

## **Dr. Muhammad Saleem (HEC Approved Supervisor)**

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### **Personal Information**

- **Full Name:** Muhammad Saleem
- **Fathers Name:** Ahmed Khan
- **Date of Birth:** 3<sup>rd</sup> April 1981
- **NIC No:** 32103-4877578-3
- **Passport No:** BZ5755783
- **Languages:** English, Urdu, and Sariaki
- **Marital Status:** Married

### **Careers**

- Working as Assistant Professor (TTS) in the Department of Chemistry, University of Education Lahore, Campus Dera Ghazi Khan From 16-11-2016 to till date
- Worked as Assistant Professor at department of Chemistry, Ghazi University, Dera Ghazi Khan, Punjab Pakistan, and (25-05-2015 TO 02-10-2016).
- Worked as research officer at H.E. J. Research Institute of Chemistry, ICCBS, University of Karachi, Karachi Pakistan, and (21-01-2015 TO 20-05-2015).
- Worked as Research Fellow Oct 2007 to Jan 2015
- Worked as Research Associate from August 2006 to Oct 2007

### **Current Responsibilities at the University of Education Campus D. G Khan**

1. **Coordinator QEC**
2. **Estate Officer**
3. **Chief Organizer Character Building Society**
4. **Member Board of Study**
5. **Secretary MS/M.Phil. Admission Committee**
6. **Lab In-charge.**

## Education

- **M.Phil. Leading to Ph. D.** (Chemistry), January 2015, H. E. J Research Institute of Chemistry, ICCBS, University of Karachi, Karachi-75270, Pakistan (3.76 /4 CGPA) 2015)
- **GRE Chemistry Subject** Test (ETS, USA) 720 score out of 990 with 54%yle 2011
- **M. Sc. Chemistry** (organic Chemistry) 716/1000 First Division I<sup>st</sup> 2006 71.6%  
Federal Urdu University of Arts Science and Technology, Gulshan-e-Iqbal Campus Karachi, Pakistan
- **B. Sc.** (Chemistry, Botany, Zoology) 388/800 Second Division 2003 48.5%  
Bahauddin Zakariya University, Multan (Govt College for Boys, Taunsa Sharif)
- **F. Sc.** (Chemistry, Physics, Biology) 701/1100 First Division 1999, 64%  
B.I.S.E. Dera Ghazi Khan (Govt College for Boys, Taunsa Sharif)
- **S. Sc.** (Chemistry, Physics, Biology, Mathematics) 626/850 First Division (74 %) 1997  
B.I.S.E. Dera Ghazi Khan (Govt High School for Boys, Taunsa Sharif.

## Research Projects

S. No.	Project Title	Amount in PKR	Funding Agency	PI/Co-PI	Status
1	Bioassay studies on the secondary metabolites of plants species for the development of inhibitors of clinically important enzymes	435000	HEC Pakistan	PI = <b>Dr. M. Saleem</b>	Completed
2	Bioassay guided isolation of anti-urease compounds from <i>Heliotropium strigosum</i>	493740	HEC Pakistan	Co-PI = <b>Dr. M. Saleem</b>	Continued



➤ **NO. OF MS/M. PHIL STUDENT SUPERVISED = 09**

➤ **No. of MS/ M. PHIL Student under Supervision = 04**



### Ph.D. Research Project

- Identification, Biochemical and Mechanistic Studies on the Inhibitors of Carbonic Anhydrase-II and Other Enzymes

### M. Sc. Research Project

- Phytochemical investigations on *Euclaptucs Camudelenses*

### Scholarships

- Win national scholarship of H. E. J. Research Institute of Chemistry in OCT 2007
- Win HEC indigenous scholarship in 2011 under 5000 fellowship program Batch VII

