

Sulaiman Al-Zuhair

PhD, Biochemical Engineering

<https://www.youtube.com/watch?v=JsVmTWeqa1E>

<https://www.youtube.com/watch?v=ugnF7LG1KfQ>

Contact Information

Chemical and Petroleum Engineering Department

UAE University, 15551 Al-Ain, UAE

Tel: +971-3-7135319

Cell: +971-50-7600313

Email: s.alzuhair@uaeu.ac.ae

Work Experience

2006-present: Chemical Engineering Department, UAE University, AlAin, UAE

09.2015 –present Professor

09.2018-present *Head of Department, Chem and Petr. Eng*

09.2017-09.2018 *Director, Project Management Unit*

09.2009-09.2017 *Coordinator of M.Sc. Program*

09.2009 –09.2015 Associate Professor

08.2006 –09.2009 Assistant Professor

2004-2006: Chem. Eng. Dept., The University of Nottingham, Malaysia Campus

09.2004 – 08.2006 Assistant Professor

2003-2004: Chemical Engineering Department, Taylor University, Malaysia

07.2003 – 09.2004 Lecturer

Qualifications

09.1999-07.2003: PhD, Biochemical Engineering, University of Malaya, Malaysia

Thesis title: Kinetics of Enzymatic Hydrolysis of Palm Oil Using Lipase

12.1996-07-1998: M.Sc., Chem. & Env. Engineering, University Putra Malaysia

Thesis title: Design of Palm Oil Clarifier Using Liquid-Liquid Settling Model

09.1991-01-1996: B.Sc., Chem. Eng, Jordan University of Science and Technology

Graduated with excellent grade of 87.6% ranked first amongst 74 graduates

Editorial Boards Memberships

Archives of Industrial Biotechnology: Editorial Board Member

Global Journal of Engineering & Technology Review: Editorial Board Member

Journal of Engineering Science and Technology: Editorial Board Member

Enzymes Research: Leading Editor, special issue: Enzymatic Biodiesel Production

Frontiers in Energy and Research Journal: Bioenergy and Biofuels: Review Editor

Renewable Energy (Elsevier): Guest Editor

Achievements and Awards

2016: College of Engineering Award for Excellence in Research, UAE University

2010: US\$3,750,000 External fund from Japan Cooperation Center Petroleum

2010: Second runner-up: Engineering Students Renewable Energy Competition

2008: Best Externally Funded Research Award, UAE University

2006: Marquis Who's Who in Science & Engineering, 9th Edition

**1996: Top Ranked Graduated Student Award, Jordan Univ. of Science & Technol
University Honor list, Jordan University of Science and Technology**

For the years 1992, 1993, 1994 and 1995

Reviewing

2013: Reviewer of research proposal, Univ. of Malaya Research Center, Malaysia

2012: Reviewer of research proposal, Portuguese Foundation for Science and Technology (FCT), Portugal

2010: Internal reviewer of Biology Department Programs, UAE University

2010: Reviewer of research proposal, Scientific Research Support Fund, Jordan

2010: Reviewer of research proposal, Center for Research and Development, Taylor's University, Malaysia

2007: Reviewer of research proposal, Univ. of California Energy Institute, USA

2009-2017: Chair, Dept of Chem. Eng. Research Committee, UAE University

Review all research proposals submitted by faculty members in the Chem Eng Dept

Internationally Reputed Journals

Every year I review, on average, four to five papers submitted to internationally reputed journals

Research Grants

A. On-going Projects

Principal Investigator – SURE Plus Fund - 30,000AED (US\$8,100)

2017-2018: Using selective membrane for continuous removal of glucose for enhanced enzymatic hydrolysis of cellulose

Principal Investigator - Energy & Env. Center - 800,000AED (US\$218,000)

2016-2020: Growth of microalgae for simultaneous biodiesel production and treatment of industrial wastewater

Co-Investigator - UPAR Fund - 800,000AED (US\$218,000)

2016-2019: Laboratory investigation of the UAE-Biodiesel fuel: production, engine performance and Toxicity of emissions on human health and environment

B. Completed Projects

Co-Investigator - Energy and Environment Center - 500,000AED (US\$136,000)

2015-2018: Natural gas utilization: Partial oxidation of methane to methanol and other value-added products using novel nanostructured catalysts

Principal Investigator – SURE Plus Fund - 36,000AED (US\$9,500)

2017-2018: Simultaneous extraction-reaction of microalgae oil for biodiesel production

Co-Investigator - Interdisciplinary Grant - 120,000AED (US\$33,000)

2014-2016: Vortex tube separation performance under different tube parameters

Principal Investigator - Zayed Center of Health Sciences - 500,000AED (US\$136,000)

2014-2017: The development of therapeutic anticancer agents extracted from microalgae and their application in photodynamic and sonodynamic therapies

Co-Investigator - UPAR Fund - 386,000AED (US\$105,000)

2014-2017: Effective/rapid characterization of microalgae lipid content using radio frequency technique

Co-Investigator - Start-up Grant -500,000AED (US\$136,000)

2014-2017: Fibre in fibre bioartificial liver device (Emirates EmLAD) evaluation using adult stem cells

