



# **BASIM ABU-JDAYIL**

**PROFESSOR OF CHEMICAL ENGINEERING**

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## **1. EDUCATION**

- *Ph.D.* (Chemical Eng.), Dept. of Fluid Mechanics, University of Erlangen-Nürnberg, Germany (October 1996). Thesis title: *Electrorheological Fluids in Rotational Couette Flow, Slit Flow and Torsional Flow (Clutch).*
- *M.Sc.* (Chemical Eng.), *University of Jordan, Amman, Jordan (January 1991).* Thesis title: *Desulfurization of Jordanian Oil Shale.*
- *B.Sc.* (Chemical Eng.), *Jordan University of Science and Technology, Irbid, Jordan (June 1988).* Project: *Heat Transfer from a Heating Helical Coil in a Propeller-Agitated Vessel.*

## **2. EXPERIENCE**

- Professor at the Chemical & Petroleum Eng. Dept., UAE University (September, 2011 – present).
- Associate Professor at the Chemical & Petroleum Eng. Dept., UAE University (September, 2006 – September, 2011).
- Associate Professor at the Dept. of Chemical Engineering, University of Bahrain (February, 2004 – September, 2006).
- Associate-Professor at the Dept. of Chemical Engineering, Jordan University of Science & Technology, Irbid, Jordan (April, 2003 – February, 2004).
- Assistant-Professor at the Dept. of Chemical Engineering, Jordan University of Science & Technology, Irbid, Jordan (April, 1998 – April, 2003).
- Full time lecturer at the Dept. of Chemical Engineering, Jordan University

of Science & Technology, Irbid, Jordan (February, 1997 – April, 1998).

- Research Assistant at the Dept. of Fluid Mechanics (Rheology Section), University of Erlangen-Nürnberg, Germany (October, 1992 - December, 1996).
- Process Engineer at Lulua Spinning and Weaving Factory, Amman, Jordan (November, 1991 - March, 1992).
- Teaching and Research Assistant at the Dept. of Chem. Eng., University of Jordan, Amman, Jordan (September, 1989 - January, 1991).
- Teaching Assistant at the Dept. of Chemistry, University of Jordan, Amman, Jordan (September, 1988 - June, 1989).
- Process Engineer Trainee at Jordan Sulfo-Chemicals Co., Zarka, Jordan (June - August, 1987).

### 3. RESEARCH AND SCHOLARLY ACTIVITIES

64 peer-reviewed journal papers and a lot of presentations in local & international conferences. H-index = 16, Citation = 888,

[http://scholar.google.com/citations?user=Wy\\_TJiEAAA&hl=en](http://scholar.google.com/citations?user=Wy_TJiEAAA&hl=en)

#### 3.1 Books

**Abu-Jdayil, B.**, *Electrorheological Fluids in Rotational Couette Flow, Slit Flow and Torsional Flow (Clutch)*, Shaker Verlag, Aachen, Germany, 1996, ISBN 3-8265-2027-0, ISSN 0945-2230.

#### 3.2 Articles in Refereed Journals.

1. **Abu-Jdayil B.** and M. Ghannam. 2014. The Modification of Flow Behavior of Sodium Bentonite – Water Dispersions with Low Viscosity CMC-Na Polymer. *Energy Sources Part A: Recovery, Utilization, and Environmental Effects*, 36, 1037-1048.
2. Mamdouh T. Ghannam, **Basim Abu-Jdayil**, and Nabil Esmail. 2014. Experimental Investigation of Crude Oil–Xanthan Emulsions Flow Behavior. *Journal of*

*Petroleum Science Research (JPSR,)* 3: 1-15.

