

Curriculum Vita

Reyad Awwad Khalaf Shawabkeh, Ph.D., E.I.
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i10- index **32**














Education & Qualifications

<i>1999</i>	<i>Government of New Mexico</i>	<i>Santa Fe, USA</i>
Professional Engineer		
<i>1995 – 1998</i>	<i>New Mexico State University</i>	<i>Las Cruces, USA</i>
Ph.D. Chemical Engineering		
<i>1989 – 1992</i>	<i>University of Jordan</i>	<i>Amman, Jordan</i>
M.Sc. Chemical Engineering		
<i>1984 – 1989</i>	<i>Jordan University of Science & Technology</i>	<i>Irbid, Jordan</i>
B.Sc. Chemical Engineering		

Professional experience

<i>9/2017 - present</i>	<i>University of Jordan</i>	<i>Amman, Jordan</i>
Professor of Chemical Engineering		
<i>4/2012 – 9/2017</i>	<i>King Fahd University of Petroleum & Minerals</i>	<i>Dhahran, Saudi Arabia</i>
Professor of Chemical Engineering		
<i>9/2007 – 4/2012</i>	<i>King Fahd University of Petroleum & Minerals</i>	<i>Dhahran, Saudi Arabia</i>
Associate Professor of Chemical Engineering		
<i>8/2006 – 9/2007</i>	<i>AL-Hussein Bin Talal University</i>	<i>Ma'an, Jordan</i>
Assistant to the President for Planning & Development		
Chairman of Central Tendering Committee		
<i>8/2005 – Present</i>	<i>Mutah University</i>	<i>Al-Karak, Jordan</i>
Associate Professor of Chemical Engineering		
<i>8/2004 – 8/2006</i>	<i>Mutah University</i>	<i>Al-Karak, Jordan</i>
Head, Chemical Engineering Department		
<i>3/2003 – 8/2004</i>	<i>Mutah University</i>	<i>Al-Karak, Jordan</i>
Director, HRH Prince Faisal Center for Dead Sea Studies		
<i>2/2000 – 2/2005</i>	<i>Mutah University</i>	<i>Al-Karak, Jordan</i>
Assistant Professor of Chemical Engineering		
<i>8/1998 – 2/2000</i>	<i>Waste-management Education & Research Consortium</i>	<i>Las Cruces, USA</i>
Postdoctoral Researcher		

Patents

	PAT. NO.	Title
1	9,757,709	 Method for forming an acid-treated fly ash activated carbon
2	9,737,872	 Modified activated carbon preparation and methods thereof
3	9,649,619	 Sodium-calcium-aluminosilicate column for adsorbing CO ₂
4	9,616,407	 Isothermal CO ₂ adsorption column
5	9,480,969	 Synthesis of CO ₂ -one adsorbent for CO ₂ removal
6	9,193,608	 Removal of heavy metals from aqueous solutions using vanadium-doped titanium Dioxide nanoparticles
7	9,145,492	 Method to produce ultra-high molecular weight polyethylene
8	9,102,542	 Method of producing activated carbon from fuel oil
9	8,604,115	 Ethylene/propylene copolymer nanocomposite
10	8,596,047	 Vehicle electrocatalyzer for recycling carbon dioxide to fuel hydrocarbons
11	8,545,781	 Carbon dioxide adsorbent composition
12	8,541,520	 Method of making high-density polyethylene with titania-iron nanofillers
13	6,225,256	 Activated carbon feedstock

Book Chapter

14. Synthesis of Activated Carbon from spent Lubricating oil, Combined and Hybrid Adsorbents, *NATO Security through Science Series*, Springer Netherlands, 2006. 195-200.
15. Adsorption of zinc and cadmium using activated carbo-aluminosilicate material from oil shale, Combined and Hybrid Adsorbents, *NATO Security through Science Series*, Springer Netherlands, 2006. 249-254.
16. Synthesis of a new Cu-aluminosilicate catalyst for CO₂ capture and conversion to hydrocarbons, *Advances in Gas Processing, Volume 4, Elsevier, 2014, 49-58.*
17. Adsorption of H₂S from Natural Gas using treated Oil Fly Ash, *Advances in Gas Processing, Volume 4, Elsevier, 2014, 273-283.*

