

CURRICULUM VITAE

Personal Information:

Name: Dr. Khan Malook

Date of Birth: 21-04-1984

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Current Address: Centralized Resource Laboratory, University of Peshawar, Peshawar, Khyber
Pakhtunkhwa (KPK), Pakistan.

Permanent Address: District and Tehsil Lakki Marwat Post office Tajori Village Sargara
Muhammad Khan, KPK, Pakistan.



Academic Career:

SSC [2001]

Science, Board of Intermediate and Secondary Education (BISE), Bannu, KPK,
Pakistan

F.Sc [2003]

Pre-medical, BISE, Bannu, KPK, Pakistan

B.Sc [2005]

Gomal University Dera Ismail Khan, KPK, Pakistan

M.Sc [2007]

Analytical Chemistry, Institute of Chemical Sciences University of
Peshawar, KPK, Pakistan

Project Title “Development of extractive Spectrophotometric method for quantitative
determination of Lidocain in pharmaceutical formulations”

M.Phil (Post Mater Degree) [2014]

Physical Chemistry National Center of Excellence in Physical chemistry, University of Peshawar, KPK, Pakistan

Project Title “Synthesis, characterization and gas sensing properties of uniform fine Particles of copper (II) oxide”

Ph.D [2018]

Analytical Chemistry, Department of Chemistry, Islamia College Peshawar, KPK, Pakistan

Project Title “Synthesis, characterization and analytical applications of polypyrrole-metal oxide composites”

Experience:

1: Working as a Lecturer/Analytical Chemist at Centralized Resource Laboratory University of Peshawar since February 12, 2009 having hand on experience on the following high-tech sophisticated equipment along with their theoretical knowledge.

- i. Atomic Absorption Spectrometer (AAAnalyst-700, Perkin Elmer, USA)
- ii. Gas Chromatography (Clarus 500, Perkin Elmer, USA)
- iii. High Performance Liquid Chromatography (200 Series, Perkin Elmer, USA)
- iv. Thermogravimetric/Differential Thermal Analyzer (Diamond TG/DTA, Perkin Elmer, USA)
- v. Differential Scanning Calorimeter (Diamond DSC, Perkin Elmer, USA)
- vi. Dynamic Mechanical Analyzer (Diamond DMA, Perkin Elmer, USA)
- vii. Surface Area & Pore Size Analyzer (2100e, Quantachrome, USA)
- viii. Scanning Electron Microscope (JSM-5910, JEOL, Japan)
- ix. Fourier Transform Infrared Spectroscopy (FTIR-8400, Shimadzu, Japan)

- 2) Member of the technical committee for the procurement of “Scientific Equipment for Advanced Research Lab (ARL)” University of Peshawar, since June, 17 2019, to date.

RESEARCH INTERESTS

- 1) Synthesis, characterization and applications of metal oxides particles, metal oxide-conducting polymers framework as gas sensing materials
- 2) Application of organic wastes for removal of heavy metals ions from contaminated water

Publications:

- 1) S. Khan, H. Khan, A. Nasrullah, S. Ahmad, N. Muhammad, M. Bilal, F. U. Khan, S. Badshah, I. Ullah, **K. Malook** ‘‘ Antiwear Properties of Benzoic Acid in Bitter Rapeseed Oil and Sesame Oil at Low and High Temperature’’International journal of Mechanical and Mechatronics Engineering, 12, 7-12, 2012.
- 2) M. Ikrama, S. Rehmana, M. Alic, Faridoonb, C. Schulzkeg, R. J. Bakerd, A. J. Blakee, **K. Malook**, H. Wonge, S. U. Rehman, Urease and chymotrypsin inhibitory activities of transition metal complexes of new Schiff base ligand: Kinetic and thermodynamic studies of the synthesized complexes using TG–DTA pyrolysis, *Thermochimica Acta*, 562, 22–28, 2013.
- 3) M. Sirajuddin, Nooruddin, S. Ali, V. McKee, S. Z. Khan, **K. Malook**, Synthesis, Spectroscopic Characterization, Crystal Structure, DNA Interaction Study and *in Vitro* Biological Screenings of 4-(5-chloro-2-hydroxyphenylamino)-4-oxobut-2-enoic acid, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 134C:244-250, 2014.
- 4) I.U. Haq, K. Akhtar, **K. Malook**, Synthesis and characterization of monodispersed copper oxide and their precursor powder, *Materials Research Bulletin*, 57, 121–126, 2014.
- 5) K. Akhtar, I. U. Haq, **K. Malook**, Gas sensing properties of semiconducting copper oxide nanospheroids, *Powder Technology* 283, 505–511, 2015.

