

## CURRICULUM VITAE

Dr. Muhammad Iqbal  
M.Sc, M.Phil, Ph.D

Assistant Professor  
Department of Chemistry, Bacha Khan University, Charsadda,  
KP, Pakistan

Contact #: 0092 346 7512571  
E-mail: [iqbalmo@yahoo.com](mailto:iqbalmo@yahoo.com), [iqbal@bkuc.edu.pk](mailto:iqbal@bkuc.edu.pk)  
CNIC #: 16102-3650616-5  
Date of Birth: 19/02/1985



### A. Education

#### Research interest:

Inorganic synthesis, electrochemical study, supra-molecular chemistry, metal organic frameworks, magnetic, catalytic and other structure based applications.

- 2014: Ph.D in Chemistry, Quaid I Azam University, Islamabad  
Thesis title: "Synthesis, characterization and applications of copper(II) complexes with N- and O-donor ligands"
- 2010: M.Phil (CGPA=3.4, Inorganic/Analytical chemistry)  
Quaid I Azam University, Islamabad  
Thesis title: "Synthesis, structural characterization and fluorescence studies of organotin(IV) compounds"
- 2008: M.Sc, (1<sup>st</sup> Div., Inorganic Chemistry)  
University of Peshawar, Peshawar  
M.Sc Thesis title: "Ionic characteristics of potable water of district Mardan, KP"
- 2004: B.Sc, (1<sup>st</sup> Div., Chemistry, Zoology, Geography)  
University of Peshawar, Peshawar
- 2002: H.S.S.C., (1<sup>st</sup> Div., Pre-medical) BISE Mardan, KPK
- 2000: S.S.C., (1<sup>st</sup> Div., Science Group) BISE Peshawar, KPK

### A. Projects

Working as principal investigator in stage-II on the NRPU project # 9257/KPK/  
NRPU/R&D/HEC/2017 worth 2.251782 million.

### B. Scholarships

M.Sc: Merit Scholarship under HEC Talent Farming Scheme

M.Phil, Ph.D: HEC Indigenous Scholarship and IRSIP

### C. Professional skills

- Working and operation experience on atomic absorption spectrophotometer in PCRWR Islamabad
- Working experience on electron spin resonance spectrometer in school of chemistry, university of Birmingham, U.K
- Chromatographic techniques: Working hand on HPLC, TLC and column chromatography.
- Structural analysis techniques: Working hand on UV-Visible spectrometer, Cyclic voltammeter, Infra-red spectrometer
- Computer literacy: MS-Word, MS-Office, MS-Excel, MS-PowerPoint.

### D. Professional Training:

Attended 26<sup>th</sup> Batch Master Trainer Faculty Professional Development Program (MT-FPDP) 16<sup>th</sup> November 2015 -15<sup>th</sup> January 2016, at LID, HEC H-8, Islamabad

### E. Workshop Organized

Organized “HEC Three Days Workshop on Understanding the Learner’s Psychology and Developing Critical Thinking” held at Bacha Khan University Charsadda, Khyber Pakhtunkhwa, January 9-11, 2018

### F. Conferences and Workshops Attended/Presented

- Participated as presenter in 4<sup>th</sup> international conference on “RECENT TRENDS IN CHEMISTRY” held on November 7,8 2018 in department of chemistry, Allama Iqbal open University, Islamabad.
- 10<sup>th</sup> International and 21<sup>st</sup> National Chemistry Conference, November 21-23, 2011, University of Agriculture, Faisalabad, Pakistan
- 8<sup>th</sup> International and 20<sup>th</sup> National Chemistry Conference, Feb., 15-18, 2010, Quaid I Azam University, Islamabad
- Workshop on MOLECULAR MODELING IN CHEMISTRY AND BEYOND, May 27-29, 2011, Department of Chemistry, Quaid I Azam University, Islamabad
- Symposium on HYDROGEN AND FUEL CELLS, July, 9-11, 2012, Department of Chemistry, Quaid I Azam University, Islamabad