Publications

18. W. Ahmad, M.N. Younis, R. Shawabkeh, S. Ahmed, Synthesis of lanthanide series (La, Ce, Pr, Eu & Gd) promoted Ni/ γ -Al₂O₃ catalysts for methanation of CO₂ at low temperature under atmospheric pressure, *Catalysis Communications*, 100 (2017) 121-126.
19. A.G. Rana, W. Ahmad, A. Al-Matar, R. Shawabkeh, Z. Aslam, Synthesis and characterization of Cu–Zn/TiO₂ for the photocatalytic conversion of CO₂ to methane, *Environmental technology*, 38 (2017) 1085-1092.
20. M. Mahmoud, A. Abdurraheem, S. Al-Mutairi, S. Elkatatny, R. Shawabkeh, Single stage filter cake removal of barite weighted water based drilling fluid, *Journal of Petroleum Science and Engineering*, 149 (2017) 476-484.
21. R. Khalid, Z. Aslam, A. Abbas, W. Ahmad, N. Ramzan, R. Shawabkeh, Adsorptive potential of Acacia Nilotica based adsorbent for Chromium (VI) from an aqueous phase, *Chinese Journal of Chemical Engineering*, (2017).
22. B. GERI, B. SALEM, M.A. Mahmoud, R.A. Shawabkeh, A. Abdurraheem, Evaluation of Barium Sulfate (Barite) Solubility Using Different Chelating Agents at a High Temperature, *Journal of Petroleum Science and Technology*, 7 (2017) 42-56.
23. N.M. Faqir, S. Elkatatny, M. Mahmoud, R. Shawabkeh, Fabrication of kaolin-based cement plug for CO₂ storage wells, *Applied Clay Science*, 141 (2017) 81-87.
24. M. Eliebid, M. Mahmoud, R. Shawabkeh, S. Elkatatny, I.A. Hussein, Effect of CO₂ adsorption on enhanced natural gas recovery and sequestration in carbonate reservoirs, *Journal of Natural Gas Science and Engineering*, (2017).
25. B. Bageri, M. Mahmoud, R. Shawabkeh, S. Al-Mutairi, A. Abdurraheem, Toward a Complete Removal of Barite (Barium Sulfate BaSO_4) Scale Using Chelating Agents and Catalysts, *Arabian Journal for Science and Engineering*, 42 (2017) 1667-1674.
26. Z. Aslam, M.S. Kamal, W. Ahmad, A. Abbas, R.A. Shawabkeh, Development of novel cross-linked chitosan for the removal of anionic Congo red dye, *Journal of Molecular Liquids*, (2017).
27. Waqar Ahmad, Umer Mehmood, Amir Al-Ahmed, Fahad A. Al-Sulaiman, M. Zaheer Aslam, Muhammad Shahzad Kamal, R.A. Shawabkeh, Synthesis of zinc oxide/titanium dioxide (ZnO/TiO₂) nanocomposites by wet incipient wetness impregnation method and preparation of ZnO/TiO₂ paste using poly(vinylpyrrolidone) for efficient dye-sensitized solar cells, *Electrochimica Acta*, 2016, In