Co-Investigator - National Research Foundation - 160,000AED (US\$43,500)

2014-2016: Emirates Liver Assist Device (EmLAD) for Liver Failure Treatment using Activated Carbon (Charcoal) Produced from Local plants and Date Pits

Principal Investigator - SURE Fund - 35,000AED (US\$9,000)

2015-2015: Phenols removal by microalgae

Co-Investigator - National Research Foundation - 240,000 AED (US\$65,550)

2013-2015: Metal/metal oxide-doped carbon nanofiber desulfurization sorbents in fuel cell applications

Principal investigator - National Research Foundation - 480,000AED (US\$130,000)

2011-2014: Using date palm cellulosic waste in the enzymatic production of biofuels

Co-Investigator - JCCP/JX External Fund - 1,600,000 AED (US\$435,000)

2011-2014: Operation of Fuel Cell using propane of high sulfur content as feedstock

Co-investigator - National Research Foundation - 680,000AED (US\$186,000)

2011-2014: Biodegradation of mixtures of BTEX compounds in spouted bed bioreactor

Co-Investigator - JCCP/NORI External Fund - 13,800,000 AED (US 3,750,000)

2010-2015: Design and construction of a pilot plant for advanced refinery wastewater treatment

Principal investigator - Interdisciplinary Research - 200,000AED (US\$54,500)

2009-2012: Enzymatic biodiesel production from lamb meat fats extracted by supercritical CO₂

Principal Investigator – Internal Individual Fund - 26,400 AED (US\$ 7,250)

2009-2010: Key enzymes inhibition by dates extract for non-insulin dependent diabetes mellitus

Co-Investigator - JCCP/NORI External Fund - 2,970,000 AED (US\$ 600,000)

2007-2010: Development, design and evaluation of advanced refinery wastewater treatment processes

Principal investigator - Internal Individual Fund - 30,000 AED (US\$ 8,300)

2007-2008: Enzymatic production of biodiesel from waste cooking oil using lipase

Co-Investigator - IPPP Grant - 16,000 RM (US\$ 5,300)

2000-2002: Kinetics of the hydrolysis of palm oil by lipase

PhD and M.Sc. Theses Supervision

A. PhD

Saleha Almardeai (UAE University – On going)

Thesis: Membrane bioreactor for enhanced enzymatic hydrolysis of cellulose

Hanifa Taher (UAE University - Completed, June 2014)

Thesis: Supercritical fluid technology in enzymatic of microalgae biodiesel production

B. M.Sc.

Mukhtar Ismail (UAE University – On going)

Thesis title: Using thermal switchable solvents for simultaneous extraction/reaction of microalgae oil for biodiesel production

Reem Al Mansoori (UAE University – On going)

Thesis: Packed bed for continuous extraction of oil from date pits: A kinetics study

Mohamed Abu Jayyab (UAE University - On going)

Thesis: Microalgae for phenol removal from wastewater and biodiesel production

Mohamed Shafi (UAE University - On going)

Thesis: Using microalgae for oil spills treatment

Mariam Al-Ameri (UAE University – Completed June 2018)

Thesis: Simultaneous lipids extraction and biodiesel production from microalgae using Switchable Solvents

Miada Osman (UAE University – Completed June 2017)

Thesis: Using electrocoagulation for removal of calcium and chloride ions from the effluent of modified Solvay pretreatment process of reject brine

Hanifa Taher (UAE University – Completed June 2010)

Thesis: Enzymatic biodiesel production from fats extracted from lamb meat by supercritical CO₂

Mohamed AbuAlreesh (UAE University – Completed June 2014)

Technical Project: Enzymatic Delignification of seaweed for bioethanol production

Karam Basel (UAE University – Completed June 2015)

Technical Project: Desulfurization of LPG for use in compact fuel cells

Ebin George (Heriot Watt University - Completed, Sept 2015)

Thesis: Oil spill removal by microalgae

Danagul Ichshanova (Heriot Watt University - Completed, Sept 2015)

Thesis: Oil extraction from date pits

Syed Sultana (Heriot Watt University - Completed, Sept 2013)

Thesis: Enzymatic conversion bioethanol from seaweeds

Ahmed Fahmy (Heriot Watt University - Completed, Sept 2013)

Thesis: Dual use of microalgae for treating wastewater and producing biodiesel

Y.L. Fan, K.S. Chui and S. Rizwan (University of Nottingham – Completed 2007)

Thesis: Kinetics of cellulase inhibition by sugar produced by hydrolysis of cellulose

K.V. Jayaraman, S. Krishnan, W.H.Chan (Univ. of Nottingham, Completed 2007)

Thesis: Effect of fatty acid and water concentrations on biodiesel production by lipase

PhD and M.Sc. Theses Examination

External PhD. Thesis Examiner (University of Malaya) Dec. 2017

Internal PhD Thesis Examiner (UAE University) June 2014

Internal M.Sc. Thesis Examiner (UAE University) Feb. 2014

Internal M.Sc. Thesis Examiner (UAE University) Jan 2012

External M.Sc. Thesis Examiner (University of Malaya) Nov 2011

External M.Sc. Thesis Examiner (University of Malaya) July 2009

Invited Speaker

Keynote Speaker: International Conference on Energy Research, Turkey (2018)

