CURRICULUM VITAE
Balsam Talal Mohammad

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Date of Birth: 5th October, 1976

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Education

2004: Doctor of Philosophy (Ph.D.) in Biochemical Engineering, Heriot Watt University, Edinburgh, United Kingdom, being a recipient of the prestigious James Watt Scholarship.

1999 to 2000: Master of Science (M.Sc.) in Chemical Engineering, University of Jordan, Jordan. (Courses taken and transferred into PhD program In United Kingdom).

1999: B.Sc. in Chemical Engineering, University of Jordan, Jordan.

1994: Secondary certificate, Scientific section, Modern Education School (presently, Modern American School), Jordan.

Professional Positions

Sep 2011 till now: Assistant Professor at the Garman-Jordanian University.

Aug 2009 to Nov 2009:Part-time instructor at Falcons academy in Amman, Jordan

Dec 2010 to Feb 2011: Manager of the training center at Al-Khwarizmi college, Amman, Jordan

Feb 2009 to Jul 2009: Lecturer at the German-Jordanian University at the Pharmaceutical-Chemical Engineering Department.

May 2008 to Aug 2008:Part-time instructor at Erth and Middle-East academies in Amman, Jordan.

Sep 2007 to Dec 2007:Part-time instructor at Middle-East academy in Amman, Jordan.

Aug 2005 to Jan 2007:Spanish Ministry of Science and Technology Postdoctoral fellowship to pursue research in Biochemical Engineering at University of La Coruna, Spain

Mar 2005 to Jun 2005:Visiting Research Scientist at Plymouth Marine Laboratory, UK

Aug 2004 to Oct 2004:Visiting Research Scientist at Plymouth Marine Laboratory, UK

Oct 2000 to Apr 2002:Teaching and Lab Assistant, Department of Chemical Engineering, Heriot Watt University, UK

Aug 1999 to Aug 2000: Sales Engineer at Star for Advanced Technology, a pharmaceutical equipment company in Jordan

Sept 1998 to Jan 1999: Postgraduate Teaching Assistant, Department of Chemical Engineering, University of Jordan, Jordan

June 1998 to Oct 1998: Research Internship at Al-Razi Pharmaceutical Industries Company, Jordan

Research Interests

Biodegradation, Fermentation technologies, Biofiltration, Molecular approaches to organismic identifications, breast cancer between Jordanian women.

Publications

- Rene E, Mohammad BT, Veiga MC, Kennes C (2012) Biodegradation of BTEX in a fungal biofilter – Part I: influence of operational parameters, effect of shock loads and substrate stratification. Bioresource Technology 116:204-213.

- Mohammad BT, Bustard MT (2008) Fed batch bioconversion of 2-propanol by a solvent tolerant strain of *Alcaligenes faecalis* entrapped in Ca-alginate gel. Journal of Industrial Microbiology and Biotechnology 35 (7):677-684.

- Mohammad BT, Veiga MC, Kennes C (2007) Mesophilic and thermophilic biotreatment of BTEX-polluted air in reactors. Biotechnology and Bioengineering 97(6): 1423-1438.

- Mohammad BT, Wright PC, Bustard MT (2006) Bioconversion of high isopropanol by a solvent tolerant *Sphingobacterium mizutae* strain. Journal of Industrial Microbiology and Biotechnology, 33(12):975-983.

- Bhadury P, Mohammad BT, Wright PC (2006) The current status of natural products from marine fungi and their potential as anti-infective agents. Journal of Industrial Microbiology and Biotechnology 33: 325-337

Conference/Workshop proceedings

- C. Kennes, Y. Jin, B.T. Mohammad, M.C. Veiga. 'Overview of parameters affecting fungal biofiltration of waste gases'. 2006 USC-TRG Conference on Biofiltration for Air Pollution Control, October 18-October 20, 2006, Long Beach, California, USA.