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- Press
28. Ba Geri, B.S., Mahmoud, M.A., **Shawabkeh, R.A.**, and Abdurraheem, A. **2016**. A New Formulation for Single Stage Filter Cake Removal of Barite Weighted Water Base Drilling Fluid. *Journal of Petroleum Science and Engineering*, Accepted.
 29. U. Mehmood, M. Zaheer Aslam, R.A. Shawabkeh, I.A. Hussein, W. Ahmad, A. Ghaffar Rana, Improvement in Photovoltaic Performance of Dye Sensitized Solar Cell Using Activated Carbon-TiO₂ Composites-Based Photoanode, *IEEE Journal of Photovoltaics*, 6 (2016) 1191-1195.
 30. Waqar Ahmed, Ali Al Matar, **Reyad Shawabkeh**, Adeem Rana, An Experimental and Thermodynamic Study for Conversion of CO₂ to CO and methane over Cu-K/Al₂O₃, *Journal of Environmental Chemical Engineering*, **2016**, 4, 2725–2735.
 31. Badr Geri, Mohamed Mahmoud, **Reyad Shawabkeh**, Abdulazeez Abdurraheem, Evaluation of Barium Sulfate (Barite) Solubility Using Different Chelating Agents – Different Bases - at High Temperature, *Journal of Petroleum Science and Technology*, accepted.
 32. Mohammed Saad, Mohmmmed Al-Marri, Ibelwaleed A. Hussein, Ali Yaumi, ***Reyad Shawabkeh**, An Experimental and Kinetic Study of the Sorption of Carbon Dioxide onto Amine-treated Oil Fly Ash, *Journal of Chemistry*, **2016**, 2016, 1-11.
 33. Qusay Bkour, Naim Faqir, ***Reyad Shawabkeh**, Synthesis of a Ca/Na-aluminosilicate from kaolin and limestone and its use for adsorption of CO₂, *Journal of Environmental Chemical Engineering*, **2016**, 4, 973–983.
 34. **Reyad A. Shawabkeh**, Zaheer Aslam, Ibelwaleed A. Hussien, Thermochemical Treatment of Fly Ash for Synthesis of Mesoporous Activated Carbon, *Journal of Thermal Analysis and Calorimetry*, **2015**, 122(3), 1191-1201.
 35. M. Mirghani, U. A. Al-Mubaiyedh, M.S. Nasser, ***R. Shawabkeh**, Experimental study and modeling of photocatalytic reduction of Pb²⁺ by WO₃/TiO₂ nanoparticles, *Separation and Purification Technology*, **2015**, 141, 285-293.
 36. Zaheer Aslam, Reyad Shawabkeh, Ibelwaleed Hussein, Nadhir Al-Baghli, MladenEic, Synthesis of Activated Carbon from Oil Fly Ash for Removal of H₂S from Gas Stream, *Applied Surface Science*, **2015**, 327, 107-115..
 37. H Wahhab, IA Hussein, MA Parvez, **RA Shawabkeh**, Use of modified oil fly ash to enhance asphalt concrete performance, *Materials and Structures*, **2015**, 48(10), 3231-3240
 38. M Anwar Parvez, HI Al-Abdul Wahhab, **RA Shawabkeh**, IA Hussein, Asphalt modification using acid treated waste oil fly ash, *Construction and Building Materials*, **2014**, 70, 201-209
 39. M Al-Harashsheh, **R Shawabkeh**, M Batiha, A Al-Harashsheh, K Al-Zboon, Sulfur Dioxide Removal using Natural Zeolitic Tuff, **2014**, *Fuel Processing Technology* 126, 249-258.
 40. R Rihan, **R Shawabkeh**, N Al-Bakr, The Effect of Two Amine-Based Corrosion Inhibitors in Improving the Corrosion Resistance of Carbon Steel in Sea Water, **2014**, *Journal of materials engineering and performance* 23 (3), 693-699.
 41. ***Shawabkeh, R.A.**, Al-Harhi, M., Al-Ghamdi, S.M., The synthesis and characterization of microporous, high surface area activated carbon from palm seeds, *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, **2014**, 36 (1), 93-103
 42. **Shawabkah, R.**, Al-Qodah, Z., Al-Bsoul, A., Bio-adsorption of triadimenol pesticide from aqueous solutions using activated sludge of dairy plants. *Desalination and Water Treatment* **2013**, 1-10.
 43. **Shawabkeh, R.**, Rihan, R., AL-Baker, N., Effect of an alkyl amine-based corrosion inhibitor for 1018 carbon steel pipeline in sea water, *Anti-corrosion Methods and Materials*, **2013**, 60 (5) 259 - 270