Invited Speaker: Protection of Inventions and Intellectual Property, Al-Ain, UAE (2018)

Keynote Speaker: Genomics and Systems Biology II Conference, Abu Dhabi (2014)

Keynote Speaker: Australian Unlimited MENA, Dubai (2014)

Seminar Presenter: Herriot Watt University, Dubai Campus (2013)

Patents

US patent No. US 9,399,740

Enzymatic Biodiesel Production from Lamb Meat Fat in Supercritical Condition

Canadian patent No. CA 2,796,105

Process and System for the Treatment of Industrial and Petroleum Refinery Wastewater

Publications

h-index 25 ; i10-index 41 ; over 2833 citations (Google Scholar; Dec. 2018)

h-index 22 ; over 1698 citations (Scopus; Dec. 2018)

A. Books

S. Al-Zuhair and H. Taher (2015) Supercritical Fluids Technology in Lipase Catalysed Processes. CRC Press, Taylor & Francis Group, USA (ISBN 9781498743877)

B. Book Chapters

1. H. Taher, S. Al-Zuhair (2016) Emerging Green Technologies for Biodiesel Production. In: Biofuel, In-Tech
2. H. Taher, S. Al-Zuhair, A. Al-Marzouqi, Y. Haik and M. Farid (2014) Effectiveness of Enzymatic Biodiesel Production from Microalga Oil in Supercritical Carbon Dioxide. In: ICREGA2014, Springer
3. S. Al-Zuhair (2010) Biochemical Catalytic Production of Biodeisel. In: Handbook of Biofuels Production: Processes and Technologies. R Luque, J Campelo, J H Clark (Eds.) Woodhead publishing Limited, Cambridge, UK

C. Journal Papers (80 papers)

2019

1. A. Jabeen, B. Reeder, D. Svistunenko, S. Hisaindee, S. Ashraf, S. Al-Zuhair, S. Battah (2018) Effect of the photodynamic therapy applications with potent microalgae constituents on several types of tumor. *Innovation and Research in BioMedical Engineering* (Elsevier) – In press
2. R. Shomal, H. Hisham, A. Mlhem, R. Hassan, S. Al-Zuhair (2019) Simultaneous extraction-reaction process for biodiesel production from microalgae. *Energy Reports* (Elsevier) 5: 37–40
3. M. Al-Ameri and S. Al-Zuhair (2019) Using Switchable Solvents for Enhanced, Simultaneous Microalgae Oil Extraction-Reaction for Biodiesel Production. *Biochemical Engineering Journal* (Elsevier) 141: 217–224

2018

4. R. Sorkatti and S. Al-Zuhair (2018) Effect of cresols treatment by microalgae on the cells' composition. *Journal of Water Process Engineering* (Elsevier) 26: 250–256
5. R. Sorkatti and S. Al-Zuhair (2018) Microalgae cultivation for phenolic compounds removal. *Environmental Science and Pollution Research* (Springer) 25:33936–33956
6. B. Mathew, S. Raji, S. Dagher, A. Alnaqbi, A. Mourad, S. Al-Zuhair, M. Al-Ahmed, K. El-Tarabily, A. Amin (2018) Bilirubin detoxification using different phytomaterials: characterization and in vitro studies. *Int. Journal of Nanomedicine*, 13: 2997–3010
7. F. Merza, A. Fawzy, E. Nashef, S. Al-Zuhair, H. Taher (2018) Effectiveness of Using Deep Eutectic Solvents as an Alternative to Conventional Solvents in Enzymatic Biodiesel Production from Waste Oils. *Energy Reports*, 4: 77–83
8. Y. Abdi, R. Shomal, H. Taher, S. Al-Zuhair (2018) Improving Reusability of Immobilized Lipase-Ionic Liquid System for Biodiesel Production. *Biofuels*, In-Press
9. S. AlKetbi, H. ElSayed, S. Al-Zuhair (2018) Gold extraction from biosolid sludge obtained by sewage treatment. *Environmental Technology*, In-Press
10. E. Elnajjar, S. Hassan, A. Al-Naqbi, S. AlOmari and S. Al-Zuhair (2018) Optimizing the extraction of oils from date seeds for biodiesel production. *International Journal of Environmental Research*, 12: 101–108