3. **Abu-Jdayil, B.**, Nasser, M. S., Ghannam, M. 2013. Structure Breakdown of Stirred Yoghurt in a Circular Pipe as Affected by Casein and Fat Content. *FOOD SCIENCE AND TECHNOLOGY RESEARCH*, 19(2), 277-286.
4. Ghannam, M., **B. Abu-Jdayil** and N. Esmail. 2013. Flow Behavior Comparison of Xanthan and Alcoflood Polymers Aqueous Solutions. *American Journal of Oil and Chemical Technologies*, 1(2): 1 – 11.
5. **Abu-Jdayil B.** 2013. Response time of an ER-fluid under shear and flow modes. *Journal of Physics: Conf. Ser.*, 412: 012009.
6. **Abu-Jdayil B.**, S.-A. B. Al Omari. 2013. Rheological Behavior of Bentonite-Polyester Dispersions. *Mechanics of Composite Materials* 49: 277-284.
7. **Abu-Jdayil B.** and D. Abu-Fara. 2013. Modification of the Rheological Behavior of Sodium Alginate by Chitosan and Multivalent Electrolytes. *Italian J. of Food Science*, 25: 196 - 201.
8. Al Omari, S.-A. B. and **B. Abu-Jdayil**. 2013. Some considerations of the performance of small dual fuel furnaces fueled with a gaseous fuel and a liquid fuel mix containing used engine lube oil. *Renewable Energy* 56: 117-122.
9. **Abu-Jdayil B.**, M. A. Al-Nakoua, M. H. El-Naas, and A. Khaleel. 2012. Rheological characteristics of nickel–alumina sol–gel catalyst. *Fuel Processing Technology*, 102: 85-89.
10. Ghannam M. T., S. W. Hasan, **B. Abu-Jdayil** and N. Esmail. 2012. Rheological properties of heavy & light crude oil mixtures for improving flowability. *Journal of Petroleum Science and Engineering*, 81: 122–128.
11. Nakou M., M. Elnaas, and **B. Abu-Jdayil**. 2011. Characterization and Testing of Sol-Gel Catalysts prepared as thin layers in a Plate Reactor, *Fuel Processing Technology*, 92: 1836-1841.
12. **Abu-Jdayil B.**, S.A. Al-Omari, H. Taher and L. Al-Nuaimi. 2011. Rheological Characterization of Clay-Polyester Composites, *Procedia Engineering* 10: 716-721.
13. **Abu-Jdayil, B.** 2011. Rheology of Sodium and Calcium Bentonite–Water Dispersions: Effect of Electrolytes and Aging Time, *International J. of Mineral*

*Processing*, 98:208-213.

14. Al-Attar, H. and **B. Abu-Jdayil**. 2011. "Outcomes Assessments of Petroleum Engineering Program at the United Arab Emirate University: A Systematic Approach", *Journal of Advances in Sustainable Petroleum Engineering Science (ASPES)*, 2: 47-68.
15. Qiblawey, H. and **B. Abu-Jdayil**. 2010. "Viscosity and Density of Ternary Solution of Magnesium Chloride + Sodium Chloride + Water from 298.15 K to 318.15 K", *Journal of Chemical & Engineering Data*, **55**, 3322–3326.
16. **Abu-Jdayil, B.**, H. Al-Attar. 2010. "Curriculum Assessment as a Direct Tool in ABET Outcomes Assessment in Chemical Engineering Program", *European Journal of Engineering Education*, **35**: 489-505.
17. Al Omari, S.-A. B., Y. Haik and **B. Abu-Jdayil**. 2010. "Flow Characterization of Gallium in a Meso-Scale Channel under the Influence of Magnetic Field", *International Communications in Heat and Mass Transfer*, **37**: 1127–1134
18. **Abu-Jdayil, B.**, F. Banat and M. Al-Sameraiy. 2010. "Steady Rheological Properties of Rotating Biological Contactor (RBC) Sludge", *J. of Water Resource and Protection (JWARP)*, **2**: 1-7.
19. **Abu-Jdayil, B.**, and K. Al-Malah. 2008. "Jordanian Clay-Based Heat Insulator Composites: Mechanical Properties," *J. of Reinforced Plastics and Composites*, **27**: 1559-1568.
20. **Abu-Jdayil, B.**, H. A. Mohameed and A. Bsoul. 2008. "Determination of Optimal Dead Sea Salt Content in Cosmetic Emulsion Using Rheology and Stability Measurements", *Journal of Cosmetic Science*, **59**: 1-14.
21. Al-Malah, K. and **B. Abu-Jdayil**. 2007. "Clay-based heat insulator composites: Thermal and water retention properties", *Applied Clay Science* **37**: 90-96.
22. Brunn, P.O., and **B. Abu-Jdayil**. 2007. "Axial annular flow of plastic fluids: dead zones and plug-free flow", *Rheologica Acta* **46**: 449-454.
23. **Abu-Jdayil, B.**, H. Asoud, and P.O. Brunn. 2007. "Effect of Polymer Coating on the Behavior of an Electrorheological Fluid in Slit Flow", *Materials & Design* **28**: 928-940.