 44. Yaumi, A.L., Hussein, I.A., ***Shawabkeh, R.A.**, Surface modification of oil fly ash and its application in selective capturing of carbon dioxide, *Applied Surface Science*, **2013**, 266 , pp. 118-125
 45. **Shawabkeh, R.**, Khan, M., Al-Juhani, A., Ul-Hamid, A., Hussein, I., Enhancement of surface properties of oil fly ash by chemical treatment, *Applied Surface Science*, **2011**, 258, 1643-1650.
 46. Khan, M., Al-Juhani, A., **Shawabkeh, R.**, Ul-Hamid, A., Hussein, I., Chemical modification of waste oil fly ash for improved mechanical and thermal properties of low density polyethylene composites, *Journal of Polymer Research*, **2011**, 18, 2275-2284..
 47. **Shawabkeh, R.A.**, Gaily, M., Laui, T., Faqir, N., Al-Harithi, M., Ba-Shammakh, M., Synthesis and characterization of Fe-doped nanotitania using solgel technique and application for Zn 2+ reduction from aqueous solution, *AES-ATEMA Series - Advances and Trends in Engineering Materials and their Applications*, **2011**, pp. 211-218.
 48. Khan, M., Al-Juhani, A., Ul-Hamid, A., **Shawabkeh, R.**, Hussein, I., Effect of Chemical Modification of Oil Fly Ash and compatibilization on the Rheological and Morphological Properties of Low-Density Polyethylene Composites, *Journal of Applied Polymer Science*, **2011**, 122, 2486-2496.
 49. AL-Baker, N., **Shawabkeh, R.**, Rihan, R., Kinetic Study of the Effect of Amine Based Corrosion Inhibitor in Reducing the Corrosion Rate of 1018 Carbon Steel in Sea Water Solution, *Corrosion Engineering Science and Technology*, **2011**, 46, 767-776..
 50. Harahsheh, A., ***Shawabkah, R.**, Harahsheh, M., Batiha, M., Removal of sulfur dioxide by slurry of Jordanian oil shale ash, *Energy Sources*, **2011**, 34, 90-98.
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51. **Shawabkeh, R.**, Hydrometallurgical Extraction of Zinc from Jordanian Electric Arc Furnace Dust, *Hydrometallurgy*, **2010**, 104 (1), 61-65.
52. **Shawabkeh, R.**, Al-Khushman, O. and Bisharat G, Photocatalytic degradation of phenol using Fe-TiO₂ under different illumination sources, *International Journal of Chemistry*, **2010**, 2 (2), 10-18.
53. Khleifat, K., Halasah, R., Tarawneh, K., Halasah, Z., **Shawabkeh, R.**, and Wedyan, M., Biodegradation of Linear Alkylbenzene Sulfonate by Burkholderia sp.: Effect of Some Growth Conditions, *International Journal of Agriculture and Biology*, **2010**, 12 (1), 17-25.
54. Harahsheh, M., **Shawabkeh, R.**, Harahsheh, A., Tarawneh, and Batihah, M., Surface Modification and Characterization of Jordanian kaolinite: Application for Lead Removal from Aqueous solution, *Applied Surface Science*, **2009** 255 (18), pp. 8098-8103
55. **Shawabkeh, R.**, Equilibrium study and kinetics of Cu²⁺ removal from water by zeolite prepared from oil shale ash, *Process Safety and Environmental Protection*, **2009**, 87 (4), pp. 261-266
56. Al-Khushman, O. and **Shawabkeh, R.**, Metal distribution in urban soil around steel industry beside Queen Alia Airport, Jordan, *Environmental Geochemistry and Health*, **2009**, 31 (6), pp. 717-726.
57. Al-Qodah, Z. and **Shawabkeh, R.**, Production and characterization of granular Activated Carbon from Activated Sludge, *Brazilian Journal of Chemical Engineering*, 26 (1) 2009
58. **Shawabkeh, R.** and Al-Harahsheh, A., H₂S removal from sour liquefied petroleum gas using Jordanian oil shale ash, *Oil Shale Journal*, 2007, 24 (2) 109