- 6) H. Khan, **K. Malook**, M. Shah, Highly selective and sensitive ammonia sensor using polypyrrole/V₂O₅ composites, *Journal of Materials Science: Materials in Electronics*, 28, 13873, 2017.
- 7) **K. Malook**, H. Khan, M. Shah, I. Ul.Haque, Synthesis, characterization and electrical properties of polypyrrole/V₂O₅ composites, *Korean Journal of Chemical Engineering*, 35, 12–19, 2018.
- 8) H. Khan, **K. Malook**, M, Shah, Polypyrrole/MnO₂ composites: synthesis, structural and electrical Properties, *Journal of Materials Science: Materials in Electronics*, 29, 9090–9098, 2018.
- 9) **K. Malook**, H. Khan, M. Shah, I. Ul. Haque, Highly Selective and Sensitive Response of Polypyrrole–MnO₂ Based Composites towards Ammonia Gas, *Polymer Composites*, 40, 1676-1683, 2019.
- 10) **K. Malook**, I. Ul-Haque, M. Khan, M. Ali, Polypyrrole-CuO based composites, promotional effects of CuO contents on polypyrrole characteristics, *Journal of Materials Science: Materials in Electronics*, 30, 3882–3888, 2019.
- 11) H. Khan, **K. Malook**, M, Shah, Synthesis, characterization, and electrical properties of polypyrrole–bimetallic oxide composites, *Journal of applied polymer science*, DOI: 10.1002/app.47680.
- 12) **K. Malook**, I. Ul. Haque, Investigation of Aqueous Cr(VI) Adsorption Characteristics of Orange Peels Powder, *Protection of Metals and Physical Chemistry of Surfaces*, 55, 34-40, 2019.
- 13) **K. Malook**, H. Khan, M. Shah, I. Ul. Haque, Ammonia sensing behavior of polypyrrole-bimetallic oxide composites, polymer composites (**Accepted**)

- 14) **K. Malook**, H. Khan, M. Ali, I. Ul. Haque, Investigation of room temperature humidity sensing performance of mesoporous CuO particles, *Materials Science in Semiconductor Processing*, 113, 105021, 2020.
- 15) **K. Malook**, H. Khan, Zero Valent Iron/Copper Functionalized Spent Tea as Adsorbent for Decontamination of Cd(II) Ions Contaminated Water, *Water Science and Technology*, 82, 2552–2561.

Abstracts in Conferences:

- 1) Hamayun Khan, **K. Malook** and M. Shah, “Polypyrrol-MnO₂ Composites: Synthesis, Characterization and Analytical Applications”. 5th World Congress on Smart and Emerging Materials, 19th to 20th April 2018, at Dubai (UAE) (pp. 51).
- 2) Hamayun Khan, **K. Malook** and M. Shah, “Synthesis, Characterization and Analytical Applications of Polypyrrole/Bimetallic Oxide Composites”. 5th International Multidisciplinary Research Conference, “Global Prosperity Through Research & Development”, 29th to 31st October 2019, at Shaheed Benazir Bhutto Women University, Peshawar (Pakistan) (pp. 48).
- (3) **K. Malook**, H. Khan, M. Shah, I. Ul.Haque, Synthesis, characterization and electrical properties of Polypyrrole /V₂O₅ composites “1st International Conference on Emerging Trends in Material Sciences, Center for Material Science, Islamia College Peshawar, Pakistan, 27th February to 1st March, 2018, (pp. 34)

Workshop/conference/training/seminars Attended:

- 1) First one-week introductory workshop on CRL equipment, CRL, University of Peshawar, Pakistan, 15-20 June 2009 (**Resource person**)
- 2) 1st Training Course on “Application of Stable & Radioactive Isotopes in Food, Agriculture and Medicine, Nuclear Institute for Food & Agriculture (NIFA) Tarnab, Peshawar, Pakistan, October 5-9, 2009 (**Participant**)
- 3) Training Course of Analytical Equipment (HPLC, AAS, GC) by Analytical Measuring System (AMS) Pvt.Ltd (Perkin Elmer), February 8-12, 2010 (**Participant**)
- 4) Training Course of Analytical Equipment (DSC, TG/DTA, DMA) by Analytical Measuring System (AMS) Pvt.Ltd (Perkin Elmer), February 15-19, 2010 (Participated as Participant)
- 5) A two-day work shop on Vacuum and Thin Film Technology, National Centre for physics Quaid-e- Azam university Islamabad, Pakistan, 29-30 July, 2010 (**Participant**)

- 6) 11th International & 23rd National Chemistry Conference, National Centre of Excellence In physical chemistry University of Peshawar, Pakistan, 15-17 October, 2012 (**Participant**)
- 7) 4th Spring Research Poster Exhibition, Institute of Chemical Sciences, University of Peshawar, Pakistan, April 11, 2013 (**Presenter**)
- 8) 3 Days Indigenous On-Campus Training (IOT) on “Leaderships in Higher Education Institutes” Centre for Human Resource and Career Development, University of Peshawar, Pakistan, 31st August to 2nd September, 2016 (**Participant**)
- 9) Provided hand on Training to eight faculty members of NED University Karachi on the equipment of Centralized Resource Laboratory, University of Peshawar from
- 10) Patent Drafting and Filing of Patent Application, Training and Development Centre, Islamia College, Peshawar, Pakistan in Collaboration with Intellectual Property Organization of Pakistan, May 16, 2017 (**Participant**)
- 11) 1st International Conference on Emerging Trends in Material Sciences, Center for Material Science, Islamia College Peshawar, Pakistan, 27th February to 1st March, 2018, (**Presenter**)
- 12) **Exhibited research facilities of CRL** in the 26th Annual Technical Symposium & Exhibition of Oil and Gas industry of Pakistan, 19-20th November 2019 at Serena Hotel, Islamabad

Articles Reviewed:

Reviewed article (s) for;

- 1) Inorganic and Nano-Metal chemistry
- 2) ACS Omega
- 3) Sensors and Actuators B: Chemical

Languages:

1. English, good speaking, listing and writing power
2. Urdu, good speaking, listing and writing power
3. Pashto, mother tongue

Extra-Curricular Activities:

Reading Books, News - papers, Playing Cricket at leisure time