

# RESUME

## Dr. Rasool Khan

### Associate Professor

Institute of Chemical Sciences  
University of Peshawar  
Peshawar-Pakistan



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### Qualification

**PhD Chemistry (Organic Chemistry)**  
2002-2008

**University of Peshawar, Pakistan**

Functionalization and Heteroannulation of Quinazolone Nucleus-Synthesis, Structure Elucidation and Bioactivity Evaluation

**M.SC Chemistry (2000-2002)**

Inorganic chemistry, Organic Chemistry, Physical Chemistry fuel Chemistry, Chemistry of natural products and heterocyclic compounds, Synthetic organic Chemistry( Oxidation and reduction in organic chemistry, Reactive intermediates, organometallic chemistry and molecular rearrangements) spectral Identification of organic compounds(Organic Spectroscopy) and Environmental chemistry

### Field of Specialization

Organic Chemistry/ Synthetic Organic Chemistry/ Medicinal Chemistry

### PhD thesis project

FUNCTIONALIZATION AND HETEROANNULATION OF QUINAZOLONE NUCLEUS-SYNTHESES, STRUCTURE ELUCIDATION AND BIOACTIVITY EVALUATION

### Teaching Experiences

**M.Sc Level;** Basic Organic Chemistry, Organic Reaction Mechanism, Retro-Chemistry, Chemistry of Heterocyclic Compounds, Stereochemistry and Spectroscopy

**B.S level:** Basic Organic Chemistry, Functional Chemistry and general Chemistry

**M. Phil/P.HD:** Advance Organic Chemistry, Medicinal Chemistry

### Research Interest

**Synthetic Organic/Medicinal Chemistry**

Synthesis, Characterization and bioactivity evaluation of heterocyclic compounds

Development of new, green and cost effective synthetic methods and microwave assisted organic synthesis.

Synthesis of functionalized organic molecules of diverse applications i.e. used in solar cells, conducting polymers and more.

### Previous Work Experience

1. Worked as Lecturer (Organic Chemistry), Institute of Chemical Sciences, University of Peshawar, Peshawar, Pakistan from November 21, **2002** to 16<sup>th</sup> November **2008**
2. Worked as assistant professor (Organic Chemistry), Institute of Chemical Sciences, University of Peshawar, Pakistan from November 17<sup>th</sup> **2008** to august 24<sup>th</sup> **2009**.
3. Worked as Assistant warden Allama Iqbal hostel, university of Peshawar, Pakistan from 01/01/**2005** to 15/02/**2005**
4. Worked as Resident warden Allama Iqbal hostel, university of Peshawar, Pakistan from 15/02/**2005** to 30/10/**2005**
5. Member of the Science Society University of Peshawar from **1999-2001**.
6. Worked as Staff Proctor, University of Peshawar, **2007-08**.
7. Assistant professor, Department of Chemistry, Abdul Wali Khan University Mardan, Pakistan, since **August 24, 2009** to **May 3, 2012**
8. Assistant professor, Institute of Chemical Sciences, University of Peshawar since **May 4, 2012**
9. Working as Coordinator, BS 4year program in Chemistry since September 01, **2012** to date.

### Participation in Scientific Events

1. 1<sup>st</sup> international and 11<sup>th</sup> National Chemistry conferences, from 11-14<sup>th</sup> April **2002**, organized by department of chemistry university of Peshawar, Pakistan
2. 4<sup>th</sup> international chemistry conference, organized by Chemical Society of Pakistan in April **2004**.
3. National workshop on chromatography and coordination chemistry, jointly organized by National core group in chemistry and department of chemistry, Gomal University D.I. Khan from 21-28<sup>th</sup> January **2006**.
4. International workshop-cum-training course on Natural products, Drugs, pharmaceutical and nutraceutical for the benefit of mankind, jointly organized by NAM S&T New Delhi India and HEJ-RIC, university of Karachi Pakistan, 10-19 February, **2006**.
5. Participated in the 2<sup>nd</sup> meeting of Nobel Laureates with Pakistani Graduates held in Islamabad from 27-29<sup>th</sup> March **2007**
6. First International Conference on the Role of Chemistry and Biochemistry in the National Development, at Department of Chemistry and Institute of Biochemistry University of Baluchistan, Quetta, Pakistan from 16-18<sup>th</sup> April **2007**
7. 18<sup>th</sup> national chemistry conference. At the institute of chemistry, university of the Punjab organized by the chemical society of Pakistan. 25-27<sup>th</sup> February, **2008**
8. 19<sup>th</sup> National Chemistry conference organized by Chemical Society of Pakistan and Kohat University of Science and Technology at Baragali Summer Campus **7-9 June, 2009**
9. Symposium on recent trends in indigenous chemical research and awareness on data presentation skills **July 23 – 27, 2009** organized by Institute of Chemical Sciences, university of Peshawar at Baragali Summer campus
10. First Training course on the **use of Stable and Radioactive isotopes in food, agriculture and medicines** organized by Nuclear Institute for food and agriculture (NIFA), Peshawar, NWFP-Pakistan from **5-10<sup>th</sup> October 2009**.