59. Khleifat, K., **Shawabkeh, R.**, Al-Majali, I. and Tarawneh, K., Biodegradation kinetics of phenol by Klebsiella oxytoca: Effect of carbon and nitrogen source, *Bioremediation Journal*, 16 (5) 2007
60. **Shawabkeh, R.**, Al-Khashman, O., Al-Omari, H., Cobalt and Zinc Removal from Aqueous Solution by Chemically Treated Bentonite, *The Environmentalist*, 27 (3) 2007
61. R Shawabkeh, KM Khleifat, I Al-Majali, K Tarawneh, Rate of biodegradation of phenol by Klebsiella oxytoca in minimal medium and nutrient broth conditions, 2007, Fresenius Environmental Bulletin 16 (5), 489-494.
62. **Shawabkeh, R.**, Abu Na'meh, E., Adsorption of phenol and methylene blue by activated carbon from pecan shells, *Colloid Journal*, **3**, 2007
63. **Shawabkeh, R.**, Kinetics of biodegradation of phenol in aqueous solution using *Ewingella americana*, *Fresenius Environmental Bulletin*, 16 (6) 2007
64. **Shawabkeh, R.**, Adsorption of Chromium ions from aqueous solution by using activated carbo-aluminosilicate material from oil shale, *Journal of Colloid and Interface Science*, 299 (2) 2006
65. Kandah, M., **Shawabkeh, R.**, and Zboon, M., Synthesis and characterization of activated carbon from asphalt, *Applied Surface Science*, 253(2) 2006
66. Al-Khashman, O., and **Shawabkeh, R.**, Metals distribution in soils around the cement factory in southern Jordan, *Environmental Pollution Journal*, 140 (3) 2006
67. **Shawabkeh, R.**, Solidification and stabilization of cadmium ions in sand-cement-clay mixture, *Journal of Hazardous Material*, 125 (1-3), 2005
68. Abu Na'meh, E., **Shawabkeh, R.**, and Azzam Ali, High-Performance Liquid Chromatographic Determination of Simvastatin in Medical Drugs, *Journal of Analytical Chemistry*, 61 (1) 2006
69. Al-Harahsheh, A., Al-Otoom, A. and **Shawabkeh, R.**, Sulfur distribution in the oil fractions obtained by thermal cracking of Jordanian El-Lajjun oil Shale, *Energy*, 30 (15), 2005
70. Al-Otoom, A., **Shawabkeh, R.** and Al-Harahsheh, A., The chemistry of minerals obtained from the combustion of Jordanian oil shale, *Energy*, 30(5), 2005.
71. Mahasneh, B., and **Shawabkeh, R.**, Compressive Strength and Permeability of Sand-Cement-Clay Composite and Application for Heavy Metals Stabilization, *Journal of Geotechnical Engineering*, 10(b), 2005.
72. **Shawabkeh, R.** and Tutunji, M., Experimental study and modeling of basic dye sorption by diatomaceous clay, *Invited publication in Experimental Earth Journal*, 1 (5), 2003.
73. **Shawabkeh, R.**, Synthesis and characterization of activated carbo-aluminosilicate material from oil shale, *Microporous and Mesoporous Materials*, 75, 2004.
74. **Shawabkeh, R.**, Al-Harahsheh, A., and Al-Otoom, A., Production of zeolite from Jordanian oil shale ash and application for zinc removal from wastewater, *Oil Shale Journal*, 21, 2004.
75. **Shawabkeh, R.**, Al-Harahsheh, A., Hami, M., and Khlaifat, A., Conversion of oil shale ash into zeolite for cadmium and lead removal from wastewater, *Fuel*, Volume 83, Issues 7-8, 2004.
76. **Shawabkeh, R.**, Al-Harahsheh, A., and Al-Otoom, A., Copper and zinc sorption by treated oil shale ash, *Separation and Purification Technology*, 40(3), 2004.
77. **Shawabkeh, R.** and Mahasneh, B., Encapsulation of lead ions in sand-cement-clay mixture, *Journal of Geotechnical Engineering*, 9(c), 2004.
78. **Shawabkeh, R.** and Tutunji, M., Experimental study and modeling of basic dye sorption by diatomaceous clay, *Applied Clay Science*, 24, Issues 1-2, 2003.
79. **Shawabkeh, R.** and Tutunji, M., Mathematical modeling of the electrode process of azithromycin using