2017

11. A. Jabeen, B. Reeder, S. Hisaindee, S. Ashraf, N. Al Darmaki, S. Battah, S. Al-Zuhair (2017) Effect of Enzymatic Pre-treatment of Microalgae Extracts on their Anti-tumor Activity. *Biomedical Journal*, 40: 339–346
12. M. Al Ahmad, S. Al-Zuhair, A. Alnaqbi, F. Mustafa (2017) Visualization and Quantification of Oil in Single Microalgal Cell. *Journal of Applied Phycology*, 29: 1195–1202
13. H. Taher, E. Nashef, N. Anvar, S. Al-Zuhair (2017) Enzymatic production of biodiesel from waste oil in ionic liquids medium. *Biofuels*, In-Press
14. M. Abujayyab and S. Al-Zuhair (2017) Microalgae Cultivation for Phenol Removal from Wastewater. *MOJ Toxicology*, 3: 00070
15. M. El-Naas, M. Alhaija, S. Al-Zuhair (2017) Evaluation of an activated carbon packed bed for the adsorption of phenols from petroleum refinery wastewater. *Environmental Science and Pollution Research*, 24: 7511–7520
16. S. Al-Zuhair, S. Ashraf, S. Hisaindee, N. AlDarmaki, S. Battah, D. Svistunenko, B. Reeder, G. Stanway, A. Chaudhary (2017) Enzymatic Pre-treatment of Microalgae Cells for Enhanced Extraction of Proteins. *Engineering in Life Sciences*, 17, 175–185
17. S. Al-Zuhair, M. Hassan, M. Djama and A. Khaleel (2017) Hydrogen Production by Steam Reforming of Commercially Available LPG in UAE. *Chemical Engineering Communications*, 204: 141–148
18. S. Al-Zuhair, H. Taher, S. AlDhaheeri, S. Wajeel, M. Nour, E. El-Najjar (2017) Biodiesel Production from Oils Extracted from Date Pits. *Green & Sustainable Chemistry*, 7: 48–56
19. H. Taher, S. Al-Zuhair (2017) The Use of Alternative Solvents in Enzymatic Biodiesel Production: A Review. *Biofuels, Bioproducts & Biorefining*, 11: 168–194

20. A. Khaleel, S. Al-Zuhair, S. Al-Mamary, M. Parvin, A. Khan (2017) Structural, textural, and catalytic properties of Ti(IV)-Fe(III) mixed oxides prepared via modified sol-gel route. *Chemistry Select*, 2: 791-799

2016

21. M.H. El-Naas, R. Surkatti, S. Al-Zuhair (2016) Petroleum refinery wastewater treatment: A pilot scale study. *Journal of Water Process Engineering*, 14: 71–76
22. S. Al-Zuhair, S. AlKetbi, M. Al-Marzouqi (2016) Regenerating diethanolamine aqueous Solution for CO₂ absorption using microalgae. *Industrial Biotechnology*, 12: 105-108
23. S. Al-Zuhair, M. Nabil, Y. Abdi, M. Al Sayyed, H. Taher (2016) High Concentration Phenol Removal Using Freshwater Microalgae. *International Journal of Biotechnology for Wellness Industries*, 5: 39-45
24. S. Al-Zuhair, M. Abujayyab, A. Khaleel (2016) Adsorption Kinetics of Ethyl Mercaptan Found in Commercially Available LPG in UAE. *Energy & Environ. Engineering*, 4: 7-14

2015

25. S. Al-Zuhair, E. Geirge, M. Nour (2015) Using Marine Microalgae Strains for Oil Removal from Oil-Water Emulsion Remediation. *Journal of Biochemical Technology* 6: 987-989
26. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2015) Properties of Biodiesel Produced by Enzymatic Transesterification of Lipids Extracted from Microalgae in Supercritical Carbon Dioxide Medium. *International Journal of Biological, Biomolecular, Agricultural, Food and Biotechnological Engineering*, 9: 694-697
27. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2015) Growth of Microalgae using CO₂ Enriched Air for Biodiesel Production in Supercritical CO₂. *Renewable Energy*, 82: 61-70
28. S. Al-Zuhair, M. Abualreesh, K. Ahmed, A. Abdulrazak (2015) Enzymatic Delignification of Biomass for Enhanced Fermentable Sugars Production. *Energy Technology*, 3: 121-127
29. S. Al-Zuhair, A. Khalil, M. Hassan, A. Abdulrazak, K. Basil, A. Fardoun (2015) Performance Evaluation of LPG Desulfurization by Adsorption for Hydrogen Production. *Journal of Energy Chemistry*, 24: 477–484

2014

30. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2014) Enzymatic biodiesel production of microalgae lipids under supercritical carbon dioxide: Process optimization and integration. *Biochemical Engineering Journal*, 15, 103-113
31. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2014) Mass transfer modelling of *Scenedesmus* sp. lipids extracted by supercritical CO₂. *Biomass & Bioenergy*, 70, 530-541
32. M. Al Ahmad, S. Al-Zuhair, H. Taher, A.H. Alnaqbi (2014) RF Microalgal lipid content characterization. *Scientific Reports*, 4: 5108
33. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2014) Effective extraction of microalgae lipids from wet biomass for biodiesel production. *Biomass & Bioenergy*, 66, 159-167
34. M.H. El-Naas, S. Al-Zuhair, M. Abu AlHaija (2014) Evaluation of a Three-Step Process for the Treatment of Petroleum Refinery Wastewater. *Journal of Environmental Chemical Engineering*, 2, 56–62
35. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik, M. Farid and S. Taeqi (2014) Supercritical carbon dioxide extraction of microalgae lipid: process optimization and laboratory scale-up. *Journal of Supercritical Fluids*, 86, 57– 66