### G. Publications:

**2021**

**2020**

1. Muhammad Iqbal, Saqib Ali, Muhammad N. Tahir, Paul A. Anderson, Octahedral Copper(II) Carboxylates with 1,10-Phenanthroline: Synthesis, Structural Characterization, DNA-Binding and Anti-Fungal Properties, Journal of Chemical Crystallography, published online: 06 October 2020. <https://doi.org/10.1007/s10870-020-00866-x>

2. Muhammad Iqbal, Amir Karim, Saqib Ali, Hazrat Bilal, Ata Ur Rehman, Synthesis, Characterization, Structural Description, Micellization Behavior, DNA Binding Study and Antioxidant Activity of 4, 5 and 6-Coordinated Copper(II) and Zinc(II) Complexes, (Journal of Inorganic and General Chemistry), Z. Anorg. Allg. Chem., (2020) 646, 895–903.
3. Muhammad Iqbal, Amir Karim, Saqib Ali, Muhammad Nawaz Tahir, Manzar Sohail, Synthesis, characterization, structural elucidation, electrochemistry, DNA binding study, micellization behaviour and antioxidant activity of the Cu(II) carboxylate complexes, Polyhedron 178 (2020) article number 114310. <https://doi.org/10.1016/j.poly.2019.114310>
4. Mehr-un-Nisa, Muhammad Sirajuddin, Saqib Ali, Muhammad Nawaz Tahir, Muhammad Iqbal, Synthesis, characterization crystal structures and DNA binding studies of zinc complexes with oxygen and nitrogen donor ligands, Polyhedron 177 (2020) article number 114273. <https://doi.org/10.1016/j.poly.2019.114273>
5. Ata Ur Rehman, Aamir Ali, Tianyu Zhao, Rahim Shah, Ihsan Ullah, Hazrat Bilal, Muhammad Iqbal, Maosheng Zheng, Thermochemical heat storage ability of ZnSO<sub>4</sub>·7H<sub>2</sub>O as potential long-term heat storage material, International Journal of Energy research, 2020, 1–9. <https://doi.org/10.1002/er.6077>
6. M. Iqbal, S. Ali, M. N. Tahir, M. A. Haleem, H. Gulab, N. A. Shah, *J. Serb. Chem. Soc.* (2020) 85 (2), 203-214. <https://doi.org/10.2298/JSC190423065I>.

### 2019

7. A. W. Kamran, S. Ali, M. N. Tahir, M. Zahoor, A. Wadood, M. Iqbal, *J. Serb. Chem. Soc.* (2019) <https://doi.org/10.2298/JSC190715109K>
8. Muhammad Iqbal, Saqib Ali, Manzar Sohail, Muhammad Nawaz Tahir, Paul A. Anderson, Mononuclear vs. binuclear carboxylates of copper(II) with 2,2-bipyridine: Synthesis, characterization, structural description, and properties, *J Chin Chem Soc.* (2019) 66, 1619-1627. <https://doi.org/10.1002/jccs.201900048>.
9. Afifa Mushtaq, Shahid Aziz, Saqib Ali, Ali Haider, Muhammad N. Tahir, Muhammad Iqbal, Ternary paddlewheel copper(II) complexes: synthesis, structural elucidation, DNA-binding, anti-oxidant and conductance studies, *Supramolecular Chemistry.* (2019), 31 660-667. <https://doi.org/10.1080/10610278.2019.1640364>.
10. Muhammad Iqbal, Saqib Ali, Muhammad N. Tahir, Arif Nawaz, Paul A. Anderson, Wilayat Khan, Mono- and poly-nuclear copper(II) carboxylates with fluorine ligands: Synthesis, structure and improved properties, *Inorganica Chimica Acta* 498 (2019) article number 119177. <https://doi.org/10.1016/j.ica.2019.119177>
11. Afifa Mushtaq, Saqib Ali, Muhammad Nawaz Tahir, Ali Haider, Hammad Ismail, and Muhammad Iqbal, Mixed-Ligand Cu(II) Carboxylates: Synthesis, Crystal Structure, FTIR, DNA Binding, Antidiabetic, and Anti-Alzheimer's Studies, *Russian Journal of Inorganic Chemistry*, 2019, Vol. 64, No. 11, pp. 1365–1378

### 2018

12. Muhammad Iqbal, Saqib Ali, Muhammad Nawaz Tahir, Asymmetric Oxygen Bridged Copper(II) Carboxylate: Synthesis, Complete Characterization and Crystal Structure, *Journal of Structural Chemistry*, (2018) 59(7) 1678.

