

Dr. Shams Qamar Usmani
Centre for Chemical Management
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Personal Introduction:

Dr. Shams Usmani joined LEC in 2009 as a Commonwealth scholar under the supervision of Prof. Kirk T Semple. His doctoral work focused on the biodegradation of organic compound with special reference to 4-chlorophenol through aerobic granulation, a recent cell immobilization technology and a sustainable & eco-friendly solution for wastewater treatment. During this work he cultivated high settling aerobic granules on different carbon source and co-substrate. He also gained valuable experience in working with equipment like HPLC, FT-IR, GC, SEM, TOC and UV-Visible spectrophotometer.

Current Research:

Dr. Usmani's research interests focus on wastewater treatment using biological, chemical and various adsorption techniques. Presently he is working as a research associate on a knowledge transfer partnership between Lancaster Environment Centre and United Utilities, the UK's largest listed Water Company. The aim of this partnership is to minimise the load on activated sludge process by capturing the dissolve Chemical Oxygen Demand (COD). His current responsibility is to contribute to the END-O-SLUDG, which is an EU Seventh Framework Programme (FP-7) collaborative research project involving 14 European partners drawn from industry, academia and government establishments. Together, the partners are tasked with identifying and developing innovative system solutions for municipal sludge treatment and management in the context of EU climate change mitigation and energy policies.

Career Objective:

To remain on cutting edge technology advances in wastewater treatment and to apply my innovative and analytical skills to achieve organisational goals.

HIGHLIGHTS

- Awarded with prestigious **Commonwealth Scholarship** tenable at Lancaster University, UK.
- Working as an Associate for Knowledge Transfer Partnership (KTP) between Lancaster University and United Utilities.
- Won a place at **Rice University Business Plan Competition (2010)**, Houston, USA, world's richest and largest business planning competition and won second place out of 200 teams at China-UK Entrepreneurship Competition (2010), held at **University College London (UCL)**.

- **Paper presented at**

- Third International Conference of Science and Technology, Houston, USA, 2007
- International Conference on Environmental Research and Technology, USM, Malaysia.2008
- 6th European Wastewater Management Conference, Manchester, UK, 2012

Research Interest

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| Bioreactor for wastewater treatment | Adsorption of organic compounds |
| Aerobic Granulation | Wastewater Treatment Technology |
| Energy and resource recovery from waste | Wastewater Characterization |

Awards and Achievements

- HE Social Entrepreneurship Catalyst Award, Higher Education Funding Council for England, UK, 2010
- NCIIA Venture Lab Award, USA, 2010
- University Grant Commission, Govt. of India, 2006-09
- Council of Scientific and Industrial Research (CSIR) Grant, Govt. of India, 2008
- Nominated for MIT Technology Review magazine's 2010 TR35 awards.
- International Travel Award, provided by AAI Global Equity,USA, 2010
- Science Conclave With **Nobel Prize Winners** and eminent scientist held at IIT Allahabad between 15th-22nd December

Scientific Affiliation

- Chemical Research Society of India (CRSI), India
- Royal Society for Chemistry (RSC), UK
- Section Editors, Journal of Industrial Research & Technology
- Post Graduate Student Representative, Lancaster Environment Center, UK
- Affiliate membership, Chartered Management Institute, UK

Education

- PhD, 2011
Department of Chemistry, Aligarh Muslim University, Aligarh, UP, India
Title of thesis “Studies on Biodegradation of Chlorophenols “
Supervisor: Dr. Suhail Sabir, Co-Supervisor: Prof. Kirk T Semple
- M.Sc (Industrial Chemistry). First Division
Department of Chemistry, Aligarh Muslim University, Aligarh, UP, India
Thesis title:”Biodegradation of phenolic compounds”
Advisor: Dr. Suhail Sabir
- B.Sc (Industrial Chemistry).First Division
Department of Chemistry, Aligarh Muslim University, Aligarh, UP, India
Thesis title:” Waste Management of locks industries”
Advisor: Dr. Anis Ahmad

Experience

- Trainee: Lupin Ltd Mandideep, Bhopal (EOU CARDIOVASCULAR DIVISION)
Dealing with IPQC (in-process quality control) of synthesis of Active Pharmaceutical Ingredients at different stages synthesis of lisinopril
- Summer Intern: Artek Surfin Chemical Ltd, India
Problems, possible causes and their remedies in electroplating industry with special reference to copper plating process
- Industrial Interaction: South Austin Regional WWTP, Texas, USA
Treatment O&M supervisor: Mr. Randall Swenson
- Summer Intern: Parag Dairy Industry, Aligarh, India
Effluent treatment and analysis of dairy wastewater

Other Skills

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| Languages | C++ (introductory), visual basics |
| Tool | MS Office, ChemDraw, Origin, Metalib |
| Operating system | Windows, MS-DOS, LINUX |

Equipments Handled (Major)

Gas Chromatography Mass Spectroscopy (GC-MS)
Liquid Chromatography Mass Spectroscopy (LC-MS)
UV-Visible spectrophotometer
Atomic Absorption Spectroscopy (AAS)
Total Organic Carbon Analyzer

PUBLICATIONS AND CONFERENCES

Shams Qamar Usmani, Son Le and Kirk t Semple “A new concept in wastewater treatment” 6th European Wastewater Management Conference in October 2012, Manchester.