- B.T.Mohammad, M.C. Veiga, and C. Kennes. 'Thermophilic and mesophilic biofiltration of BTEX vapors '. International Symposium on Environmental Biotechnology, July 9- July 13, 2006, Leipzig, Germany.

- B.T.Mohammad, M.T. Bustard and P.C. Wright. 'Biodegradation of 2-propanol by immobilized *Alcaligenes faecalis* ST1'. Annual Poster Competition, 25th May, 2003, Department of Chemical Engineering, Heriot Watt University, Edinburgh, UK

- P.C. Wright, P. Leethochawalit, B.T. Mohammad, M.T. Bustard, Heriot Watt University, Edinburgh, UK and V. Meeyoo, Mahanakorn University of Technology, Bangkok, Thailand. 'High pollutant load gas-phase biofiltration for odour and VOC treatment' Society of Industrial Microbiology 2002 Annual Meeting, August 11-August 15, 2002, Philadelphia, USA

- B.T.Mohammad, P.C. Wright and M.T. Bustard 'Biodegradation of Isopropanol by *Alcaligenes faecalis* ST1', Annual Poster

Competition, 9th May, 2002, Department of Chemical Engineering, Heriot Watt University, Edinburgh, UK

- P.C. Wright, M.T. Bustard and B.T. Mohammad, Solvent tolerant bacteria and algae: The potential for pollution abatement of volatile organic compounds, Society of Industrial Microbiology 2001 Annual Meeting, July 29-August 2, 2001, St. Louis, USA

Research experience

Recently have been involved in research project about breast cancer among Jordanian women, studying minerals concentration by analysing hair samples, and risk factors in Jordan.

Completed a research project in biological treatment of volatile organic compounds by utilization of bioreactors (Biofilters) working under both thermophilic and mesophilic conditions, and the possibility of isolating new biocatalyst capable of VOC's biodegradation under extreme conditions.

Involved in a research project at Plymouth Marine Laboratory for isolation and characterization of novel marine bacteria with biotechnological importance using advanced molecular tools.

In my PhD research project, I investigated two solvent tolerant strains of bacteria identified by 16S rDNA analysis for biodegradation of high concentration isopropanol. Results show that these strains have the capacity to break down considerable amount of isopropyl alcohol involving an integrated biological pathway. I have developed an assay for identifying the enzyme/s from the bacterial crude extract which is responsible for biodegradation of isopropyl alcohol. Since my project has the potential for biotechnological application in the field of biodegradation, I have also used sustainable bioreactor technology and immobilization techniques to investigate the commercial aspect of my project

Research project associated with the commercial production of phthalic anhydride including: Bioreactor designing, environmental impact assessment and cost estimation for production of phthalic anhydride in an industrial plant

Skills

- *Microbiological methods*
  Characterization of bacterial strains, Culture techniques, Growth media selection.

- *Biochemistry*
  Chromatography techniques- Gas Chromatography (GC), Mass Spectrometry (MS). Spectroscopic techniques- UV-Vis Spectrometry, Direct Spectrometry. Scanning Electron Microscopy (SEM), Cell fractionation, Enzyme Assay, SDS-PAGE Electrophoresis, PAGE Electrophoresis, Agarose Gel Electrophoresis.

- *Molecular Biology*
  DNA Extraction, PCR Amplification, Cloning, DNA sequencing and analysis.

- *Chemical Engineering techniques*
  Small-scale bioreactors set up, Cell immobilization, Reaction kinetics analysis.

Academic Honors

Awarded the Spanish Ministry of Science and Technology Postdoctoral Fellowship to pursue research in Biochemical Engineering at the University of La Coruna, Spain.

Recipient of the prestigious James Watt Scholarship for studying Ph.D. in Biochemical Engineering at Heriot Watt University, Edinburgh, United Kingdom

References

(i) Dr Punyasloke Bhadury
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(ii)Dr Ian Joint
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Email address: IRJ@pml.ac.uk
Tel: +44 1752 633100

(iii) Prof Christian Kennes
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La Coruna,
Spain.
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