11. 8<sup>th</sup> International and 20<sup>th</sup> National Chemistry Conference, organized by Chemical society of Pakistan at Quaid-e-Azam University Islamabad **15-18/02/2010**
12. workshop on **Outcome Based Assessment**, organized by University of management and technology Lahore and Higher Education Commission of Pakistan
13. 1<sup>st</sup> National Conference on **Biotechnology and microbiology**, organized by Centre of biotechnology and microbiology at Baragali Summer campus, University of Peshawar, Pakistani July, **4-7, 2010**
14. 2<sup>nd</sup> National Conference on **Fuel and Environment**, organized by Institute of Chemical Sciences, University of Peshawar at Baragali Summer Campus **July 22-27, 2010**
15. Workshop on 4-Year BS Chemistry Program, Baragali Summer Campus, University of Peshawar, Organized by Institute of Chemical Sciences, University of Peshawar and Project Management Unit, Higher Education Department K.P.K from **June 30-july 04, 2011**
16. Workshop on computer aided drug design, NCE, University of Peshawar
17. 2<sup>nd</sup> symposium “ Recent trends in indigenous chemical research and awareness on data presentation skills” organized by Institute of Chemical Sciences at Baragali Summer campus, University of Peshawar, July 1-5, 2012
18. “2<sup>nd</sup> national conference on biotechnology and microbiology” organized by Centre of biotechnology and microbiology at baragali summer campus of the university of Peshawar, **July 2012**
19. Four days’ workshop on “Project management and Proposal writing” organized by Centre for Human Resource and Career Development, University of Peshawar from **October 28-31, 2013**.

### Supervisory experience

Research students Supervised: 04 (M.Sc)

Research students Co-Supervised = 12 (M. Sc.) and 3 (M. Phil)

Students under supervision:

**M.Sc. = 04**

**M. Phil = 11**

**Ph. D = 04**

### Book published

**Rasool Khan, Synthesis and bioactivities evaluation of Quinazolon, LAP LAMBERT academic publishing, copyright@ OmniScriptum GmbH &Co.KG, 2014, ISBN: 978-3-659-38649-7**

### Publications

1. M. Arfan, **R. Khan**, M. Imran and H. Khan and J. Mehmood., One-pot synthesis and antimicrobial activities of 2-Aryl/Alkyl, 3-amino Quinazolinones. *J. Chem. Soc. Pak.*, **2008**, 30, 299.
2. M. Arfan, **R. Khan**, S. Anjum, S. Ahmad, M. I. Choudhary, Water promoted, microwave assisted oxidative novel deamination of *N*-amino quinazolinones. *Chin. Chem .lett.*, **2008**, 19, 161-165.
3. Mohammad Arfan, M. Nawaz Tahir, **Rasool khan** and Mohammad S. Iqbal 3-(2-Benzamidophenyl)-4-(4-hydroxyphenyl)-5-methyl-4H-1,2,4-triazol-1-ium Chloride, *Acta Cryst.* (**2008**). E64, o1505.