24. Mohameed, H. A., **B. Abu Jdayil** , and K. Takrouri. 2007. "Separation of paraxylene from xylene mixture via crystallization", *Chemical Engineering & Processing* **46**: 25-36.
25. **Abu-Jdayil, B.** and H. A. Mohameed. 2006 "Facial Mask Comprising Dead Sea Mud", *Journal of Cosmetic Science* **57**: 441-454.
26. Mohameed, H., **B. Abu-Jdayil**, and A. Eassa, 2006. "Flow properties of corn starch–milk–sugar system prepared at 368.15 K", *J. of Food Engineering* **77**: 958-964.
27. **Abu-Jdayil, B.** and H. A. Mohameed. 2004 "Rheology of Dead Sea Shampoo Containing the Antidandruff Climbazole", *International Journal of Cosmetic Science* **26**: 281-289.
28. **Abu-Jdayil, B.**, F. Banat, R. Jumah, S. Al-Asheh and S. Hammad. 2004. "A Comparative Study of Rheological Characteristics of Tomato Paste and Tomato Powder Solutions", *International J. of Food Properties* **7**: 483-497.
29. **Abu-Jdayil, B.** 2004. "Flow Properties of Sweetened Sesame Paste (Halawa Tehineh)", *European Food Research and Technology* **219**: 265-272.
30. **Abu-Jdayil, B.**, H. A. Mohameed, M. Sa'id and T. Snobar, 2004. "Rheology and Storage Tests of Dead Sea Shampoo", *Applied Rheology* **14**: 96-103.
31. **Abu-Jdayil, B.**, H. Mohameed and A. Eassa, 2004. "Rheology of Wheat Starch-Milk-Sugar Systems: Effect of Starch Concentration, Sugar Type and Concentration, and Milk Fat Content", *J. of Food Engineering* **64**: 207-212.
32. Brunn, P.O. and **B. Abu-Jdayil**, 2004. "A Phenomenological Model of Electrorheological Fluids", *Rheologica Acta* **43**: 62-67.
33. **Abu-Jdayil, B.**, H. Mohameed and A. Eassa, 2004. "Rheology of Starch-Milk-Sugar Systems: Effect of Heating Temperature", *Carbohydrate Polymers* **55**: 307-314.
34. **Abu-Jdayil, B.**, H. A. Mohameed, M. Sa'id and T. Snobar, 2004. "Rheological Characterization of Hair Shampoo in the Presence of Dead Sea Salt", *International J. of Cosmetic Science* **26**: 19-29.
35. **Abu-Jdayil, B.**, and H. Mohameed, 2004. "Time-Dependent Flow Properties of

- Starch-Milk-Sugar Pastes”, *European Food Research and Technology* **218**: 123-127.
36. Mohameed, H., **B. Abu-Jdayil** and A. Al-Shawabkeh, 2004. “Effect of solids concentration on the rheology of Labneh (concentrated yogurt) produced from sheep milk”, *J. of Food Engineering* **61**: 347-352.
37. **Abu-Jdayil, B.** 2003. “Modelling the time-dependent rheological behavior of semi-solid foodstuffs”, *J. of Food Engineering* **57**: 97-102.
38. Shaker, R.R., **B. Abu-Jdayil**, R.Y. Jumah and S. Ibrahim, 2002. “Rheological Properties of Set Yogurt as Influenced by Incubation temperature and Homogenization,” *J. of Food Quality* **25**: 409-418.
39. **Abu-Jdayil, B.** and P.O. Brunn, 2002. “Effect of electrode morphology on the behavior of ER-fluids in torsional flow”, *J. of Intelligent Material Systems and Structures* **13**: 3-12.
40. **Abu-Jdayil, B.**, K. Al-Malah and R. Sawalha. 2002. “Study on Bentonite-Unsaturated Polyester Composite Materials,” *J. of Reinforced Plastics and Composites* **21**: 1597-1610.
41. **Abu-Jdayil, B.** 2002. “Rheology of milled black cumin (*Nigella sativa* L.)”, *Rheologica Acta* **41**: 441-447.
42. **Abu-Jdayil, B.**, R. R. Shaker and R. Y. Jumah, 2002. “Rheological Properties of a Concentrated Fermented Product, Labneh, Produced from Bovine Milk: Effect of Production Method” *International J. of Food Properties* **5**: 667-679.
43. Al-Asheh, S., **B. Abu-Jdayil**, A. Barakat and N. Abunasser, 2002. “Rheological characteristics of microbial suspensions of *Pseudomonas aeruginosa* and *Bacillus cereus*,” *International J. of Biological Macromolecules* **30**: 67-74 .
44. **Abu-Jdayil, B.** and H. Mohameed, 2002. “Experimental and Modelling Studies of the Flow Properties of Concentrated Yogurt as Affected by the Storage Time,” *J. of Food Engineering* **52**: 359-365.
45. Mohameed, H., **B. Abu-Jdayil** and M. El-Khateeb, 2002. “Effect of Cooling Rate on Unseeded Batch Crystallization of KCl,” *Chemical Engineering and Processing* **41**: 297-302.