2013

36. S. Al-Zuhair, M. Al-Hosany, Y. Zooba, A. Al-Hammadi, S. Al-Kaabi (2013) Development of membrane bioreactor for enzymatic hydrolysis of cellulose. *Renewable Energy*, 56, 85-89
37. S. Al-Zuhair, K. Ahmed, A. Abdulrazak, M.H. El-Naas (2013) Synergistic Effect of Pretreatment and Hydrolysis Enzymes on the Production of Fermentable Sugars from Date Palm Lignocellulosic Waste. *J. of Industrial and Engineering Chemistry*, 19, 413-415
38. M.H. El-Naas, S. Al-Zuhair, A. Al-Lobaney (2013) Treatment of petroleum refinery wastewater by continuous electrocoagulation. *Int. Journal of Eng. Research & Technology* 2, 2144-2150

39. I.B. Hashim, S. Al Nuaimi, H.S. Afifi, H. Taher, S. Al-Zuhair, Ali Al-Marzouqi (2013) Quality Characteristics of Low Fat Lamb Meat Produced by Supercritical Carbon Dioxide Extraction. *Global Journal of Biology, Agriculture and Health Sciences* 2, 5-9

2012

40. S. Al-Zuhair, Hassan Noura and Abbas Fardoun (2012) Utilization of Date-pits in Transformer Oil Chemical Regeneration. *International Journal of Sustainable Energy Development*, 1, 46-50
41. S. Al-Zuhair and M. El-Naas (2012) Phenol biodegradation by *Ralstonia pickettii* extracted from petroleum refinery oil sludge. *Chem. Engineering Communications*, 199, 1194–1204
42. S. Al-Zuhair, A. Hussein, A.H. Al-Marzouqi, and I. Hashim (2012) Continuous Production of Biodiesel from Fat Extracted from Lamb Meat in Supercritical CO₂ Media. *Biochemical Engineering Journal*, 60: 106-110

2011

43. S. Al-Zuhair, M. El-Naas (2011) Immobilization of *Pseudomonas putida* in PVA gel particles for the biodegradation of phenol at high concentrations. *Biochemical Engineering Journal*, 56: 46-50
44. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2011) A Review of Enzymatic Transesterification of Microalgal Oil Based Biodiesel using Supercritical Technology. *Journal of Enzymes Research*, Article ID 468292
45. H. Taher, S. Al-Zuhair, A. Al-Marzouqui, I. Hashim (2011) Extracted Fat from Lamb Meat by Supercritical CO₂ as Feedstock for Biodiesel Production. *Biochemical Engineering Journal*, 55: 23-31
46. S. Al-Zuhair, A. Almenhali, I. Hamad, M. Alshehhi, N. AlSuwaidi and S. Mohamed (2011) Enzymatic Production of Biodiesel from Used/Waste Vegetable Oils: Design of a Pilot Plant. *Renewable Energy*, 36: 2605-2614
47. S. Al-Zuhair, K. B. Ramachandran, M.Farid, M.K. Aroua, P. Vadlani, S. Ramakrishnan and L. Gardossi (2011) Editorial: Enzymes in Biofuels Production. *Journal of Enzymes Research*, Article ID 658263

2010

48. M.H. El-Naas, A.I. Mourad, S. Al-Zuhair, R. Surkatti (2010) Characterization of polyvinyl alcohol (PVA) gel as support for microbial immobilization. *Special Abstracts/Journal of Biotechnology*, 150S: S1–S576
49. M.H. El-Naas, S. Al-Zuhair, M. Abu AlHaija (2010) Removal of phenol from petroleum refinery wastewater through adsorption on date-pit activated carbon. *Chemical Engineering Journal*, 162: 997-1005
50. S. Al-Zuhair, A. Dowaidar and H. Kamal (2010) Inhibitory effect of dates-extract on α -amylase and α -glucosidase enzymes relevant to non-insulin dependent diabetes mellitus. *Journal of Biochemical Technology*, 2:158-160
51. M.H. El-Naas, S. Al-Zuhair and Suzan Makhlof (2010) Continuous biodegradation of phenol in a Spouted Bed Bioreactor (SBBR). *Chemical Engineering Journal*, 160: 565-570
52. M.H. El-Naas, S. Al-Zuhair and Suzan Makhlof (2010) Batch degradation of phenol in a Spouted Bed Bioreactor System. *J. of Industrial and Engineering Chemistry*, 16: 267-272
53. M.H. El-Naas, S. Al-Zuhair and M. Abualhaija (2010) Reduction of COD in refinery wastewater through adsorption on Date-Pit activated carbon. *Journal of Hazardous Materials*, 173:750-757

2009

54. M.H. El-Naas, S. Al-Zuhair, A. Al-Lobaney and S. Makhlof (2009) Assessment of Electrocoagulation for the Treatment of Petroleum Refinery Wastewater. *Journal of Environmental Management*, 91: 180-185
55. H. Al-Attar and S. Al-Zuhair (2009) A General Approach for Deliverability Calculations of Gas Wells. *Journal of Petroleum Science and Engineering*, 67: 97-104
56. S. Al-Zuhair, A. Dowaidar and H. Kamal (2009) Dynamic Modeling of Biodiesel Production from Simulated Waste Cooking Oil Using Immobilized Lipase. *Biochemical Engineering Journal*, 44: 256-262