4. M. IMRAN, H. KHAN, S. S. HASSAN, **R. KHAN**, Physicochemical characteristics of various milk samples available in Pakistan. *J. Zhejiang Uni. Sci. B.* **2008**, 9 (7), 546-551.
5. Mohammad Arfan, M. Nawaz Tahir, Muhammad Ishaq Ali Shah, **Rasool Khan**, Mohammad S. Iqbal, 2-[6-Thioxo-5-(2,4,6-trimethylphenyl)-1,3,5-thiadiazinan-3-yl] acetic acid, *Acta Cryst.* (2009). E65, o902.
6. Mohammad Arfan, M. Nawaz Tahir, **Rasool Khan** and Mohammad S. Iqbal 3-amino-2-methyl-4-oxo-3,4-dihydroquinazolin-1-ium, p-toluene sulfonate monohydrate. *Acta Cryst.* (2009). E65, o1051
7. Mohammad Arfan, M. Nawaz Tahir, **Rasool Khan**, Sumbal Saba and Mohammad S. Iqbal, (2-Aminophenyl)[(5 S)-5-hydroxy-3,5-dimethyl-4,5-dihydro-1H-pyrazol-1-yl]methanone *Acta Cryst.*(2009). E65, o1834–o1835
8. M. Imran, F. N. Talpur, Sirajudin and **Rasool Khan**, leaf lipid contents of some edible plants from north-west Pakistan *J. Chem. Soc. Pak.*, **2009**, 31 (3), 492-497
9. M. Imran, H. Khan, M. Shah, **Rasool Khan**, and F. Khan, Chemical composition and antioxidant activity of *Morus* species *J. Zhejiang Uni. Sci. B.* **2010**, 11 (2), 973-980.
10. M. Arfan , **R. Khan** , M. A. Khan , S. Anjum , M. I. Choudhary and M. Ahmad Anti leishmanial and Anti-microbial Activities of 2, 3-disubstituted 3*H*-quinazolin-4-one derivatives *J. Enzy. Inhib. Med. Chem.*, **2010**, 25(4), 451-558
11. **Rasool Khan**, Mohammad Arfan, Javeed Mahmood, Shazia Anjum and M. Iqbal Choudhary, A facile synthesis of Novel unsymmetrical N-(4-oxo-2-phenyl-3(4*H*)-quinazolinoyl)-N-(aryl)acetamides, *Chin.Chem.lett.*, **2010**, **21(8)**, **905-910**
12. Hameed Ullah, Zahida Wasil, anwar Ali Shad, Tahira Mehmood, **Rasool Khan** and M.Iqbal Choudhary, Biological activities of various crude fractions of solanum xanthocarpum's fruits , *J chem soc Pak.*, **2010**, 32, 104-108
13. Mahmud Tareq Hassan Khan, **Rasool Khan** , Yimingjiang Wuxiuer , Mohammad Arfan, Manzoor Ahmed , Ingebrigt Sylte., Identification of novel quinazolin-4(3*H*)-ones as inhibitors of thermolysin, the prototype of the M4 family of proteinases *Bioorganic & Medicinal Chemistry* 18 (2010) 4317–4327
14. Shabir Ahmad, Mohammad Arfan, Abdul Latif Khan, Riaz Ullah, Javid Hussain, Zia Muhammad, **Rasool Khan**, Naeem Khan and Kazuo N. Watanabe, **Allelopathy of *Teucrium Royleanum* Wall. Ex Benth. from Pakistan** *Journal of Medicinal Plants Research* Vol. 5(5), pp. 765-772, 4 March, **2011**
15. **Rasool Khan**, Faima Alam, Saeed Anwar, Bakhtiar Mohammad Khan and Zarbad Shah, Isolation of Flavones from Indigenous *Dodonaea viscosa* *J. Chem. Soc. Pak.*, **2012**, 34(1) 195-200
16. Muhammad Arfan, **Rasool Khan**, Anna Rybarczyk, Ryszard Amarowicz Antioxidant Activity of Mulberry Fruit Extracts *Int. J. Mol. Sci.* 2012, 13, 2472-2480
17. Yasmeen Rashid, M. Kamran Azim, Zafar. S. saify, Kalid. M. Khan and **Rasool Khan**, Small molecule activators of proteasome-related HsIV peptidase *Bioorganic and medicinal chemistry letters* **2012**, 22(19), 6089-6094
18. **Rasool Khan** Mohammad Arfan, Imdadullah Mohammadzai and Naeem Khan, Catalyst and Solvent Free, Microwave Assisted Synthesis of 3-Isoindolo-2-yl-2-Substituted Quinazolin-4(3*H*)-Ones *J. Chem. Soc. Pak.*, 35, 6, 2013, 1505-1507
19. Zaher Shah, Farman Ali, Hidayat Ullah, Alia Shah, Dilfaraz Khan, Shafiullah Khan, **Rasool Khan** and Irshad Ali, Biological Screening and Chemical Constituents of *Viburnum grandiflorum* *J. Chem. Soc. Pak.*, 36, 1, 2014. 113-118
20. Shafqatullah, **Rasool Khan**, Waseem Hassan, Arshad Hussain, Asadullah, Khaliq-ur-Rehman and Javid Ali, Development of HPLC method by UV-VIS detection for the quantification of phenolic acids in different *Ocimum sanctum* Linn. Extracts, *Pak. J. Pharm. Sci.*, **27 (5) 2014**, **1271-1275**