### Conferences and Symposia

- 1st International Conference on, DRUG DISCOVERY AGAINST CANCER AND OTHER DISEASES (DDCD-2019) as *Invited Speaker*, Department of Chemistry, University of Swabi, KPK, Pakistan
- International Chemistry Conference”, on 27 & 29th March 2019 at Bahauddin Zakariya University Multan Pakistan, Present *Oral Talk*.
- 9<sup>th</sup> International Seminar from Plant to Patient: Identification of New Drugs for Metabolic Disorders, January 25-27, 2019, H. E. J, ICCBS, University of Karachi, *Poster Presentation*.
- *Three days training workshop* at HEC regional office Lahore, April 11-13, 2017, Higher Education Commission, Tertiary Education Support Program, Capacity Building of Faculty & Staff of HEIs.
- 16<sup>th</sup> International and 28<sup>th</sup> National Chemistry Conference 2017, Federal Urdu University of Arts, Science & Technology, 20-22 November 2017, *Oral Talk*
- 11<sup>TH</sup> International Symposium on Natural Product Chemistry at H. E. J Research Institute of Chemistry University of Karachi, Pakistan 2008
- Media conference, PABIC, at H. E. J research Institute of Chemistry, University of Karachi, 2009
- *Mass Spectrometry workshop conducted* by Prof. Dr. David Smith at H. E. J Research Institute of Chemistry, University of Karachi 2009
- 12<sup>th</sup> International symposium on Natural Product Chemistry at H. E. J Research Institute of Chemistry University of Karachi Pakistan 2010
- Poster presentation entitled, An expedition to explore new drug candidates for glaucoma, epilepsy and cancer in 12<sup>th</sup> International symposium on natural product chemistry at H. E. J, research institute of chemistry university of Karachi Pakistan 2010
- 14<sup>th</sup> International symposium on Asian Medicinal Plants and other spices at H. E. J, research institute of chemistry university of Karachi Pakistan December 2013.
- **NASIC Workshop on Modern Spectroscopic Techniques and Their Applications in Structure Determination** at H. E. J. ICCBS, University of Karachi, Pakistan, during December 1-3, 2014.
- 5<sup>th</sup> International Symposium-cum- Training Course on Molecular Medicine and Drug Research at ICCBS University of Karachi, Pakistan January, 2015.

## Skills in Chromatography and Spectroscopy

- Hand on experience for Column Chromatography, Thin Layer Chromatography, Preparative High Pressure Liquid Chromatography (HPLC), Gas Chromatograph (GC), Vacuum distillation, U.V/Visible Spectrophotometer, IR and FTIR Spectrophotometer, NMR Machine
- Interpretation of Data for Mass Spectrometry, NMR, STD-NMR, IR and related structural techniques

## Computer and Programming Skills

Hand on experience for data writing of NMR, Mass Spectrometry, IR and MS on word documents. Furthermore, I have experience of structure elucidation of organic compounds from NMR, IR, UV and mass spectroscopic techniques.

## MS Office and all chemistry software's

### Research Publications

**Total Research Publications = 23**

**Impact Factor = 37.33**

**US Patent = 01**

- 1- Dual inhibitors of urease and carbonic anhydrase-II from Iris species <https://doi.org/10.1515/pac-2019-0407>, **Muhammad Saleem\***, Sumaira Hareem, Ajmal Khan, Suad Naheed, Muslim Raza, Riaz Hussain, Muhammad Imran and M. Iqbal Choudhary\* Pure Appl. Chem. 2019; aop (I.F = 2.35)
- 2- Synthesis, antimicrobial, antioxidant, cytotoxic, antiurease and molecular docking studies of N-(3-trifluoromethyl)benzoyl-N' -aryl thiourea derivatives Aneela Maalik, Hina Rahim, **Muhammad Saleem** Nighat Fatima Abdur Rauf, Abdul Wadood, Muhammad Imran Malik, Ayaz Ahmed Hummera Rafique Muhammad Naveed Zafar, Muhammad Riaz Lubna Rasheed, Amara Mumtaz, *Bioorganic Chemistry*, Volume 88, July **2019**, 102946 (I.F = 3.9)
- 3- Pharmacophores Modeling in Terms of Prediction of Theoretical Physicochemical Properties and Verification by EXPERIMENTAL correlations of Carbacylamidophosphates (CAPH) and Sulfanylamidophosphates (SAPH) Tested as New Carbonic Anhydrase Inhibitors Vladimir Amir Khanov, Abdur Rauf, Taibi Ben Hadda, Vladimir Ovchynnikov, Viktor Trush, **Muhammad Saleem**, Muslim Raza, Tayyeba Rehman, Hsaine Zgou, Usama Shaheen,