57. H. Al-Attar and S. Al-Zuhair (2009) A Simplified Approach for Predicting Gas Well Performance. *Journal of Petroleum Science and Engineering*, 65: 51-61

2008

58. S. Al-Zuhair, M.H. El-Naas and H. Al-Hassani (2008) Sulfate Inhibition Effect on Sulfate Reducing Bacteria. *Journal of Biochemical Technology*, 1: 39-44
59. S. Al-Zuhair (2008) Enzymatic Production of Bio-diesel from Waste Cooking Oil Using Lipase. *Open Chemical Engineering Journal*, 2: 84-88
60. S. Al-Zuhair, K.B. Ramachandran and M. Hasan (2008) Effect of Enzyme Molecules Covering of Oil-Water Interfacial Area on the Kinetic of Oil Hydrolysis. *Chemical Engineering Journal*, 139: 540-548
61. S. Al-Zuhair (2008) Effect of crystallinity of cellulose on the rate of reducing sugars production by heterogeneous enzymatic hydrolysis. *Bioresource Technol.*, 99: 4078-4085

2007

62. S. Al-Zuhair (2007) Production of Biodiesel: Possibilities and Challenges Review Paper. *Biofuels, Bioproducts and Biorefining*, 1: 57-66
63. S. Al-Zuhair, W.L. Fan and S.J. Lim (2007) Proposed Kinetic Mechanism of the Production of Biodiesel from Palm Oil Using Lipase. *Process Biochemistry*, 42: 951-960
64. S. Al-Zuhair, Y.L. Fan, K.S. Chui and S. Rizwan (2007) Kinetics of *Aspergillus niger* Cellulase Inhibition by Reducing Sugar Produced by the Hydrolysis of Carboxymethylcellulose. *Int. J. of Chemical Reactor Engineering*, 5: A7
65. M. Shamel, K.B. Ramachandran, M. Hasan and S. Al-Zuhair (2007) Hydrolysis of Palm and Olive Oils by Immobilised Lipase Using Hollow-Fibre Reactor. *Biochemical Engineering Journal*, 34: 228-235

2006

66. M.T. Al-Atabi, S. Al-Zuhair, S.B. Chin and X.Y. Luo (2006) Pressure Drop in Laminar and Turbulent Flows in Circular Pipe with Baffles – An Experimental and Analytic Study. *International Journal of Fluid Mechanics Research*, 33: 303-319
67. K.B. Ramachandran, S. Al-Zuhair, C.S. Fong and C.W. Gak (2006) Kinetic study on hydrolysis of oils by lipase with ultrasonic emulsification. *Biochemical Engineering Journal*, 32: 19-24
68. S. Al-Zuhair, K.V. Jayaraman, S. Krishnan and W.H. Chan (2006) The Effect of Fatty Acid Concentration and Water Content on the Production of Biodiesel by Lipase. *Biochemical Engineering Journal*, 30: 212-217
69. S. Al-Zuhair (2006) The Effect of Substrate Concentrations on the Production of Biodiesel by Lipase-Catalysed Transesterification of Vegetable Oils. *Journal of Chemical Technology and Biotechnology*, 81: 299-305
70. S. Al-Zuhair (2006) Kinetics of Hydrolysis of Tributyrin by Lipase *Journal of Engineering Science and Technology*, 1: 50-58
71. S. Al-Zuhair (2006) The Role of Engineers in Biotechnology. *Doctor Job*, 9: 22-23

2005

72. S. Al-Zuhair (2005) Production of Biodiesel by Lipase-Catalysed Transesterification of Vegetable Oils: A Kinetics Study. *Biotechnology Progress*, 21:1442-1448
73. M. Shamel, S. Al-Zuhair and R. Azaha (2005) Adsorption of Lipase on Hollow Fibre Membrane Chips. *Int. Journal of Artificial Cells, Blood Substitutes, and Biotechnology*, 33: 423-433
74. T. Yusaf, S. Al-Zuhair and M. Al-Atabi (2005) Performance of Diesel Engine Using an Emulsion of Biodiesel-Conventional Diesel Fuel. *Mechanical Engineering*, 56:137-142

2004

75. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2004) High Enzyme Concentration Model for the kinetics of Hydrolysis of Oils by Lipase. *Chem. Eng. Journal*, 103: 7-11
76. S. Al-Zuhair, K.B. Ramachandran and M. Hasan (2004) Investigation of the Specific Interfacial Area of Palm Oil/Water System. *Journal of Chemical Technology and Biotechnology*, 79: 706-710

77. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2004) Unsteady State Kinetics of Lipolytic Hydrolysis of Palm Oil in a Stirred Liquid-liquid Bioreactor. *Biochemical Engineering Journal*, 19:81-86
78. S. Al-Zuhair (2004) Using Liquid-liquid Deep Settling Model in Determining the Design Parameters of Crude Palm Oil Settler. *Separation & Purification Technology*, 35: 133-140
79. S. Al-Zuhair, Y.A. Abakr and M.I. Ahmed (2004) The Effect of the Operating Conditions on the Apparent Viscosity of Crude Palm Oil During Oil Clarification. *IIUM Journal of Engineering*. 5: 55-64