cyclic voltammetry at hanging mercury drop electrode, *Sensors 2*, **2002**.

80. **Shawabkeh, R.**, Rockstraw, D. and Bhada, R., Copper and strontium adsorption by a novel carbon material manufactured from pecan shells, *Carbon, Volume 40, Issue 5*, **2002**.
81. Al-Degis, Y., Tutunji, M., and **Shawabkeh, R.**, The feasibility of Using Diatomite and Mn-diatomite for Remediation of Pb, Cu, and Cd from Water, *Sep. Sci. Technol.*, *35 (14)* **2000**.
82. Tobgy, A., Faqir, N., and **Shawabkeh, R.**, Rating of extraction columns with backmixing, *Dirasat-JORDAN*, *22B (3)*, **1995**.
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Conferences & Workshops

83. Shawabkeh, Effect of Activation Condition for Production of Activated Carbon from Fly Ash, AIChE Annual Meeting, Salt Lake City, UT November 8, 2015.
84. Shawabkeh, Electroreduction of Carbon Dioxide to Hydrocarbons Using Copper Nanoparticles Electrode, AIChE Spring Meeting, Austin, TX, November 8, 2015
85. R. Shawabkeh, Chemical and Thermal Treatment of Fly Ash for Synthesis of Mesoporous Activated Carbon, North American Thermal Analysis Society (NATAS), 2014, Santa Fe, USA; September 14-17, 2014
86. Reyad Shawabkeh, Waqar Ahmad, Ibelwaleed Hussien "Synthesis of Ca-Naaluminosilicates from kaolinite for CO₂ capture and sequestration" Gas Processing Center's fourth International Symposium, Qatar, October 26-27, 2014
87. Zahir Aslam, Reyad A. Shawabkeh, Ibelwaleed Hussien, Adsorption of CO₂ and H₂S from Natural Gas By Activated Fly Ash, AIChE 2014 Spring Meeting and 10th Global Congress on Process Safety, New Orleans, USA, from March 14 to 15, 2014.
88. Shawabkeh, R. Sorption of Hydrogen Sulfide From Natural Gas Using Physicochemical Treated Fly Ash, AIChE 2013 National Meeting, San Francisco, CA, USA; November 3-8, 2013.
89. Faqir, N., Shawabkeh, R., Adsorption of CO₂ by alkaline activated Ca-Al₂O₃-SiO₂ material, AIChE 2013 Spring Meeting, San Antonio, Texas, USA; April 28-May 2, 2013.
90. Rihan, R., Shawabkeh, R., Al-Bakr, N., Kinetic study of the effect of a mixture of two corrosion inhibitors in reducing the corrosion rate of 1018 carbon steel petroleum pipelines in sea water, NACE - International Corrosion Conference, Salt Lake City, Utah, USA; March 11-15, 2012
91. Shawabkeh, R., Mirgani, M., Synthesis of V-TiO₂ nanoparticles and Application for Reduction of Cd²⁺ from Aqueous solution, The Sixth International Conference on Environmental Science and Technology, Houston, Texas - USA; June 25-29, 2012
92. Shawabkeh, R.A., Yaumi, A., Hussein, I., Chemisorption of carbon dioxide on chemically treated fly ash surface: Experimental and kinetics modeling, *AIChE Annual Meeting, Conference Proceedings*, Pittsburgh, USA, 28/10-4/11 2012.
93. Rihan, O., Al-Bakr, N.I., Shawabkeh, R.A., Studying the effect of two corrosion inhibitors in reducing the corrosion rate of 1018 carbon steel petroleum pipelines in sea water, *European Corrosion Congress 2010 - EUROCORR 2010 2*, pp. 1744.
94. R. A. Shawabkeh, M. Gaily, T. Lau, N. Faqir, M. Al-Harithi, M. Ba-Shammakh, Synthesis and characterization of Fe-doped nanotitania using sol-gel technique and application for Zn²⁺ reduction from aqueous solution, AES-ATEMA International Conference Series - Advances and Trends in Engineering Materials and their Applications, Montreal, Canada; August 01-05, 2011
95. O. Rihan, N. I. Al-Bakr, R. A. Shawabkeh, Studying the effect of two corrosion inhibitors in reducing the corrosion rate of 1018 carbon steel petroleum pipelines in sea water, *European Corrosion Congress 2010 - EUROCORR 2010*, Moscow, Russia; 01/2010
96. Experimental and Modeling of CO₂ Sorption by Oil-Shale Ash, 3rd International IUPAC Conference on Green Chemistry, Ottawa, Canada, 15-19, August, 2010
97. Photocatalytic degradation of phenol from aqueous solution by Fe/Zn-doped titanium dioxide, International Green energy Conference, Toronto (Oshawa) -Canada, June 24-29, 2006
98. Synthesis of Activated Carbon from spent Lubricating oil, NATO Advanced Research Workshop, Kiev-Ukraine, September 15-18, 2005.
99. Adsorption of zinc and cadmium using activated carbo-aluminosilicate material from oil shale, NATO Advanced Research Workshop, Kiev-Ukraine, September 15-18, 2005.
100. Detection of Clarithromycin at the Hanging Mercury Drop Electrode Surface, International Engineering conference- Mutah 2004.
101. Encapsulation of lead by sand-cement-clay composite material, International Engineering conference- Mutah 2004.
102. Use of Pecan Shells in the Chemical Industry, R. Shawabkeh, XXXII Annual Western Pecan Conference, Las Cruces, New Mexico, March 9-11, 1998.
103. Activated Carbon (PS276a) Manufactured by Novel Techniques, D.A. Rockstraw, R. Shawabkeh, R. Bhada, Waste-management Education and Research Consortium/Hazardous Substance Research Center Joint Conference on the Environment, Albuquerque, NM, April 22-24, 1997.
104. Activated Carbon Manufactured by Novel Techniques, R. Shawabkeh, D. Rockstraw, and R. Bhada, American Institute of Chemical Spring Meeting, Houston, TX, March 9-13, 1997.
105. Synthesis and Characterization of Activated Carbon Manufactured from Pecan Shells for Application to Water Remediation, D.A. Rockstraw, and R. Shawabkeh, Center for Applied Energy Research, University of
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Kentucky, Lexington, KY, April 23, 1998.