13. Muhammad Iqbal, Affa Mushtaq, Saqib Ali, Manzar Sohail and Paul A. Anderson, Dinuclear Ternary Copper(II) Complex: Synthesis, Characterization, Structure and DNA-Binding Studies, *Acta Chim. Slov.* 2018, 65, 989–997.
14. Muhammad Iqbal, Saqib Ali, Muhammad Nawaz Tahir, Polymeric Copper(II) Paddlewheel Carboxylate: Structural Description, Electrochemistry, and DNA-binding Studies, *Z. Anorg. Allg. Chem.* 2018, 644, 172–179.
15. Muhammad Iqbal, Saqib Ali, Muhammad Nawaz Tahir, Effect of Fluorinated Ligand on Structural, Electronic and DNA-binding Properties of Copper Paddlewheel Complex: Synthesis, Structure and Properties, *Acta Chim. Slov.* 2018, 65, 131–137
16. Muhammad Iqbal, Saqib Ali, Saira Shahzadi, Muhammad N. Tahir, Hammad Ismail, Octahedral copper(II) carboxylate complex: synthesis, structural description, DNA-binding and anti-bacterial studies, *Journal of Coordination Chemistry*, 2018, 71:7, 991-1002, DOI: 10.1080/00958972.2018.1456655.
17. Hussain Gulab, Zarbad Shah, Mazhar Mahmood, Syed Raza Shah, Sajid Ali, Muhammad Iqbal, Muhammad Naeem Khan, Ulrich Florke, Shahid Ali Khan, Synthesis, characterization and antibacterial activity of a new calcium complex using sodium 2-mercaptobenzothiazole and 1,10-phenanthroline as ligands, *Journal of Molecular Structure*, 1154 (2018) 140-144
18. Afifa Mushtaq, Saqib Ali, Muhammad Iqbal, Muhammad Nawaz Tahir, Hammad Ismail, Supramolecular Heteroleptic Copper(II) Carboxylates: Synthesis, Spectral Characterization, Crystal Structures, *Russian Journal of Coordination Chemistry*, 2018, Vol. 44, No. 3, pp. 187–197.

## 2017

19. Muhammad Iqbal, Saqib Ali, Ali Haider, Nasir Khalid, Structural Diversity, Electrochemical, and DNA-Binding Properties of Copper(II) Carboxylates, *Iran J Sci Technol Trans Sci.* DOI 10.1007/s40995-016-0141-5.
20. Muhammad Iqbal, Saqib Ali, Muhammad Nawaz Tahir, Naseer Ali Shah, Dihydroxo-bridged dimeric Cu(II) system containing sandwiched non-coordinating phenylacetate anion: Crystal structure, spectroscopic, anti-bacterial, anti-fungal and DNA-binding studies of [(phen)(H<sub>2</sub>O)Cu(OH)2Cu(H<sub>2</sub>O)(phen)]2L.6H<sub>2</sub>O: (HL = phenylacetic acid; phen = 1,10-phenanthroline), *Journal of Molecular Structure*, 1143 (2017) 23-30.
21. Muhammad Iqbal, Saqib Ali, Ali Haider, Nasir Khalid, Therapeutic properties of organotin complexes with reference to their structural and environmental features, *Reviews in Inorganic Chemistry*, 37 (2) 2017, 51-70. DOI: 10.1515/revic-2016-0005.
22. Afifa Mushtaq, Saqib Ali, Muhammad N. Tahir, Hammad Ismail, Bushra Mirza, Muhammad Saadiq, Muhammad A. Haleem, Muhammad Iqbal, New Bioactive Heteroleptic Copper(II) Carboxylates: Structure, Enzymatic and DNA-Binding Studies, *acta chimica slovenica*, 2017, 64, 397–408. DOI: 10.17344/acsi.2016.3250
23. Afifa Mushtaq, Saqib Ali, Muhammad Iqbal, Muhammad Nawaz Tahir, Hammad Ismail, Synthesis of a New Heteroleptic Copper(II) Complex: Structural Elucidation, DNA Binding and In-vitro Alpha Glucosidase Inhibition Studies, *J. Chem. Soc. Pak.*, Vol. 39, No. 03, 2017, 471-477.