2003

80. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2003) Kinetic Hydrolysis of palm Oil Using Lipase. *Process Biochemistry*, 38: 1155-1163

D. Education Papers

1. N. Eid and S. Al-Zuhair (2015) Evaluation of the Use of iPad in Teaching General Chemistry Lab to Freshman Students. *Journal of Engineering Science and Technology*, 10: 249-257
2. S. Al-Zuhair, A. Fardoun, M. Nour (2014) Renewable Energy Education for Engineering Freshman Students. *Asian Journal of Education and e-Learning* 2: 173-184

E. Conference Presentations (37 papers)

2018

1. E. Elnajjar, S. Hasan, S. Al-Zuhair, SAB Al Omari, A. Alnaqbi, Characterization and Chemical Composition of UAE Date Seeds. 5th International Conference on Renewable Energy: Generation and Applications, Al-Ain, UAE
2. H. Khalil, R. Shomal, R. Abuabed, A. Mlhem, S. Al-Zuhair (2018) Using Supercritical CO₂ for Simultaneous Microalgae Oil Extraction-Reaction for Biodiesel Production. UAEU Annual Research and Innovation Conference, Al-Ain, UAE.

2017

3. H. Taher, S. Al-Zuhair, E. Nashef, N. Anvar (2017) Enzymatic production of biodiesel from waste oil using different ionic liquids as a reaction medium. 3rd International Conference on Ionic Liquids in Separation and Purification Technology, Kuala Lumpur, Malaysia
4. E Elnajjar, S Al-Zuhair, SAB Al Omari, A Hilal-Alnaqbi, SW Hasan (2017) The Effect of Date Seeds size and Type on the Oil Extraction Percentage. 10th International Conference on Thermal Engineering: Theory and Applications, Muscat, Oman

2016

5. S. Al-Zuhair, S. Al-Ketbi, M.Djama, M.Al-Marzouqi (2016) Regeneration of amine solution using microalgae for absorption. 2nd World Chemistry Conference, Toronto, Canada

2015

6. S. Al-Zuhair, S. Ashraf, S. Hisaindee, N. Al Darmaki, S. Battah, D. Svistunenko, B. Reeder, G. Stanway, A. Chaudhary (2015) Enzymatic pretreatment of microalgae for enhanced proteins extraction, Dubai Bio Summit & Expo, Dubai, UAE
7. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2015) Properties of Biodiesel Produced by Enzymatic Transesterification of Lipids Extracted from Microalgae in Supercritical Carbon Dioxide Medium. the International Conference on Biotechnology, Chemical Engineering and Life Science (ICBCELS 2015), Barcelona, Spain
8. L.Saqer, M.Ahmed, S Al-Zuhair, H. Taher, A.AlNaqbi (2015) Monitoring of Microalgae Lipid Accumulation System Overview. 8th IEEE GCC Conf. & Exhibition, Muscat, Oman

2014

9. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2014) Biodiesel Production from microalgae oil. 3rd International Conference on Renewable Energy: Generations and Applications 2014, AlAin, UAE

2012

10. H. Taher, S. Al-Zuhair, A. AlMarzoqui, Y. Haik and M. Farid (2012) Using SC-CO₂ for the extraction of lipids from microalgae. 63rd Canadian Chemical Engineering Conference 2013, Fredericton, New Brunswick, Canada

11. S. Al-Zuhair, K. Ahmed, A. Abdulrazak (2012), Enzymatic Pretreatment of Date Palm Lignocellulosic Waste for Bioethanol Production. 62nd Canadian Chemical Engineering Conference 2012, Vancouver, British Columbia
12. S. Al-Zuhair, M. Al-Hosany, Y. Zooba, A. Al-Hammadi, and S. Al-Kaabi (2012) Design of Membrane Bioreactor for Enzymatic Hydrolysis of Cellulose. 2nd International Conference in Renewable Energy: Generation and Applications 2012, Al-Ain, UAE

2011

13. S. Al-Zuhair, M. AlSheraifi, H. AlShamsi, N. AlBraik, A. Suwaidi, S. AlJahori (2011) Enzymatic Production of Biodiesel from Waste Cooking Oil. International Conference on Water, Energy and Environment 2011, Sharjah, UAE
14. S. Al-Zuhair, H. Noura, A. Fardoun (2011) Using Activated Carbon from Waste Date-pits as an Adsorbent for Transformer Oil Regeneration. The World Congress on Sustainable Technologies (WCST-2011) London, UK

2010

15. S. Al-Zuhair (2010) Introducing Biotechnology to the Chemical Engineering Curriculum at UAE University. 5th International Forum on Engineering Education (IFEE2010) & European SDPROMO II Conference, Sharjah, UAE
16. M.H. El-Naas, A.I. Mourad, S. Al-Zuhair, R. Surkatti (2010) Characterization of polyvinyl alcohol (PVA) gel as support for microbial immobilization. 14th International Biotechnology Symposium and Exhibition, Rimini, Italy
17. M.H. El-Naas, S. Al-Zuhair, M. A. Alhaija (2010) Adsorption of Organic Contaminants on Date-Pit Activated Carbon. The 13th Asia Pacific Confederation of Chemical Engineering Congress APCCHE 2010, Taipei
18. S. Al-Zuhair, A. AlMenhali, I. Hamad, M. AlShehhi, N. AlSuwaidi, S. Mohamed (2010) Enzymatic Production of Biodiesel from Used/Waste Vegetable Oils: Design of a Pilot Plant, International Conference on Renewable Energy: Generation and Application ICREGA10, Al-Ain, UAE

