

Curriculum Vitae

Field Physical Chemistry

Me as Personal:



Name: Dr. Muhammad Sadiq

Designation: Assistant Professor

DOB: 09/04/1978

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Martial status: Married

Citizenship: Pakistan

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Chakdara, Dir (Lower), NWFP, Pakistan

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(Lower), NWFP, Pakistan

Education:

- ❖ *PhD (Physical Chemistry)* **2009**
NCE in Physical Chemistry, University Peshawar
- ❖ *M Phil (Physical Chemistry)* **2005**
NCE in Physical Chemistry, University Peshawar
- ❖ *M. Sc (Chemistry)* **2002/2001**
Peshawar University
- ❖ *B. Ed (Biological Sciences)* **2002**
Peshawar University
- ❖ *B. Sc (Chemistry, Zoology, Botany)* **1998**
Peshawar University
- ❖ *F. Sc (Pre-medical)* **1996**
BISE Swat
- ❖ *SSC (Science)* **1994**
BISE Swat

Research interest:

- Homogeneous and heterogeneous catalysis
- Mechanistic studies of catalytic reactions
- Various batch reactors design.
- Partial oxidation reaction in both gas and liquid phase.
- Reduction of NO_x by metal oxide.

Research Techniques:

- GC, GC-MS, NMR, Spectrophotometric analysis, HPLC, BET surface area and pore size analyser, XRD, SEM-EDS, FTIR and Partical size analysis.
- Computation on 52 nodes 3.1 GHz Xeon processors with Schrodinger and Gaussian software.

Awards and scholarships:

- Scholarship during M Phill study with Prof M. Ilyas in NCE in Physical Chemistry, University of Peshawar, Pakistan.
Thesis title: *(Dehydrogenation/ Oxidation of Alcohol Catalysed by Platinum supported on Zirconia in the Liquid Phase, Solvent Free Conditions, Part I: Cyclohexanol Conversion to Cyclohexanone)*
- Scholarship during PhD study with Prof M. Ilyas in NCE in Physical Chemistry, University of Peshawar, Pakistan.
Thesis title: *(Investigating the activity of zirconia as a catalyst and as a support for noble metals in organic oxidation reactions)*
- Research project with Prof Phir G Andresson in Uppsala University, Sweden (Funded by HEC Pakistan).
Project title: *(Rational development of new chiral ligands for metal catalyzed hydrogenation).*

Experience:

- Training Course in Nuclear and Other Advance Techniques in Food and Agriculture Research (NIFA Tarnab Peshawar).
- Research Scholar of National Centre of Excellence in Physical Chemistry University of Peshawar, Pakistan during M Phil and Ph D studies.
- Project researcher with Prof Phir G Andresson in BMC at Uppsala University, Sweden.

Research Publication:

- Ilyas, M.; Sadiq, M.; Imdad, K. “Liquid-Phase Oxidation of Alcohols Catalyzed by ZrO_2 under Solvent Free Conditions” *Chin J Catal* **2007**, 28, 413-416.
- Ilyas, M.; Sadiq, M. “Liquid Phase Aerobic Oxidation of Benzyl Alcohol Catalyzed by Pt/ZrO_2 ” *Chem. Eng. Technol* **2007**, 30, 1391-1397.
- Ilyas, M.; Sadiq, M. “Kinetics of Heterogeneous Solvent-free Liquid Phase Oxidation of Alcohol Using ZrO_2 Catalyst with Molecular Oxygen” *Chin. J. Chem*, 2008, 26, 941-946.
- Ilyas, M.; Sadiq, M. “Oxidation of Toluene to Benzoic Acid Catalyzed by Platinum Supported on Zirconia in the Liquid Phase-Solvent Free Conditions” *Catal. Lett.* **2009**, 128, 337-342.

Presentation at various conferences:

- M. Ilyas, **M. Sadiq** “*A model catalyst for aerobic oxidation of toluene in aqueous solution*” presented in **12th International Conference of the Pacific Basin Consortium for Environment & Health Sciences at Beijing University, China**, 26-29 October 2007.
- M. Ilyas, **M. Sadiq** “*Oxidation of benzyl alcohol in aqueous medium by zirconia catalyst at mild conditions*” presented in **18th National Chemistry Conference in Institute of Chemistry, University of Punjab, Lahore Pakistan**, 25-27 February 2008.
- M. Ilyas, **M. Sadiq** “*Comparative study of commercially available ZrO₂ and laboratory prepared ZrO₂ for liquid phase solvent free oxidation of cyclohexanol*” presented in **18th National Chemistry Conference Institute of Chemistry, University of Punjab, Lahore Pakistan**, 25-27 February 2008.
- M. Ilyas, **M. Sadiq** “*Zirconia-supported noble metals catalyst for oxidation of phenol in artificially contaminated water at milder conditions*” presented in **1st National Symposium on Analytical, Environmental and Applied Chemistry in Shah Abdul Latif University, Khairpur, Sindh, Pakistan**, 24-25 October 2008.