

Curriculum Vitae

DR. NUZHAT ARSHAD

Associate Professor and Chair Person
(NED University of Engineering & Technology)

Profession : Teaching & Research
Date of Birth : 25-05-1978
Telephone off : 0092-21-99261261-8 ext. 2603
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Office Address : Department of Chemistry, NED University of Engineering and Technology, Karachi

Post Graduate Experience = 23 years Post graduate professional/Research experience

Area of Research: Isolation, Biotransformation, Synthetic Organic Chemistry

Current Research Interest

- Microwave Assisted Synthesis of Bio-active compounds/Crowns

Previous Projects

Isolation of Natural Products, Microbial Transformations, Carbon-Carbon coupling (Combinatorial), Carbon-Phosphorous coupling, Carbon-Oxygen coupling reactions and Carbon-Nitrogen coupling reactions

Education and Academic Research Experience:

- **Chairperson & Associate Professor** 2020-Cont.
Department of Chemistry, NED University of Engineering & Technology, Karachi
- **Ag. Chairperson & Associate Professor** 01- 08 (06-2023)
Department of Mathematics, NED University of Engineering & Technology, Karachi &
07-24 (04-2024)
- **Associate Professor; Research and Teaching:** 2012-cont.
Department of Chemistry, NED University of Engineering & Technology, Karachi,
(04 PhD) and (01 MS) under my supervision at Present
14 MS thesis & 2 PHD thesis Completed
- **Assistant Professor; Research and Teaching:** 2009 - 2012
Federal Urdu University For Arts, Science & Technology,
Gulshan-e-Iqbal, Karachi
BS/ MS / M. Phil students. 04 BS theses completed

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- **Ph.D. studies:** 2006- 2009
Christian Doppler Laboratory for Microwave Chemistry
Karl Franzens University of Graz, Austria (Prof. C. Oliver Kappe
MW Assisted Homogenous / Heterogeneous Catalysis/
Combinatorial Chemistry/ Bio-active compounds synthesis

 - **GRE International** (Chemistry) ETS 69% 2005

 - **M. Sc.** (Karachi University) Ist Class, Ist Position 2000- 2002
Gold Medalist

Honours and Awards:

- 1 NEDUET Best Researcher Award for the year 2022
- 2 NEDUET Best Researcher Award for the year 2021
- 3 NEDASCC Best Publication Award 2021
- 4 NEDASCC Best Publication Award 2017

- 5 SRSP/HEC: Competitive Research Grant 2021(2.3 Million) as Principle Investigator (PI)
- 6 NRPU/ HEC: Competitive Research Grant 2016 (4.5 Million) as Principle Investigator (PI)
- 7 Appreciation letter from Vice Chancellor of NEDUET 2017

- 8 SRGP/ HEC: No: 21-250/SRGP R&D/HEC/2014 (0.318240 million) as COPI
- 9 SRGP/ HEC: SRGP R&D/HEC/2010 (0.5 million) as Principle Investigator (PI)
- 10 HEC Indigenous 5000 Scholarship
- 11 HEC Research Support Initiative Scholarship
- 12 Passed International (ETS) GRE Subjective (69 % , Formula Score 81) in 2005
- 13 Gold Medal For Securing Ist Class Ist Positions in MSC

PHD Thesis Supervision

- 1 **Preparation and Characterization of Pharmacologically Active Chiral Dihydropyrimidine-Based Novel Compounds** May 2025
- 2 **Synthesis and Applications of Novel Crown Ethers based on Medicinal Compounds** July 2025