46. **Abu-Jdayil, B.**, A. Ghzawi, K. Al-Malah and S. Zaitoun, 2002. "Heat Effect on Rheology of Light- and Dark-Colored Honey," *J. of Food Engineering* **51**: 33-38.
47. **Abu-Jdayil, B.**, K. Al-Malah and H. Asoud, 2002. "Rheological Characterization of Milled Sesame (Tehineh)," *Food Hydrocolloids* **16**: 55-61.
48. Al-Malah, K., **B. Abu-Jdayil**, S. Zaitoun and A. Ghzawi, 2001. "Application of WLF and Arrhenius Kinetics to Rheology of Selected Dark Colored Honey," *J. of Food Process Engineering* **24**: 341-357.
49. Jumah, R.Y., **B. Abu-Jdayil** and R. R. Shaker, 2001. "Effect of Type and Level of Starter Culture on the Rheological Properties of Set Yogurt During Gelation Process," *International J. of Food Properties* **4**: 531-544.
50. Shaker, R.R., **B. Abu-Jdayil**, R.Y. Jumah and S. Ibrahim, 2001. "Rheological Properties of Set Yogurt during Gelation Process: Impact of Incubation Temperature," *Milchwissenschaft (Milk Science International)* **56**: 622-625.
51. **Abu-Jdayil, B.**, M. O. Azzam and K. Al-Malah, 2001. "Effect of Glucose and Storage Time on the Viscosity of Wheat Starch Dispersions," *Carbohydrate Polymers*, **46**: 207-215.
52. Jumah, R.Y., R. R. Shaker and **B. Abu-Jdayil**, 2001. "Effect of Milk Source on the Rheological Properties of Yogurt during Gelation Process," *International J. of Dairy Technology*, **54**: 89-93.
53. Zaitoun, A. Ghzawi, K. Al-Malah and **B. Abu-Jdayil**, 2001. "Rheological Properties of Selected Light Colored Jordanian Honey," *International J. of Food Properties*, **4**: 139-148.
54. Al-Malah, K., M. O. Azzam and **B. Abu-Jdayil**, 2000. "Effect of Glucose Concentration on the Rheological Behavior of Wheat Starch Dispersions," *Food Hydrocolloids*, **14**: 491-496.
55. **Abu-Jdayil, B.**, R. R. Shaker and R. Y. Jumah, 2000. "Rheological Behavior of Concentrated Yogurt (Labneh)," *International J. of Food Properties*, **3**: 207-213.
56. Shaker, R. R., R. Y. Jumah and **B. Abu-Jdayil**, 2000. "Rheological Properties of Plain Yogurt during Coagulation Process: Impact of Fat Content and Preheat Treatment," *J. of Food Engineering*, **44**: 175-180.



57. Brunn, P.O. and **B. Abu-Jdayil**, 1998. "Fluids with Transverse Isotropy as Models for Electrorheological Fluids," *Applied Mathematics and Mechanics (ZAMM)*, **78**: 97-107.
58. **Abu-Jdayil, B.** and P.O. Brunn, 1997. "Effects of Coating on the Behavior of Electrorheological Fluids in Torsional flow," *Smart Materials & Structures*, **6**: 509-520.
59. **Abu-Jdayil, B.** and P.O. Brunn, 1997. "Study of the Flow Behavior of Electrorheological Fluids at Shear- and Flow-Mode," *Chemical Engineering & Processing* **36**: 281-289.
60. Brunn, P.O. and **B. Abu-Jdayil**, 1996. "Fluide mit veraenderbaren Eigenschaften," *AGT DOKUMENTATION*, **25**: 60-64.
61. **Abu-Jdayil, B.** and P.O. Brunn, 1996. "Effects of Electrode Morphology on Slit Flow of an Electrorheological Fluid," *J. of Non-Newtonian Fluid Mechanics*, **63**: 45-61.
62. **Abu-Jdayil, B.** and P.O. Brunn, 1995. "Effects of Non-Uniform Electric Field on Slit Flow of an Electrorheological Fluid," *J. of Rheology*, **39**: 1327-1341.
63. **Abu-Jdayil, B.** and P.O. Brunn, 1994. "Optical Measurements of the Velocity Profile of an ER-Fluid in a Rectangular Conduit," *Applied Rheology*, **4**: 186-191.
64. **Abu-Jdayil, B.**, Y. Hamarneh and N. Haimour, 1993. "Oxydesulfurization of Jordanian Oil Shale," *Dirasat*, **20 B**: 143-164.

### 3.3 Reports

- Management of Calcium Hydroxide Slurry: Phase I; Characterization and Environmental Assessment, Final Report submitted to Emirates Industrial Gases Co. – ROC Engineering, Dubai, UAE, January 27, 2008.
- Waterproof Polymeric Heat Insulators Based on Local Fillers, Final Report submitted to The Higher Council for Science and Technology, Amman, Jordan, 2004.

### 3.4 Other Professional Papers and Talks Presented at Conferences

- **Basim Abu-Jdayil**, Abdel-Hamid Ismail Mourad, and Atif Hussain.



THERMAL INSULATION MATERIAL MADE OF DATE-PITS AND UNSATURATED POLYESTER. IMS/7 INTERNATIONAL CONFERENCE ON ADVANCES IN ENGINEERING MATERIALS, March 18-20, 2014, Sharjah – UAE.

