

Dr. M. Mehdi Musawir

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Education

2000-2004	PhD	Liverpool Centre for Materials and Catalysis (LCMC), Department of Chemistry, University of Liverpool, UK.
1998-2000	M.Phil	Organic Chemistry, Department of Chemistry, University of Liverpool, UK.
1996-1997	MSc	Physical and Inorganic Chemistry, Jahangirnagar University, Dhaka, Bangladesh.
1993-1996	B.Sc (Hons)	Chemistry, Jahangirnagar University, Dhaka, Bangladesh.

Current position

February 04 to June 06

Postdoctoral Research Scientist in an Industrially sponsored research project in The Department of Chemistry, University of Liverpool. The project is in heterogeneous or homogeneous catalysis, related to the manufacturing of fine and speciality chemicals as well as pharmaceuticals.

Demonstrator (2002-2004)

This involved demonstrating the module course for new industrial scientists working in catalysis- "Fundamentals and Practice in Catalysis" at the Liverpool Centre for Materials and Catalysis, University of Liverpool.

Teaching (2001-2003)

During the PhD programme to supervision of an undergraduate and graduate students at the Department of Chemistry, University of Liverpool UK. This involved teaching the theoretical background in the experiments in organic/ physical chemistry, guiding them through their experiments.

Industrial Placement

During the PhD programme involving industrial placement at the Quest International Asford UK carrying out a research project for aerobic oxidation of alcohols by Ru catalysts.

Out Standing Research

Patent 2004

World Patent WO 04/030812, During the PhD programme, invented a new catalyst, comprising of ruthenium-cobalt binary oxide which is suitable for use in the selective oxidation of alcohols to aldehydes, awarded for a world patent – "Oxidation Process And Catalysts Use Therein" - M. Musawir, I.V. Kozhevnikov, P.N. Davey, G.J. Kelly, J.R. Anderson, assigned by Johnson Matthey Public Limited Company, Billingham, UK.

PhD Project/2000-2004

Research Project, "Catalytic liquid-phase oxidation of primary alcohols to aldehydes" is related to the development of novel synthetic routes to fragrances and food additives. The project is sponsored by ICI group (Quest international, Ashford, Kent,

UK and Syntex, Billingham, Cleveland, UK). The work involved synthesis and characterization of platinum group metals catalysts, which were used for heterogeneous aerobic oxidation of alcohols to aldehydes. The project was done as a part of PhD thesis, in the Department of Chemistry, University of Liverpool, UK.

MPhil Project/1998-00

Research Project, "A study of Baeyer-Villiger Monoxygenase isozymes from *Pseudomonas putida* NCIMB 10007, Synthesis of an Analogue of the natural substrate". Work includes the biological Baeyer-Villiger oxidation of cyclic ketones to lactones using biocatalysts, *e.g.* Baeyer-Villiger monoxygenase, which eliminates over existing chemical methods in particularly respect to selectivity, operating conditions and scale-up. Project involves the design of new synthetic methods and the total synthesis of target natural products. Work was done as a part of M.Phil thesis in organic chemistry, Department of Chemistry, University of Liverpool, UK.

Technical Skills

- Synthetic organic chemistry and catalysis
- Isolation and purification of organic compounds by crystallization and column chromatography
- Analytical chemistry experience in GC, GC-MS, LC-MS, ¹H NMR, IR, UV/Visible, HPLC and elemental analysis (CHN)
- Micro reactor design, autoclave, catalyst synthesis and characterization by FT-IR, XRD, XPS, TGA, DSC, TPR, EM, BET and ICP
- Health & Safety Regulation (COSHH) with experience of handling reactive gases and air sensitive organic compounds

Computer Skills

Competent user of all commonly used software like MS Word, Excel, Power Point etc. also chemical drawing software *e.g.* Chemdraw, Beilstein and internet on line searching packages (Web of Science, ISIS etc.).

Short courses and training attended

-March 2003- Integrated Graduate Development Scheme (IDGS), Leverhulme Centre for Innovative Catalysis, University of Liverpool "Tools for managing Catalyst Technology"
-October 2001-Integrated Graduate Development Scheme (IDGS), University of Liverpool "Catalysis for sustainable Technology"

Organization

Organized several of workshops and seminars for dissemination of information able to adopt new environments and working effectively as a member of a research team with excellent communication and presentation skills, willingness to learn new skills without reservation.

Publications

- (Patent) Oxidation process and catalysts for use therein, **M. Musawir**, P. Davey, I.V. Kozhevnikov, G. Kelly, J.R. Anderson, WO 2004030812 A, publication date: 15.04.2004.
- T.L. Stuchinskaya, **M. Musawir**, I.V. Kozhevnikov, Journal of Catalysis (*J. Catal.*, 2005, **231**,41).
- **M. Musawir**, P.N. Davey, G.J. Kelly, I.V. Kozhevnikov, Chemical Communications (*Chem. Commun.* 2003, 1414.).

- **M. Musawir**, M. Hasan, P.N. Davey, I.V. Kozhevnikov, *Journal of Molecular Catalysis A Chemical (J. Mol Catal. A: Chem., 2002, 180, 77)*.
- **M. Musawir**, P.N. Davey, G.J. Kelly, I.V. Kozhevnikov, *Platinum Metals Review*, 2003, **47**, (3).

Conferences and Presentations

- *International Symposium on Applied Catalysis*, University of Glasgow UK, July 2003, - **oral presentation**.
- *11th ICI Symposium On Catalytic Technology*, Sunderland, Seaburn UK, May 2002, - **oral presentation**.
- *Department of Chemistry*, University of Liverpool UK, May 2002, - **oral presentation**.
- *Annual Scientific Review Meeting of Leverhulme Centre*, Maritime Museum, Albert Dock, Liverpool UK, April 2001, - **poster presentation**.
- *2nd Taylor Conference*, Albert Dock, Liverpool UK, September 2000, - **poster presentation**.
- *Department of Chemistry*, University of Liverpool UK, regular **oral presentations** with ICI group (Quest international and Syntex, after 3 months) during the duration of my PhD programme from 2000-2003 and Postdoctoral Project from 2004-2006.

Interests

Reading, swimming, running, playing games (cricket, football etc), mixing and caring people.

Date of birth

19 February 1976. Holding UK clean Driving Licence, do not require work permits to work in the UK

Referees

1. Professor Ivan V Kozhevnikov
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