3	Comparative study of Microwave and conventional sintering of doped, undoped and Silane treated Copper-Calcium-Titanate CCTO-based electro ceramics	Cont.
4	Synthesis and Applications of Macrocycles	Cont.
Various MS Thesis Supervision, Including		
1	Preparation of Fusidic acid Derivatives	Cont.
2	SAR Guided Upgradation of Drug and Drug Like Compounds	Completed
3	Synthesis Characterization Of Chiral Bioactive Heterocyclic Compounds	Completed
4	Synthesis of Silver and Copper Nanoparticles and their Characterization and Applications	Completed
5	Synthesis of Heterocycles with Potential Anti-Inflammatory/ ACE2 Inhibitory Effects.	Completed
6	Study of Physical Parameter of Inclusion Complex of Beta Cyclodextrin and Thiadiazine	Completed
7	Palladium Catalyzed, Copper Mediated Coupling of Cyclic Thioamides with Siloxanes	Completed
8	Preparation of Complexes/Inclusion Complex of Cyclodextrin and Drug like molecules	Completed
9	Synthesis of Complex/ Inclusion Complex with Drug and Drug like molecule	Completed
10	Microwave Assisted Synthesis of Pharmacologically Interesting Crown Ethers	Completed
11	Microwave Assisted Synthesis of Pharmacologically Interesting derivatives of DHPM hydrazinyl Derivatives	Completed
12	Interaction of metal with heteroatom and their biological effects (2019): Muhammad Hasan Jaliawala. MS Batch 2017-18.	Completed
13	Synthesis of heterocyclic triterpenoid derivatives and their biological activities: Qandeel Batool (2020). MS Batch 2018-19.	Completed
14	Biological evaluation of a Fusidane Triterpene and its Derivatives: Syed Osama Ali (2022). MS Batch 2019-2020.	Completed
15	Synthesis of ester derivatives of a biologically active Fusidane Triterpenoid: Muhammad Asad (2022). MS Batch 2020-2021.	Completed
16	Synthesis and biological evaluation of Fusidic acid derivatives: Maham Jabeen (2023). MS Batch 2022	Completed

Publications

Co-author of high ranked international publications (C.I.F. 40)

Book.

- 1) **VDM Publishers Germany**, Book based on thesis, 2010, 1-80. (ISBN: 978-3-639-25660-4)
- 2) **Advances in Heterocyclic Chemistry**, Book Chapter, 99, Academic Press (2010), 33-59

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1. Durey Nayab, Dildar Ali, **Nuzhat Arshad**, Abdul Malik, M. Iqbal Choudhary, and Zaheer Ahmed. "Cucurbitacin glucosides from Citrullus colocynthis." **Natural Product Research**, 20, 05 (2006): 409-413. (IF =2.488)

2. **Nuzhat Arshad**, Jamshed Hashim, and C. Oliver Kappe. "Synthesis of bisquinolone-based mono-and diphosphine ligands of the aza-BINAP type." *The Journal of Organic Chemistry*, 73, 12 (2008): 4755-4758. (IF =3.46)
3. **Nuzhat Arshad**, Jamshed Hashim, and C. Oliver Kappe. "Palladium (0)-catalyzed, copper (I)-mediated coupling of cyclic thioamides with alkenylboronic acids, organostannanes, and siloxanes." *The Journal of Organic Chemistry*, 74, 14 (2009): 5118-5121. (IF =3.46)
4. **Nuzhat Arshad**, Jamshed Hashim, and C. Oliver Kappe. "Palladium (0)-catalyzed, copper (I)-mediated coupling of cyclic thioamides with alkenylboronic acids, organostannanes, and siloxanes" **SYNFACTS**, (2009), 10, 1145-1145.<https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0029-1217889>
5. **Nuzhat Arshad**, Jamshed Hashim, and C. Oliver Kappe. "Palladium (0)-catalyzed, copper (I)-mediated coupling of cyclic thioamides with alkenylboronic acids, organostannanes, and siloxanes *ChemInform*, **2009**, 40, 50. <https://onlinelibrary.wiley.com/doi/10.1002/chin.200950041>
<https://doi.org/10.1002/chin.200950041>
6. **Nuzhat Arshad**, and C. Oliver Kappe. "Heterocyclic BINAP Analogues." In *Advances in Heterocyclic Chemistry*, 99, Academic Press (2010), 33-59. (IF =2.85)
7. Jamshed Hashim, **Nuzhat Arshad**, Ijaz Khan, Sonia Nisar, Basharat Ali, and M. Iqbal Choudhary. "Preparation of dihydrotetrazolo [1, 5-a] pyrimidine derivatives from Biginelli 3, 4-dihydropyrimidine-2-thiones." *Tetrahedron*, 70,, 45 (2014): 8582-8587. (IF =2.22)
8. Talat Mahmood, Bibi Yasmeen, Zafar Raana, Wahab Aneela, Mahmood Iffat, **Nuzhat Arshad**, and Sherwani Sikandar Khan. "Complexation of beta-sitosterol with tris [dibenzylideneacetone] dipalladium and its anti-microbial activity." *Pakistan Journal of Pharmaceutical Sciences* (2015): 631-634 (IF =0.78).
9. Ajmal Khan, Jamshed Hashim, **Nuzhat Arshad**, Ijaz Khan, Naureen Siddiqui, Abdul Wadood, Muzaffar Ali, Fiza Arshad, Khalid Mohammed Khan, and M. Iqbal Choudhary. "Dihydropyrimidine based hydrazine dihydrochloride derivatives as potent urease inhibitors." *Bioorganic chemistry*, 64 (2016): 85-96. (IF =4.5)
10. Kashif Ahmed, Hafiz Abdul Rehman, **Nuzhat Arshad**, Sobia Israr," Physico-Chemical analysis of bore water from different regions of Karachi, Pakistan", *Journal of Biodiversity and Environmental Sciences*,12, 2, (2018), 117-127.
11. **Nuzhat Arshad**, Muhammad Yaseen, Jamshed Hashim, Irfan Ullah, Rasool Khan, Iqbal Safi, Aqeela Rafique, Qurat-ul-Ain Hanif, and Umme Attia Kulsoom. "Antiproliferative activity of 3, 5-disubstituted tetrahydro-2H-1, 3, 5-thiadiazine thione (THTT) derivatives and evaluation as potential prodrug." *Pakistan Journal of Pharmaceutical Sciences*, 34 (2021). (IF =0.78)