- **Basim Abu-Jdayil**, Abdel-Hamid Ismail Mourad, and Muzamil Hassan. UTILIZATION OF LOCAL SHALL IN THERMAL INSULATION MATERIALS. IMS/7 INTERNATIONAL CONFERENCE ON ADVANCES IN ENGINEERING MATERIALS, March 18-20, 2014, Sharjah – UAE.
- **Basim Abu-Jdayil**, Abdel-Hamid Ismail Mourad, and Atif Hussain. SCRAP TIRES-BASED HEAT INSULATOR COMPOSITES, 12th International Conference on Frontiers of Polymers and Advanced Materials (12th ICFPAM, December 8 – 13, 2013, Auckland – New Zeland.
- **Abu-Jdayil B.**, and A.-H. I. Mourad. *Utilization of Local Clay in Thermal Insulation Materials*, Industrial Rocks and Construction Materials in the Arab World Symposium and Expo – 2013, January 7 – 9, 2013, Fujairah – UAE.
- **Abu-Jdayil B.** *Response Time of an ER-fluid under Shear and Flow Modes*, 13th International Conference on Electrorheological Fluids and Magnetorheological Suspensions (ERM2012), July 2-6, 2012, Ankara – Turkey.
- **Abu-Jdayil B.**, F. Banat and M. Al-Sameraiy. *Rheological Behavior of RBC Sludge at Different Steps of Treatment*, The 2011 International Conference on Water, Energy, and The Environment (ICWEE2011), November 14-17, 2011, Sharjah-UAE.
- **Abu-Jdayil B.**, S.A. Al-Omari, H. Taher and L. Al-Nuaimi. *Rheological Characterization of Clay-Polyester Composites*, International Conference on the Mechanical Behavior of Materials (ICM 11), June 5-9, 2011, Como Lake, Italy.
- **Abu-Jdayil, B.**, H. Al-Attar, and M. Al-Marzouqi, *Outcomes Assessment in Chemical and Petroleum Engineering Programs*, 3rd International Symposium for Engineering Education (ISEE 2010), July 1-2, 2010, University College Cork, Ireland.

- Al-Attar, H., **B. Abu-Jdayil**, and M. Al-Marzouqi, *Assessment of Educational Objectives in Chemical and Petroleum Engineering Programs*, 3rd International Symposium for Engineering Education (ISEE 2010), July 1-2, 2010, University College Cork, Ireland.
- **Abu-Jdayil, B.**, *Rheology of Bentonite–Water Systems: Effect of Natural Surfactants, Electrolytes and Aging Time*, The Tenth Annual U.A.E. University Research Conference, April 13 - 16, 2009, Al Ain, UAE.
- **Abu-Jdayil, B.**, *Rheological characterization of Alginate-based polymeric gels*, The Ninth Annual U.A.E. University Research Conference, April 21-23, 2008, Al Ain, UAE.
- **Abu-Jdayil, B.**, *Thixotropic behavior of milled black cumin (*Nigella sativa L.*)*, 6<sup>th</sup> European Conference on Rheology “eurheo 2002”, September 1-6, 2002, Erlangen, Germany.
- **Abu-Jdayil, B.** and P.O. Brunn, *The behavior of electrorheological fluids in torsional flow*, 3<sup>rd</sup> International Meeting of the Hellenic Society of Rheology, June 10 –14, 2001, Patras, Greece.
- **Abu-Jdayil, B.** and P.O. Brunn, *Optical measurements of the velocity profile of an ER-fluid in a flat channel*, 42nd Science Week (Laser Science and Applications), November 2 – 4, 2002, Aleppo, Syria.
- **Abu-Jdayil, B.**, *Rheology of concentrated yogurt*, .40<sup>th</sup> Science Week, November 4 – 9, 2000, El- Lathqeh, Syria.
- **Abu-Jdayil, B.** and P.O. Brunn, *ER-clutches*. Annual Meeting of the German Society of Process and Chemical Engineering, March 6 -8, 1996, Lahnstein, Germany.
- **Abu-Jdayil, B.** and P.O. Brunn, *The behavior of an ER-fluid in slit flow*, Annual Meeting of the German Society of Rheology, May 22 -23, 1995, Berlin, Germany.

### 3.6 Grants and Contracts

- Production of Polymeric Heat Insulators Based on Scrap-Tires and Date-pits, 2011 (funded by NRF-UAE)