21. Rasool Khan, Mohammad Mansour Quradha, AbdurRauf and Ajmal Khan Comparative Urease Inhibition Profile of Leaves and Stem of *Rumex nervosus Vahl*, **Natural Product Research** 28(24), 2014, 2355-2357
22. Rasool Khan, Phytochemical analysis, Antimicrobial, Antioxidant and Urease inhibitory Potential of *Cyphostemma digitatum Lam* **Natural Product Research** 29(5), 466-468, 2015
23. Rasool Khan, Abdullah Qasem Saif, mohamed mansour quradha, Jawad Ali, Abdur Rauf, Ajmal Khan, Antioxidant, Antimicrobial and Urease Inhibiting Activities of Methanolic extracts from *Cyphostemma digitatum Stem and Roots* **Natural Product Research** XX(X), XX-XX, 2015
24. **Rasool Khan**, Muhammad Arfan, M. Ishaq Ali Shah, Muhammad Imran, Mahmud Tareq Hassan Khan Synthesis of Thiadiazine Thione Analogs as Leishmanicidal Agents and their Structure-Activity Relationships **J. Heterocyclic Chemistry, (Inpress)**
25. Mohammad Arfan, **Rasool Khan**, Aydan Tavman and Sumbal Saba Spectral characterization and crystal structure of 2-amino-N'-[(1Z)-1-(4-chlorophenyl)ethylidene]-benzohydrazide, **J. Saudi chem. Soc.** (Inpress)
26. Rasool Khan\*, Mohammed Mansour Quradha, Abdullah Qasem Saif, Jawad Ali and AbdurRauf Phytochemical analysis and synergy in antioxidant activity of the leaves and stem extracts of *Rumex nervosus Vahl* (submitted)
27. Rasool Khan, Mohammad Arfan and Murad Ali A novel and efficient synthesis of novel N-{2-[4-(4-aryl)-5-methyl-4H-1, 2, 4-triazol-3-yl] phenyl} benzamide hydrochlorides (in process)

#### Memberships

1. Lifetime Member of the Chemical Society of Pakistan
2. Member of the Academic Council, Abdul Wali Khan University Mardan, Pakistan, **2009-2012**
3. Member of the Faculty Board, Abdul Wali Khan University, Mardan, Pakistan, **2009-2012**
4. Member of the Senate, Abdul Wali Khan University, Mardan from **2010 to 2011**

#### Appreciations/Award

1. Shield awarded on the occasion of golden jubilee, Institute of chemical sciences, university of Peshawar, Pakistan, November 2006
2. Letter of appreciation by Embassy of Japan
3. Letter of appreciation by University of Malakand Chakdara, Khyber Pakhtunkhwa, Pakistan

#### Referee

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| <ol style="list-style-type: none"> <li>1. <b>Prof. Dr. Muhammad Arfan (Ph.D Supervisor)</b></li> <li>2. <b>Prof. Dr. Imdadullah Mohammadzai</b></li> </ol> | <p>E-mail: <a href="mailto:m_arfan@upesh.edu.pk">m_arfan@upesh.edu.pk</a></p> <p>E-mail: <a href="mailto:imdadmo@yahoo.com">imdadmo@yahoo.com</a></p> |
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