2009

19. M.H. El-Naas, S. Al-Zuhair, S. Abdulla, S. Makhlof (2009) Phenol Bioremoval using Spouted Bed Bioreactor. 8th World Congress of Chemical Engineering, Montreal, Canada
20. M.H. El-Naas, S. Al-Zuhair, A. Al-Lobaney, S. Makhlof (2009) Treatment of Refinery Wastewater by Electrocoagulation. 10th Annual UAEU Research Conference, Al-Ain, UAE
21. M.H. El-Naas, S. Al-Zuhair, M. Abu-Alhaija (2009) Refinery Wastewater Treatment using BDH and Date-Pit Activated Carbons. 10th Annual UAEU Res. Conference, Al-Ain, UAE
22. S. Al-Zuhair (2009) Kinetics of Heterogeneous Enzymatic Hydrolysis of Cellulose. 3rd Int. Conference on Modeling, Simulation and Applied Optimization, Sharjah, U.A.E

2008

23. M.H. El-Naas, S. Al-Zuhair and S. Makhlof (2008) Experimental Evaluation of a Spouted Bed Bioreactor for the Removal of Phenol from Refinery Wastewater. 9th Annual UAE University Research Conference, Al-Ain, UAE, pp 234 -241
24. S. Al-Zuhair, M.H. El-Naas and H. Al-Hassani (2008) Kinetic study on anaerobic removal of sulphate using sulphate reducing bacteria. 9th Annual UAEU Res. Conf., Al-Ain, UAE
25. S. Al-Zuhair (2008) Kinetics of Production of Biodiesel from Waste Cooking Oil Using Lipase Immobilized on Ceramic Beads. 9th Annual UAEU Res. Conference, Al-Ain, UAE
26. H. Al-Attar and S. Al-Zuhair (2008) A General Approach for Deliverability Calculations of Gas Wells. Society of Petroleum Engineering Technical Conference and Exhibition for North Africa, Marrakech, Morocco (SPE # SPE-111380-PP)

2007

27. S. Al-Zuhair, W.L. Fan and S.J. Lim (2007) Proposed Kinetic Mechanism of Production of Biodiesel from Palm Oil Using Lipase. Symposium of Malaysian Chem. Engineers 07, UPM, Malaysia, Paper ID: OT001

2006

28. S. Al-Zuhair (2006) Kinetics of Enzymatic Production of Biodiesel from Sunflower Oil Using Lipase. Bio-energy 06, British Colombia, Canada

29. S. Al-Zuhair, K.V. Jayaraman, S. Krishnan and W.H. Chan (2006) Effect of Fatty Acid and Water Concentrations on the Production of Biodiesel by Lipase 11th Asia Pacific Congress of Chemical Engineering 06, Kuala Lumpur, Malaysia
30. S. Al-Zuhair, D. Isa and M. Nour (2006) The Use of Immobilised Lipase for the Production of Biodiesel from Waste Palm Oil: Possibilities and Challenges. 11th Asia Pacific Congress of Chemical Engineering 06, Kuala Lumpur, Malaysia

2005

31. S. Al-Zuhair, K.B. Ramachandran and M. Hasan (2005). Unsteady State and High Enzyme Concentration Kinetic Models for Hydrolysis of Palm Oil by Lipase. 2nd International Conference on Chemical and Bioprocess Engineering 05, Sabah, Malaysia

2003

32. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2003) Interfacial Effects on Hydrolysis of Palm Oils by Lipase. Int. Conf. on Chem. & Bioprocess Engineering 03, Sabah, Malaysia

2002

33. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2002) Comparison Between Autotitrator and Gas Chromatograph Methods for Studying the Enzymatic Hydrolysis of Palm Oil Using Lipase. Regional Symposium of Chemical Engineers, Kuala Lumpur, Malaysia
34. S. Al-Zuhair, M. Hasan and K.B. Ramachandran (2002) Enzymatic Hydrolysis of Palm Oil in a Stirred Liquid-Liquid Reactor. TECHPOSo2, Kuala Lumpur, Malaysia.

1999

35. S. Al-Zuhair, K.K. Tan and M. Daud (1999) Using Liquid-liquid Deep Settling Model in Determining the Design Criteria of Crude Palm Oil Settlers, World Engineering Congress 1999, Kuala Lumpur, Malaysia
36. S. Al-Zuhair, K.K. Tan and M. Daud (1999) Simultaneous Liquid-liquid and Solid-liquid settling in Raw Palm Oil Settlers, World Engineering Congress 1999, K.L., Malaysia
37. S. Al-Zuhair, K.K. Tan and M. Daud (1999) Dependence of the Apparent Viscosity of Crude Palm Oil on Temperature, World Engineering Congress 1999, K.L., Malaysia