- ❑ Waterproof Polymeric Heat Insulators Based on Micronized and Nano-Sized Fillers, 2011 (funded by UAE University)
- ❑ Utilization of Local (Sarooj) Clay in Drilling Mud: Phase I – Physical and Rheological Characterization, 2010 (funded by UAE University).
- ❑ Investigation on the Utilization of Iron Slag in the Manufacture of Portland Cements, 2009 (funded by GENERAL HOLDING CORPORATION, UAE).
- ❑ Rheological properties of bentonite-water system: Effect of electrolytes, 2008 (funded by UAE University).
- ❑ Management of Calcium Hydroxide Slurry: Phase I; Characterization and Environmental Assessment, 2007 (funded by *Emirates Industrial Gas Co. ROC – Engineering*, Dubai – UAE).
- ❑ Rheological characterization of Alginate-based polymeric gels, 2007 (funded by UAE University).
- ❑ Batch crystallization of KCl: Estimation of kinetic parameters (funded by Jordan Univ. of Science & Technology).
- ❑ Rheology of starch-sugar-milk systems (funded by Jordan Univ. of Science & Technology).
- ❑ Rheological characterization of local sludge at different steps of treatment (funded by Jordan Univ. of Science & Technology).
- ❑ Separation of para-xylene from xylene solution using crystallization (funded by Jordan Univ. of Science & Technology).
- ❑ Waterproof Polymeric Heat Insulators Based on Local Fillers (funded by The Higher Council for Science and Technology / Jordan)
- ❑ Production of ferric chloride from scrap iron (funded by The Higher Council for Science and Technology / Jordan).
- ❑ Extending the shelf life of Urea-Formaldehyde resin using antioxidants (funded by Jordan Univ. of Science & Technology).
- ❑ Viscosity and density of Dead Sea salts (funded by The Abdul Hameed Shoman Foundation /Jordan).
- ❑ Effect of Dead Sea salts on the rheology and stability of Cosmetics (funded by

Ammon Co. for Dead Sea Products and Jordan Univ. of Science & Technology).

### 3.6 Reviewing Activities for Scientific Journals.

- ❑ *Applied Clay Science*
- ❑ *European Journal of Engineering Education*
- ❑ *Water Treatment and Desalination*
- ❑ *Food Biophysics*
- ❑ *J. of Engineering Science and Technology*
- ❑ *Emirates J. for Engineering Research*
- ❑ *Journal of Food Engineering* (Elsevier Science Ltd., Holland)
- ❑ *International Food Research* (Elsevier Science Ltd., Holland)
- ❑ *Journal of the Science of Food and Agriculture* (Wiley-Science, USA)
- ❑ *Journal of Food Science & Technology* (Blackwell Publisher, UK)
- ❑ *Mu'tah Lil-Buhuth wad-Dirasat* (Mu'tah University, Jordan)
- ❑ *Abhath Al-Yarmouk Journal – Science and Engineering Series* (Yarmouk University, Jordan)

### 3.7 Research Visits

- Visiting Researcher at the Institute of Physical Chemistry, University of Kiel, Germany (September, 1 – 21, 2003).
- Visiting Researcher at the Department of Fluid Mechanics, University of Erlangen-Nürnberg, Erlangen, Germany (July 1, 2000 - August 31, 2000).
- Visiting Researcher at the Faculty of applied Physics, University of Twente, Enschede, Holland (June 15, 1997 - August 15, 1997).

## 4. TEACHING, MENTORING, AND ADVISING

### 4.1 Courses Taught

#### Undergraduate Courses

- Renewable Energy

- Heat Transfer
- Chemical Engineering Fundamentals.
- Fluid Mechanics (for Chemical, Civil and Bio-systems Engineers).
- Chemical Engineering Reactions.
- Fundamentals of Polymers.
- Water and Wastewater Treatment.
- Transport Phenomena in Biomedical Engineering
- Process Analysis and Computer Applications
- Plant Operations & Systems
- Process Instrumentations
- Instrumentation for Engineering Measurements
- Unit Operations (Momentum, Heat and Mass Transfer).
- Linear Algebra
- Fluid Mechanics Lab.
- Instrumentation Lab.
- Chemical Engineering Laboratory I & II.

### Graduate Courses

- Advanced Fluid Flow
- Energy Resources
- Advanced Polymer Engineering

## **4.2 Supervised Graduation Projects**

Production of Phthalic anhydride, Production of Methanol from Natural Gas, Production of Sulfonic Acid Salts, Oxalic Acid Production, Urea Production, Vinyl Chloride Production, Styrene Monomer Production, Ethylene Oxide Production, Chlorine Production, Dead Sea Shampoo, Polyester-Bentonite Composite Materials, Sulfonic acid production, Methanol production from Natural Gas.

### 4.3 Supervision of Master Thesis

- M. El-Khateeb, “Batch crystallization of KCl: Estimation of kinetic parameters”, Jordan Univ. of Science & Technology – Jordan (2000).
- Mona Batainah, “Characteristics of heat transfer from a helical coil to an agitated liquid”, The Univ. of Jordan – Jordan (2000).
- A. Eassa, “Rheology of starch-sugar-milk systems”, Jordan Univ. of Science & Technology – Jordan (2002).
- M. Al-Sameraiy, “Rheological characterization of local sludge at different steps of treatment”, Jordan Univ. of Science & Technology – Jordan (2003).
- A. Abdelhai, “Extending the shelf life of Urea-Formaldehyde resin using antioxidants”, Jordan Univ. of Science & Technology – Jordan (2003).
- A. Bsoul, “Effect of Dead Sea salts on the rheology and stability of body creams”, Jordan Univ. of Science & Technology – Jordan (2003).
- K. Takrouri, “Separation of para-xylene from xylene solution using crystallization”, Jordan Univ. of Science & Technology – Jordan (2004).
- Muzamil Hassan, “Development of Polymeric Heat Insulators Based on Local Clay”, UAE University – UAE (2013)