12. **Nuzhat Arshad**, Abdul Hameed, Jamshed Hashim, Tahseen Iqbal, Iqra Munir, Syed Abid Ali, Maha Sharif, Deedar Ali, Shumaila Javed, and Rahman M. Hafizur. "Natural products embedded crown ethers as potent insulin secretory agents." [Pakistan Journal of Pharmaceutical Sciences](#), 34, 5 (Special) (2021): 2003-2008. (IF =0.78)
13. Irfan Ullah, Jamshed Hashim, **Nuzhat Arshad**, Muhammad Yaseen, Rasool Khan, Tahseen Iqbal, Syeda Zehra Hamid, Afshan Kanwal, and Iqbal Safi. "3, 5-Disubstituted tetrahydro-2H-1, 3, 5-thiadiazine-thiones ester derivatives and their antimicrobial evaluation." [Heterocycles: an international journal for reviews and communications in heterocyclic chemistry](#), 102, 4 (2021): 659-674. (IF =0.52).
14. Anjum Ayub, Zainab Qadir, **Nuzhat Arshad**, Salma Javed, "Nematicidal activity of the derivatives of oleanolic acid." [Journal of Biodiversity and Environmental Sciences](#), 18, 6, (2021) 102-108.
15. **Nuzhat Arshad**, Anjum Ayub, Mahnoor Nafees, Ahmed Abdullah, Zain Sultan, "Spectrophotometric determination of Phosphate in water and sugarcane sample". [Journal of Biodiversity and Environmental Sciences](#), 19,2, (2021) 111-115.
16. Tahseen Iqbal, **Nuzhat Arshad**, Jamshed Hashim, Syed Abid Ali, Binte Zehra, Malik Shoaib Ahmad, Nabila Hassan, Arif Ullah, Syeda Zehra Hamid, and Ibanga Okon Isaac. "Natural products based crown ethers: synthesis and their anticancer potential." [Journal of Asian Natural Products Research](#), 24, 3 (2022): 268-277. (IF =1.94)
17. **Nuzhat Arshad**, Jamshed Hashim, Anjum Ayub, Rafia Usman Khan, Shumaila Jawaid, Irfan Ullah, and Abid Ali Khan. "1-Phenyl ethyl substituted tetrahydro-2H-1, 3, 5-thiadiazine-2-thione derivatives as promising antimicrobial agents." [Pakistan Journal of Pharmaceutical Sciences](#), 35 (2022). (IF =0.78)
18. Rafia Usman Khan, **Nuzhat Arshad**, Razia Sultana, Jamshed Hashim, Haniya Sheikh, Waqas Zaidi, and S. Khan. "Synthesis of dihydropyrimidine stabilized silver nanoparticles with significant anti urease and catalytic applications." [Pakistan Journal of Pharmaceutical Sciences](#) 35, 3 (Special) (2022): 923-930. (IF =0.78)
19. **Nuzhat Arshad**, Mehreen Lateef, Jamshed Hashim, Aisha Anwar, Rima D. Alharthy, Hamza Azam, and Anwar Iqbal. "1, 3, 5-Thiadiazinane thione derivatives as significant urease inhibitors." [Pakistan Journal of Pharmaceutical Sciences](#), 35, 3 (Special) (2022): 911-917. (IF =0.78)
20. **Nuzhat Arshad**, Shumaila Jawaid, Jamshed Hashim, Irfan Ullah, Somia Gul, Aisha Aziz, Abdul Wadood, and Alamzeb Khan. "Highly potent anti-inflammatory, analgesic and antioxidant activities of 3, 5-disubstituted tetrahydro-2H-1, 3, 5-thiadiazine thiones." [Bioorganic & Medicinal Chemistry Letters](#), 79 (2023): 129068. (IF =2.58)
21. Masooma Abbas, and **Nuzhat Arshad**. "Synthesis, highly potent α -glucosidase inhibition, antioxidant and molecular docking of various novel

