)
- Spectroscopy of Organic Compounds. (DC)
- Advanced Organic Chemistry.

## **Awards & achievements:**

- **Young Scientists Award (YSA)** in the field of **chemical sciences** for the year **2012** awarded by **J&K State Council for Science and Technology, Department of Science and Technology**, Govt of Jammu and Kashmir-India.
- Project Assistant Level-II in Indian Institute of Integrative Medicine, IIIM Sanat nagar from 29-04-2008 to 28-04-2009.
- Selected for **Senior Research Fellowship (SRF)** in Indian Institute of Integrative Medicine, IIIM Sanat nagar w.e.f 02-04-2012 to 01-04-2014 for a period of two years.

## **Skill development and entrepreneurship:**

- Guided three students in an EDC-sponsored skill development and entrepreneurship project entitled “*Extraction of Essential oils from aromatic plants*”. The students were trained for the extraction of the aroma from the plants followed by value addition by making a wide variety of blends.
- In November 2018, Department of Chemistry-IUST launched a perfume under the brand name “*SEHR*” from the above project.

## **Instrumentation skills**

- Three years of experience in handling instruments like GC-FID and GC-MS-MS.
- Characterization of crude plant extracts through LC-MS-MS using Mass spectrometry.

## **Chemistry Software expertise:**

- Expertise in ChemBioDraw chemistry software
- Expertise in Marvin Sketch
- Expertise Chem Sketch
- Expertise in Molecular docking software for docking study
- DFT

## **Journal reviewing assignments:**

Natural Product Research (Taylor and Francis).

Journal of Essential Oil Research (Taylor and Francis).

Journal of Essential Oil Bearing Plants (Taylor and Francis).

Journal of Food Science (Wiley online).  
Food Research International (Elsevier publications).  
Molecules.  
Arabian Journal of Chemistry (Elsevier publications).  
Journal of Ayurveda and Integrative Medicine.  
Journal of Medicinal Plants Research.  
World journal of analytical chemistry.  
Medicinal Chemistry Research.  
Cell proliferation (John Wiley publishers).  
Phytomedicine (Elsevier)

### **Journal Editorial assignments:**

- Serving as the editorial board member of **Phytomedicine** (impact factor =5.3) (Elsevier) since 2013.
- Serving as the Associate Editorial Board Member for **Current Chinese Science** journal (Bentham Science publisher).
- Technical editor of **International journal of Pharmacology**.
- Technical editor of **International Journal of Biological Chemistry**.
- Technical editor of **Research Journal of Medicinal Plants**.
- Academic editor for **Evidence Based Complementary and Alternative Medicine** (Impact factor =2.6) (Hindawi Publishers).
- Academic editor for **Journal of Chemistry** (Impact factor =2.5) (Hindawi Publishers).

### **Publications in peer reviewed journals (TOTAL CITATIONS =1292, h-INDEX = 15, i-10 index = 19)**

1. Wani, B.A., D. Ramamoorthy, **Manzoor A. Rather**, N. Arumugam and A.K. Qazi et al., 2013. Induction of apoptosis in human pancreatic MiaPaCa-2 cells through the loss of mitochondrial membrane potential ( $\Delta\Psi_m$ ) by Gentiana kurroo root extract and LC-ESI-MS analysis of its principal constituents. **Phytomedicine (IF = 5.3)**, 20: 723-733.
2. **Manzoor A. Rather**, B.A. Bhat and M.A. Qurishi, 2013. Multicomponent phytotherapeutic approach gaining momentum: Is the “one drug to fit all” model breaking down? **Phytomedicine (IF = 5.3)**, 21: 1-14.