### 4.4 Advising Activities

- Academic Advisor for Chemical Engineering students (Class of 2011; 77 students).
- Academic Advisor for First Year Engineering Students (CRU students), 2008-2010, UAEU.
- Academic Advisor for 2005 group of Chemical Engineering Male Students, UAEU.
- Involved in the recruiting of new engineering students, UAEU.
- Supervised the industrial training for many Chemical Engineering students, UAEU.
- Acted as a coordinator for graduation projects in the college, where several seminars have been conducted, UAEU.
- Supporting several graduates with recommendation letters

## 4.5 Extension and Outreach Activities

- Examiner for the graduation projects on department and college levels, UAEU.
- Member of the Exit Interview committee for Chemical Engineering Students, UAEU.
- Attending “Training Skills Workshop” offered by Continuing Education Centers at UAEU (May 25 & June 1, 2008)
- Attending “Modern teaching and evaluation methods” workshops at JUST (September 6 – 10, 1997 and January 24 -26, 1998)
- Attending United Arab Emirates University Accreditation Workshop *Presented by Jerry Yeargan and Mario Gonzalez* (May 20-22, 2007)
- Attending “Educational Outcomes Assessment Workshop” at the UAEU (December 4, 2006)
- Attending the “Symposium on Engineering Education 2009”, May 16-18 Al-Ain, UAE.
- I supervised scientific trip to DUBAL (Aluminum Industry - Dubai) for General Chemistry and Engineering Applications I course, May 13, 2008.
- I have been invited to attend a workshop on Laser Science and its Applied Technology organized by National Institute of Laser Enhanced Science (Egypt) and ICS-UNIDO (Italy), November 9 - 21, 1998, Cairo University, Egypt.

## 5. COMMUNITY & UNIVERSITY SERVICE

### 5.1 PaidConsultancies

- Evaluation of Opportunities for the Use of Seawater Naturalized Bauxite Residue in UAE Agriculture for MDC INDUSTRY HOLDING COMPANY LLC (MUBADALA) & DUBAI ALUMINIUM (DUBAL), August 2013 – May 2014.
- Consultation (with other Faculty members) for *Emirates Industrial Gas Co. ROC – Engineering*, Dubai – UAE. Project: Management of Calcium Hydroxide Slurry: Phase I; Characterization and Environmental Assessment, 2007-2008.



## 5.2 Conducted Short Courses:

- **Gas Processing & Conditioning**, *GASCO training Center, Abu-Dhabi, UAE, February 16-20, 2014.*
- **Boiler Operation and Water Treatment**, *GASCO training Center, Abu-Dhabi, UAE, December 22-26, 2013.*
- **Maintenance Management for Oil and Gas Industry**, *Pacific Energex Innovation LLC, Istanbul, Turkey, September 23-27, 2013.*
- **Basic Corrosion**, *GASCO training Center, Abu-Dhabi, UAE, April 14-18, 2013.*
- **Introduction to Oil and Gas Operations**, *GASCO training Center, Abu-Dhabi, UAE, April 7-11, 2013.*
- **Sulfur Recovery & Troubleshooting**, *GASCO training Center, Abu-Dhabi, UAE, March 25-29, 2012.*
- **Chemical Handling Awareness**, *Public Course, Bahrain, November 8-12, 2009.*
- **Hydraulics & Pneumatics**, *Nuqul Group, Amman, Jordan, August 16-18, 2009.*
- **Distillation Design and Operation**, *GASCO training Center, Abu-Dhabi, UAE, June 22-26, 2009.*
- **Natural Gas Processing**, *Public Course; Abu-Dhabi, UAE, March 22-26, 2009.*
- **Natural Gas Processing**, *Public Course; Abu-Dhabi, UAE, November 2-6, 2008.*
- **Safety for Oil Refinery Operators**, *TAKREER, UAE, July 6-9, 2008.*
- **Pilot Plants and Scale Up Studies**, *Public Course; Dubai, UAE, June 21-26, 2008.*
- **Distillation Design and Operation**, *GASCO training Center, Abu-Dhabi, UAE, April 27- May 1, 2008.*
- **Polymer Engineering and Technology**, *Public Course; Fairmont Hotel, Dubai, UAE, August 19-23, 2007.*
- **Chemical Handling Awareness**, *Emirates Steel Industries, Abu-Dhabi, UAE, August 12-14, 2007.*
- **Distillation Design and Operation**, *GASCO training Center, Abu-Dhabi, UAE, July 22-26, 2007.*
- **Boiler Operation and Maintenance**, *SABIC, Al Dhahran International Hotel, Al-Khobar, Saudi Arabia, July 14-18, 2007.*