## 2016

24. Muhammad Iqbal, Muhammad Sirajuddin, Saqib Ali, Manzar Sohail, Muhammad Nawaz Tahir, O-bridged and paddlewheel copper(II) carboxylates as potent DNA intercalator: Synthesis, physicochemical characterization, electrochemical and DNA binding studies as well as POM analyses, *Inorg. Chim. Acta*, 440 (2016) 129–138.

### 2015

25. Syeda Tahira Hafeez, Muhammad Nawaz Tahir, Saqib Ali, Muhammad Iqbal, Hussain Gulab & Khurram Shahzad Munawar, One-pot synthesis, characterization, DNA binding and enzymatic studies of 4-methyl transcinnamate zinc(II)-mixed ligand complexes, *J. Coord. Chem.*, 68 (2015) 3636–3650
26. Muhammad Iqbal, Saqib Ali, Muhammad Nawaz Tahir, Niaz Muhammad, Naseer Ali Shah, Manzar Sohail, Vedapriya Pandarinathan, Synthesis, crystal structure and electrochemical and DNA binding studies of oxygen bridged-copper(II) carboxylate, *J. Mol. Struct.*, 1093 (2015) 135–143

### 2014

27. Muhammad Iqbal, Saqib Ali, Zia-Ur Rehman, Niaz Muhammad, Manzar Sohail, Vedapriya Pandarinathan, Synthesis, crystal structure description, electrochemical, and DNA-binding studies of “paddlewheel” copper(II) carboxylate, *J. Coord. Chem.*, 67 (2014) 1731–1745
28. Nida Ali, Muhammad Nawaz Tahir, Saqib Ali, Muhammad Iqbal, Khurram Shahzad Munawar & Sajida Perveen, Synthesis, characterization, crystal structures, enzyme inhibition, DNA binding, and electrochemical studies of zinc(II) complexes, *J. Coord. Chem.*, 67 (2014) 1290-1308
29. Syeda Tahira Hafeez, Saqib Ali, Muhammad Nawaz Tahir, Muhammad Iqbal, Khurram Shahzad Munawar, One-pot synthesis, structural elucidation, DNA binding and alkaline phosphatase inhibition studies of zinc(II) complexes with 4-nitrocinnamic acid and ethylenediamine, *J. Coord. Chem.*, 67 (2014) 2479-2495

### 2013

30. Muhammad Iqbal, Saqib Ali, Niaz Muhammad, Masood Parvez, Peter Langer, Alexander Villinger, Synthesis, characterization, crystal structures and electrochemical studies of organotin(IV) carboxylates, *Journal of Organometallic Chemistry*, 723 (2013) 214-223
31. Muhammad Iqbal, Iqbal Ahmad, Saqib Ali, Niaz Muhammad, Safeer Ahmed, Manzar Sohail, Dimeric “paddle-wheel” carboxylates of copper(II): Synthesis, crystal structure and electrochemical studies, *Polyhedron*, 50 (2013) 524–531
32. Muhammad Iqbal, Saqib Ali, Niaz Muhammad, Manzar Sohail, Synthesis, crystal structures and electrochemical characterization of dinuclear paddlewheel copper(II) carboxylates, *Polyhedron*, 57 (2013) 83–93
33. Khurram Shahzad Munawara, Saqib Ali, Muhammad Iqbal, Allah Nawaz Khan, Oxovanadium Complexes with Multidentate Ligands, *Review Journal of Chemistry*, 2013, Vol. 3, No. 4, pp. 304–322.