3. Rashid, S., **Manzoor A. Rather**, W.A. Shah and B.A. Bhat, 2013. Chemical composition, antimicrobial, cytotoxic and antioxidant activities of the essential oil of *Artemisia indica* Willd. **Food Chemistry (IF =7.5)**, 138: 693-700.
4. Yousuf Dar, M., W.A. Shah, S. Mubashir and **Manzoor A. Rather**, 2012. Chromatographic analysis, anti-proliferative and radical scavenging activity of *Pinus wallichiana* essential oil growing in high altitude areas of Kashmir, India. **Phytomedicine (IF = 5.3)**, 19: 1228-1233.
5. **Manzoor A. Rather**, B.A. Dar, M.Y. Dar, B.A. Wani and W.A. Shah et al., 2012. Chemical composition, antioxidant and antibacterial activities of the leaf essential oil of *Juglans regia* L. and its constituents. **Phytomedicine (IF = 5.3)**, 19: 1185-1190.
6. Yousuf Dar, M., W.A. Shah, **Manzoor A. Rather**, Y. Qurishi, M.A. Qurishi and A. Hamid, 2011. Chemical composition, in vitro cytotoxic and antioxidant activities of the essential oil and major constituents of *Cymbopogon jawarancusa* (Kashmir). **Food Chemistry (IF =7.5)**, 129: 1606-1611.
7. Kounsar, F., **Manzoor A. Rather**, B.A. Ganai and M.A. Zargar, 2011. Immuno- enhancing effects of the herbal extract from Himalayan rhubarb *Rheum emodi* Wall. ex Meissn. **Food Chemistry (IF =7.5)**, 126: 967-971.
8. **Manzoor A. Rather**, Bilal A. Dar, Wajahat A. Shah, Anil Prabhakar, Kushal Bindu, Javid A. Banday. Comprehensive GC-FID, GC-MS and FT-IR spectroscopic analysis of the volatile aroma constituents of

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Artemisia indica and Artemisia vestita essential oils. **Arabian Journal of Chemistry (IF =5.1)**, Volume 10, Supplement 2, May 2017, Pages S3798-S3803.

9. **Manzoor A. Rather**, BA Dar, SN Sofi, BA Bhat, MA Qurishi. Foeniculum vulgare: A comprehensive review of its traditional use, phytochemistry, pharmacology, and safety. **Arabian Journal of Chemistry (IF =5.1)**, 9,S1574-S1583.

10. MA Bhat, S Jameel, M Jan, **Manzoor A. Rather**, SA Bhat, RJ Butcher, Synthesis, characterization, computational and cytotoxic evaluation of novel [N, N- dialkyl ammonium][diphenyl/ethyl phosphoryl oxides]. **Journal of Molecular Structure, (IF =3.1)**, 1185, 183-190.

11. Wani AR, Yadav K, Khursheed A, **Manzoor A. Rather**. An updated and comprehensive review of the antiviral potential of essential oils and their chemical constituents with special focus on their mechanism of action against various influenza and coronaviruses. **Microbial Pathogenesis (IF =3.7)**, 2021 Mar;152:104620.

12. Saika Tariq, Saira Wani, Waseem Rasool, Khushboo Shafi, Muzzaffar Ahmad Bhat, Anil Prabhakar, Aabid Hussain Shalla, **Manzoor A Rather**. A comprehensive review of the antibacterial, antifungal and antiviral potential of essential oils and their chemical constituents against drug-resistant microbial pathogens. **Microbial Pathogenesis (IF =3.7)**, 2019 Sep; 134:103580.

13. **Manzoor A. Rather**, BA Ganai, AN Kamili, M Qayoom, S Akbar, A Masood, Comparative GC–FID and GC–MS analysis of the mono and sesquiterpene secondary metabolites produced by the field grown and

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micropropagated plants of *Artemisia amygdalina* Decne, **Acta Physiologiae Plantarum** (IF =2.3) 34 (3), 885-890.