Rais Ahmad, Pijush Kanti Mondal and **Shams Qamar Usmani** “Anaerobic biodegradation of triphenylmethane dyes in a hybrid UASFB reactor for wastewater remediation”, Biodegradation, 2010 (21:1041–1047, Springer

Rais Ahmed, Pijush Kanti Mondal and **Shams Qamar Usmani** “Hybrid UASFB-aerobic bioreactor for biodegradation of acid yellow-36 in wastewater”, Bioresources Technology, 2010 (101:3787-3790), Elsevier

Farah khan, Mohammad Zain Khan, **Shams Qamar Usmani**, and Suhail Sabir, Biodegradation of phenol by aerobic technology”, “Water Science & Technology, 2009 (59:273–278), IWA Publishing

Shams Qamar Usmani, Suhail Sabir and Izharul Huq farooqi "Aerobic biodegradation of 4-chlorophenol in SBR", International Conference on Resource Development and Environmental Change: emerging issues and challenges, 27th-29th January, 2009, Department of Geography, Aligarh Muslim University, Aligarh, India

Shams Qamar Usmani, Suhail Sabir, Md Rashid and Izharul Huq Farooqi "Aerobic granulation: A review, "The American Academy of Sciences, Book of Abstracts, July 28-30, 2008, Houston, Texas, USA

Shams Qamar Usmani, Suhail Sabir, Izharul Haq Farooqui and Anees Ahmad Biodegradation of phenols and p-cresol by sequential batch reactor. International Conference on Environmental Research and Technology (ICERT 2008), Penang, Malaysia, pp. 906-910, (ISBN: 978-983-3986-29-3)

Shams Qamar Usmani, Suhail Sabir, Izharul Huq Farooqi and Masood Ahmad "Studies on biodegradation of phenols by sequential batch reactor", The American Academy of Sciences, Book of Abstracts, August 6-9, 2007, Houston, Texas, USA (ISBN:978-0976885399).

Shams Qamar Usmani, Pijush Kanti Mondal and Rais Ahmad, "Aerobic biodegradation of industrial sludge containing Malachite Green by Sequential Batch Reactor" ,Souvenir National Conference on Green Chemistry and its Perspective, February 11-12,2008,Sant Gadge Baba Amravati University ,Amravati.

Usmani S.Q, Mondal P.K "Thermodynamic behaviour and the breakthrough capacity on the removal of brilliant green from aqueous solution by peels of prunus amygdalus: characterization and kinetic study" central european journal of public health supplement 2007; 15: S33-36

CONFERENCE/SEMINAR ATTENDED

Science and Technology Christmas Conference, 15th December 2009,
Faculty of Science and Technology, Lancaster University, Lancaster, UK

CSC Science and Technology for Society, 12-14 March 2010, Cumberland Lodge, the Great Park, Windsor, Berkshire, UK

11th CRSI National Symposiums in Chemistry 6 - 8 February 2009, National Chemical Laboratory, Pune, India

3rd CRSI-RSC Symposium, 5 February 2009, National Chemical Laboratory, Pune, India

International Conference on Resource Development and Environmental Change: emerging issues and challenges, 27th to 29th January, 2009, Department of Geography, Aligarh Muslim University, Aligarh, India

All India Seminar on Advances in Environmental Science and Technology, 15-16th February 08, Department of Civil Engineering, Aligarh Muslim University, Aligarh, India

TRAINING AND WORKSHOP

- GC-MS at king's College London by Crawford Scientific
- C14 Handling by Dr. Marcie Towell
- Cryogenic fluids and fire safety by Sue Hodson
- Scientific writing for Science and technology students by Dr. James Bake
- Endnote Bibliographical Databases by Lorna Pimperton
- Control of Substances Hazardous to Health (COSH)
- Waste Characterization and Management
- NERC Environment YES workshop, Oxford, UK

EXTRACURRICULAR ACTIVITIES

Volunteer for British Heart Foundation, UK

PERSONAL INFORMATION

Nationality : Indian

Present address : 23 Clifton Drive, Blacon, Chester, CH1 5LT

REFERENCES

Available On Request

Dated 18.12.2012

Shams Qamar Usmani