- Thoraya Farghaly\*. *Mini-Reviews in Medicinal Chemistry*, Mini Rev Med Chem. February 12, 2019 **2019** (I.F = 2.8)
- 4- Phosphodiesterase-1 inhibitory potential of several natural products by molecular docking approach, Abdur Raufa, Muslim Razab, **Muhammad Saleem**, Ilkay Erdogan Orhand,\*, Ufuk Ozgene, Esen Sezen Karaoglanf, Gulin Renda, Erhan Palaskag, *Phytochemistry Letters* **30** (2019) 356–361, (I. F = 1.54).
  - 5- Cytotoxic, antiglycation and carbonic anhydrase inhibition studies of chromium(III)-aroylhydrazine complexes, Jamal, Uzma Ashiq,\*, Mohammad Mahroof-Tahir and **Muhammad Saleem**, *European Journal of Chemistry*, 9 (3) (2018) 168-177 (I.F = 0.3706).
  - 6- Conventional versus microwave assisted synthesis, molecular docking and enzyme inhibitory activities of new 3,4,5-trisubstituted-1,2,4-triazole analogues, Naeem Akhtar Virk, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Umer Rashid, Javed Iqbal, **Muhammad Saleem**, Muhammad Ashraf, Wardah Shahid and Syed Adnan Ali Shah, *Pak. J. Pharm. Sci.*, Vol.31, No.4(Suppl), July **2018**, pp.1501-1510 (I.F = 0.596)
  - 7- Urease inhibitory potential of extracts and active phytochemicals of *Hypochaeris radicata* (Asteraceae), Tareq Abu-Izneid, Abdur Rauf, **Muhammad Saleem**, Nashwa Mansour, Mohamed I. S. Abdelhady, Munjed M. Ibrahim & Seema Patel, *NATURAL PRODUCT RESEARCH* <https://doi.org/10.1080/14786419.2018.1489387> (I.F = 1.8)
  - 8- Synthesis,  $\beta$ -Glucuronidase Inhibition, and Molecular Docking Studies of 1,2,4-Triazole Hydrazones, Waqas Jamil Email author Darshana Kumari Muhammad Taha Muhammad Naseem Khan Mohd Syukri Baharudin Muhammad Ali M. Kanwal **Muhammad Saleem Lashari** Khalid Muhammad Khan, *Journal of the Iranian Chemical Society* <https://doi.org/10.1007/s13738-018-1433-9> 7 June **2018** ((I.F = 1.742)
  - 9- Urease inhibition potential and molecular docking of dihydroquercetin and dihydromyricetin isolated from *Picea smithiana* (wall) Boiss, Kashif Bashir, Bashir Ahmad, Abdur Rauf, Sami Bawazeer, Khaliq Ur Rahman, Tayyeba Rehman, **Muhammad Saleem**, Rao Saeed Ahmed, Huang Linfang, Rabia Ikram, *Biomedical Research*, **2017**; 28 (22): 10026-10032 (I.F = 0.219)
  - 10- Carbonic Anhydrase and Urease Inhibitory Potential of Various Plant Phenolics Using in vitro and in silico Methods, Rauf A, Raza M, **Saleem M**, Ozgen U, Karaoglan ES, Renda G, Palaska E, Orhan IE, *Chem Biodivers*, 2017, 14, E1700024, Page 1-11 (I.F = 1.449)
  - 11- Carbonic Anhydrase and Urease Inhibition Potential of Soil Borne Fungi *Screlotium Rolfssii* and *Aspergillus Flavus*, Bashir Ahmad, Muhammad Rizwan, Abdur Rauf\*, Saifullah

Mehsud, **Muhammad Saleem**, Umar Farooq and Ajmal Khan, *J.Chem.Soc.Pak*, Vol. 39, No. 02, 2017, 315-318 (I.F = 0.280)

12- Carbohydrazones as new class of carbonic anhydrase inhibitors: Synthesis, kinetics, and ligand docking studies, Iqbal S, **Saleem M**, Azim MK, Taha M, Salar U, Khan KM, Perveen S, Choudhary MI, *Bioorganic Chemistry*, 72 (2017) 89–101 (I.F = 3.926)

13- Elucidation of phosphodiesterase-1 inhibitory effect of some selected natural polyphenolics using in vitro and in silico methods. Rauf A, Orhan IE, Ertas A, Temel H, Ben Hadda T, **Saleem M**, Raza M, Khan H. *Current Topics in Medicinal Chem.* **2016** Aug 24 (I.F = 3.402)

14- Benzamide sulfonamide derivatives: potent inhibitors of carbonic anhydrase-II, **Muhammad Saleem**, Aamer Saeed, Atia-tul-Wahab, Ajmal Khan, Sanaullah Abbasi, Waqasuddin Khan, Sher Bahadar Khan, M. Iqbal Choudhary *Medicinal Chemistry Research*, First online: 07 January **2016** pp 1-11 (I.F = 1.720)

15- *Patent Application: Filing U.S. Patent Application Serial No. 14/854,981; entitled "Potent Inhibitors Of Human Carbonic Anhydrase Ii And Bovine Carbonic Anhydrase Ii And Their Mechanism Of Action"*



US 20170073306A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2017/0073306 A1**  
Choudhary et al. (43) **Pub. Date: Mar. 16, 2017**

(54) **POTENT INHIBITORS OF HUMAN CARBONIC ANHYDRASE II AND BOVINE CARBONIC ANHYDRASE II AND THEIR MECHANISM OF ACTION**

Karachi (PK); **Ajmal Khan**, Abbottabad (PK); **Atta-ur- Rahman**, Karachi (PK)