- **Chemical Plants Troubleshooting**, *SABIC training center, Jubail, Saudi Arabia*, March 3-7, 2007.
- **Basic Instrumentation and Control**. *SABIC training center, Jubail, Saudi Arabia*, August 26-30, 2006.
- **Chemical Plants Troubleshooting**, *SABIC training center, Jubail, Saudi Arabia*, August, 19-23, 2006.
- **Chemical Plants Troubleshooting**, *SABIC training center, Jubail, Saudi Arabia*, June 17-21, 2006.
- **Basic Instrumentation and Control**. *SABIC training center, Jubail, Saudi Arabia*, May 13-21, 2006.
- **Polymer Engineering**, *SABIC training center, Jubail, Saudi Arabia*, December 17-21, 2005.

### **5.3 Offices and Committee Memberships Held in Professional Organizations:**

- Member in Jordan Engineers Association.
- Members in the Society of Rheology.
- Member in organizing and scientific committees of Jordan International Chemical Engineering Conference III organized by Jordan Engineers Association, September 27 - 29, 1999, Amman, Jordan.
- Member in organizing committee of Jordan International Chemical Engineering Conference IV organized by Jordan Engineers Association, September 22 - 24, 2002, Amman, Jordan.

### **5.4 Reviewing Activities for Agencies**

- Evaluation of scientific work submitted to Rashed Iben Humid Prize, 2009, UAE.
- Evaluation of research proposals submitted to Sultan Qaboos University, 2010 and 2013, Oman.
- Evaluation of Promotion case for Nizwa University, Oman, 2013.

## 5.5 Other Unpaid Services to Local and Federal Agencies

- Member in the permanent committee of polymer standards / Jordanian Institution for Standards and Metrology.
- Member in the permanent committee of carpets standards / Jordanian Institution for Standards and Metrology.
- Referee for many applications of patents that submitted to the Ministry of Industry and Commerce in Jordan.
- Member in the Technical Committee of the bid of TEL ERMAH Yoghurt Factory, 2004, Jordan.

## 5.6 Campus Activities:

- Chair of the College of Engineering Promotion Committee, UAEU, Fall 2012-present.
- Preparation of the Chemical Engineering Self Study Report 2009 for ABET Accreditation (*[The program has received the ABET Accreditation on September 2010](#)*).
- Chair of the Department of Chemical and Petroleum Engineering Outcomes Assessment Committee, UAEU, fall 2007-present.
- Chair of the Department of Chemical and Petroleum Engineering Laboratory Committee, UAE, Fall 2009 – present.
- Chair of the Department of Chemical and Petroleum Engineering Computer & Internet Applications Committee, UAEU, 2007/2008.
- Chair of the Department of Chemical and Petroleum Engineering Laptop Project & Course Innovations Committee, UAEU, 2007/2008.
- Member in the following Department of Chemical and Petroleum Engineering committees: Research and Graduate Studies (Fall 2012 – present), Curriculum Committee (Fall 2012 – present) Computer & Internet Applications (fall 2008-present), Laptop Project & Course Innovations (fall 2008-present), Faculty

Selection & Recruitment (fall 2008-present), and Industrial Training Supervisors (2007 – present).

- Coordinator of the Inspection Committee for the Shared Labs in the new campus of UAEU, Feb. 2010.
- Author of the Annual Outcomes Assessment Reports for Chemical Engineering Program (2007, 2008, 2009, 2010, 2011, 2012).
- Academic Advisor for 2005 group of Chemical Engineering Male Students.
- Member of the UAEU’s College of Engineering Outcome Assessment Committee, 2007 – present.
- Member of the UAEU’s College of Engineering Laptop project & course innovations Committee, 2007/2008.
- Member of the UAEU’s College of Engineering Peer Evaluation of Teaching Committee, 2007-present.
- CRU-students (General Engineering Students) academic advisor, UAEU, 2008-2010.
- Participation in the UAEU’s College of Engineering Graduation Projects Examination Committees.
- Participation in the UAEU’s College of Engineering Final Presentation of Industrial Training Committees.
- Coordinator of the Exhibition Stand of Engineering College (UOB) at the 3rd Middle East Metrology Conference and Exhibition, May 29-31, 2006, Manama, Bahrain.
- Proctoring member for final exams of General Education courses at UAEU.
- Participation in “Marhaba Alssaa”; New Student Orientation Program, January 2010.
- Participation in the orientation program of the UGRU students.
- I carried out paper evaluation for the Awards of UAEU Research Conferences.

## **5.7 Local and National Community**

- I act as a Vice-President of Parents and Teachers Council for Al Itihad National Private School, Al-Ain – UAE (January 2010 – 2012).