dihydropyrimidine derivatives to treat diabetes mellitus." [Bioorganic & Medicinal Chemistry Letters](#), 115 (2025): 130016. (IF =2.58)

22. Hira Sultan , **Nuzhat Arshad** and Mehreen LateefSultan, "Novel Crown Ether-Functionalized Fusidic Acid Butyl Ester: Synthesis, Biological Evaluation, In Silico ADMET, and Molecular Docking Studies. *Molecules*." *Molecules* 30, 9 (2025): 2033. (IF =4.6)
23. Shumaila Jawaid , **Nuzhat Arshad** , Syed Nawazish Ali , Jamshed Hashim, Mehreen Lateef & Ayesha Anwar , "Synthesis and biological studies of novel fusidic acid-linked crown ethers." *Natural Product Research* (2025): (IF =2.2)

Key Proceedings

- 9) **Advances in Natural Products**, (2007), 4, 21-26
- 10) **Asian symposium on Medicinal Plants, Speices and other Natural products**, (2013)

Submitted Patents:

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| 1 | Synthesis of Natural Product based crown ethers of Anticancer and Antidiabetic Potential in IPO Pakistan 2022 |
| 2 | Development of Silver nanoparticles using short chain heterocycles in IPO Pakistan 2022 |
| 3 | Novel (4S)-6-methyl-N-((S)-1-phenylethyl)-2-thioxo-4-(p-tolyl)-1,2,3,4-tetrahydro pyrimidine-5-carboxamide as potent anti-oxidant, antidiabetic and antiurease inhibitor. Preparation and Chiral Resolution 2025 |
| 4 | Novel crown ether based on Fusidic acid C-21 butyl ester: Preparation of potent antioxidant & antiulcer agent 2024 |
| 5 | Novel Fusidic acid linked crown ether as potent antioxidant & antiulcer agent.2025 |

Conferences Organized

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- 1) IICC 2021: Chair of the 1st International Industrial Chemistry Conference 2021 organized by Department of Chemistry.
- 2) IICC 2023: Chair of the 2nd International Industrial Chemistry Conference 2021 organized by Department of Chemistry

Key Conferences attended

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| 3) | 3 rd International Conference organized by University of Karachi | 2003 |
| 4) | MAOS (Advances in Microwave-Assisted Organic Synthesis) in Budapest, Hungary | 2006 |
| 5) | 9 th International & 21 st National Chemistry Conference jointly organized by University of Karachi & ICCBS | 2011 |

Viva/voce Examiner of

Ph.D Viva/voce Examination of Mr. Muhammad Anas in UoK in June 2023
Ph.D Viva/voce Examination of Mr. Kashif Ahmed in FUUAST in Feb 2014
Ph.D Viva/voce Examination of Ms Ameena Sultana in FUUAST in Feb 2015
M.Phil Viva/voce Examination of Ms Naureen Siddiqui in HEJ (ICCBS) in Aug 2014
M.Sc Thesis Viva/voce Examination of Mr. Basharat Ali in FUUAST in 2012
BS Thesis Viva/voce Examination of Ms. Ishrat Bano in FUUAST in 2012

Competed for Scholarships

- 1) Passed GRE General test for indigenous PhD scholarship via HEC Pakistan
- 2) Passed HEJ Research Institute entry test and interview
- 3) 69 % in GRE International Chemistry exam. held on April 2005
- 6) PhD student scholarship for Austria via HEC Pakistan

Visited sites

Austria, Germany, Hungary, Switzerland, Italy (off course Pakistan ❤)