(21) Appl. No.: **14/854,981**

(22) Filed: **Sep. 15, 2015**

(71) Applicants: **Muhammad Iqbal Choudhary**, Karachi (PK); **Muhammad Saleem**, Karachi (PK); **Aamer Saeed Bhatti**, Islamabad (PK); **Atia-tul Wahab**, Karachi (PK); **Ajmal Khan**, Abbottabad (PK); **Atta-ur- Rahman**, Karachi (PK)

**Publication Classification**

(51) **Int. Cl.**  
**C07C 335/26** (2006.01)  
**C07D 307/24** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **C07C 335/26** (2013.01); **C07D 307/24** (2013.01)

(72) Inventors: **Muhammad Iqbal Choudhary**, Karachi (PK); **Muhammad Saleem**, Karachi (PK); **Aamer Saeed Bhatti**, Islamabad (PK); **Atia-tul Wahab**,

(57) **ABSTRACT**

Inhibitors of carbonic anhydrase-II derived from sulfanilamide are reported.

16- Alpha-glucosidase and carbonic anhydrase inhibition studies of Pd(II)-hydrazide complexes, Qurrat-ul-Ain, Uzma Ashiq, Rifat Ara Jamal, **Muhammad Saleem**, Mohammad Mahroof-Tahir, *Arabian Journal of Chemistry* (**2015**) xxx, xxx–xxx. (I.F = 3.298)

17- Phosphodiesterase-1 Inhibitory Activity of Two Flavonoids Isolated from Pistacia integerrima J. L. Stewart Galls, Abdur Rauf, **Muhammad Saleem**, Ghias Uddin, Bina S.

- Siddiqui, Haroon Khan,<sup>3</sup> Muslim Raza, Syeda Zehra Hamid, Ajmal Khan, Francesco Maione, Nicola Mascolo, and Vincenzo De Feo, Evidence-Based Complementary and Alternative Medicine, Volume **2015**, Article ID 506564, 6 pages (I.F = 2.06)
- 18- Synthesis and Biological Potential Assessment of 2-Arylquinazolin-4(3H)-ones as Inhibitors of Phosphodiesterase-I and Carbonic Anhydrase-II, Syed Muhammad Saad, **Muhammad Saleem**, Shahnaz Perveen, Khalid Mohammed Khan, and M. Iqbal Choudhary, *Med Chem.* **2014** Dec 3 (I.F = 2.53)
- 19- Synthesis of Triazole Derivatives of Schiff Bases: Novel inhibitors of Nucleotide Pyrophosphatases / Phosphodiesterase-I, Khalid Mohammed Khan, Salman Siddiqui, **Muhammad Saleem**, Muhammad Taha, Syed Muhammad Saad, Shahnaz Perveen, and M. Iqbal Choudhary, *Bioorganic & Medicinal Chemistry* 22 (**2014**) 6509–6514 (I.F = 2.8)
- 20- Stability and enzyme inhibition activities of Au nanoparticles using an aqueous extract of clove as a reducing and stabilizing agent, Hameed A, Khan I, Azam A, Naz SS, Khan A, **Saleem M**, Shah MR and Nazar-Ul-Islam, *J. Chem. Soc. Pak.*, Vol. 36, No. 3, **2014** (I.F = **0.280**)
- 21- Benzimidazoles: A new class of carbonic anhydrase inhibitors, Khan KM, Khan M, **Saleem M**, Ali M and Choudhary MI, *J. Chem. Soc. Pak*, Vol. 35, No.3, **2013**. (I.F = **0.280**)
- 22- Proximate chemical composition and biological profile of fatty acids of *Withania somnifera* L. dunal, Ghias Uddin, Abdur Rauf, Sumaira Gul, **Muhammad Saleem**, Salma Umar and Ajmal Khan, *Journal of Medicinal Plants Research*, Vol. 7(27), pp. 2034-2039, 17 July, **2013** (I.F = 0.00)
- 23- Synthesis, antioxidant and carbonic anhydrase inhibitory potential of Schiff bases of thiazoles, Khan KM, Karim A, Saied S, Ambreen N, **Saleem M**, Ameen A, Perveen S, Ahmad A, and Choudhary MI, *J. Pharm. Res*, **2012**, 5(1), 661-663. (I.F = xxxx)
- 24- In vitro Antifungal Activity of Three Selected Pakistani Medicinal Plants, Abdur Rauf, Ajmal Khan, Shagufta Rasool, Zafar Ali Shah and Muhammad Saleem, *Middle-East Journal of Medicinal Plants Research* 1(2): 41-43, **2012** (I.F = xxxx)

## References

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**Prof. Dr. Atta-ur-Rahman** *N.I., H.I., S.I., T.I.*

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