14. **Manzoor A. Rather**, T Hassan, BA Dar, AS Shawl, MA Qurishi, BA Ganai. Essential oil composition of *Nepeta raphanorhiza* Benth growing in Kashmir valley, **Rec Nat Prod** (IF =1.7) 6, 67-70, 2012.
15. Hassan, T., Manzoor A. Rather, A.S. Shawl, K.A. Bhat, H.M. Bhat, B.A. Dar, G.H. Dar and M.A. Qurishi, 2011. Chemical composition of the essential oils of *Nepeta laevigata* and *Nepeta elliptica* from India. **Chem. Nat. Comp.**, (IF =0.8) 47: 456-458.
16. **Manzoor A. Rather.**, B.A. Dar, A.S. Shawl, K.A. Bhat, M.A. Qurishi, M. Yusuf Dar and B.A. Ganai, 2011. Mono-sesquiterpenoid composition in the leaves and flowers of *Salvia moorcraftiana* Wall ex Benth. Growing wild in Kashmir, India. **J. Essent. Oil Res** (IF =1.9)., 23: 21-25.
17. **Manzoor A. Rather.**, S.U. Rehman, S.N. Sofi, A.S. Shawl, F. Mir and M.A. Qurishi, 2011. Chemical composition of the essential oil of *Rhododendron lepidotum* Wall. Ex D. Don growing in Kashmir Himalayas. **J. Essent. Oil Res** (IF =1.9)., 23: 25-28.
18. Rashid, A., P.H. Qazi, **Manzoor A. Rather.**, A.F. Raja and S. Mushtaq, 2016. Gas chromatographic analysis and antimicrobial activities of the bark essential oil of *Juniperus recurva* var *squamata* from Kashmir Himalayas, India. **World J. Pharmaceut. Sci.**, 4: 381-386.
19. Shah, W.A., M.Y. Dar, Kuratull-Ain, **Manzoor A. Rather.**, and M.A. Qurishi, 2012. Comparison of terpene composition of *Skimmia laureola* using hydrodistillation and HS-SPME techniques. **J. Essent. Oil Bear. Plants**, (IF =1.6), 15: 116-121.



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20. Wani, B.A., **Manzoor A. Rather.**, and B.A. Ganai, 2011. Head space solid phase microextraction (HS-SPME) Gas Chromatography Mass Spectrometric (GC-MS) analysis of the volatile aroma components of *Gentiana kurroo royle*. **J. Pharm. Res.**, 4: 2943-2945.
21. **Manzoor A. Rather.**, B.A. Ganai, B.A. Dar, S.N. Sofi and A.H. Malik, 2011. GC-FID and GC-MS analysis of the essential oil of *Elsholtzia densa* benth-a rich source of acylfuran non-terpene ketones. **Int. J. Res. Phytochem. Pharmacol.**, 1: 74-76.
22. Zubaid-Ul-Khazir, Gulam N Yattoo, Humaira Wani, Shakeel A Shah, Mohammad I Zargar, **Manzoor A Rather**, Javid A Bandy. Gas Chromatographic-Mass Spectrometric Analysis, Antibacterial, Antioxidant and Antiproliferative Activities of the Needle Essential Oil of *Abies pindrow* growing wild in Kashmir, India. **Microbial Pathogenesis (IF=3.7)**, 2021 Sep; 158:105013.
23. Aadil Khursheed, Vikrant Jain, Ajaz Rasool, **Manzoor A Rather**, Nisar Ahmad Malik, Aabid Hussain Shalla. Molecular scaffolds from mother nature as possible lead compounds in drug design and discovery against coronaviruses: A landscape analysis of published literature and molecular docking studies. **Microbial Pathogenesis (IF=3.7)**, 2021 Aug; 157: 104933.
24. Nisar Ahmad Malik, Ummer Farooq, **Manzoor Ahmad Rather**, Aabid Hussain Shalla, Interactions of tricyclic antidepressant drug clomipramine hydrochloride with imidazolium based surface active ionic liquid in aqueous solution. **Journal of Molecular Liquids (IF=6.1)**, Volume 342, 15 November 2021, 117427.