106. Chemical Activation of Pecan Shells for Manufacturing of Activated Carbon, R. Shawabkeh, Graduate Research Symposium, NMSU, April 1997.
 107. Use of Lignocellulosic-Based Carbon Modified for Separation of Ionic Species from Aqueous Solution, D. Rockstraw, R. Shawabkeh, and R. Bhada, TechnoVentions98 Conference, Orlando, December 10, 1998.
 108. Feasibility of Using Diatomite and Mn-Diatomite for Remediation of Lead from Water, R. Shawabkeh, Y. Diqqis, and M. Tutunju, Waste-management Education and Research Consortium Conference on the Environment, Albuquerque, NM, April 26-29, 1999.
 109. Simulation of Separation Processes, Jordan Engineering Assignment Conference I, Amman, Jordan, August 2-5, 1992.
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Funded Projects

1. P-I: Catalytic conversion of H₂S from natural gas to zero-valent sulfur, KFUPM, **SAR 266,600 (\$71,081)** April 1, 2016 – Sept. 1, 2017.
 2. P-I: Conversion of carbon dioxide to formic acid, NSTIP-KACST, **SAR 1,943,120 (\$518,082)** Sept. 1, 2014 – Sept 1, 2016.
 3. Co-I: Adsorption of Carbon Dioxide Gas by Chemically Treated limestone, Deanship of Scientific Research, KFUPM. **SAR 285,400 (\$76,094)** Sept. 1, 2012 – Sept. 1, 2014.
 4. Co-I: Fabrication of Mineral Polymeric Materials from Local Saudi Mineral Resources for Construction Purposes using Mineral Polymerization Technique, NSTIP-KACST, **SAR 1,353,100 (\$360,643)**, September 1, 2012- September 1, 2014
 6. Co-I: Destabilization of Oil-Water Emulsions in Oilfield Produced Water to Enhance Separation in Dissolved Air Flotation, Deanship of Scientific Research, KFUPM. **SAR 305,470 (\$ 81,445)** Sept. 1, 2013-Sept. 1, 2015.
 7. PI: Production of Activated Carbon from Waste Fly Ash and Application for Selective Removal of hydrogen sulfide from Natural Gas, NSTIP-KACST, **SAR 1,965,400 (\$524,220)** Sept. 1, 2012- Sept.1, 2014.
 8. Co-I: Treatment of waste oil fly ash for improvement of Saudi asphalt binder and asphalt concrete performance. **King Abdul-Aziz City for Science and Technology SAR 1,851,564 (\$495,309)**, Sept 1, 2010-Sept.1, 2012.
 9. PI: Design and fabrication of nanocomposite-based electrode for electrocatalytic conversion of carbon dioxide to produce hydrocarbons. First National Science & Technology Plan, **Center for Refining & Petrochemicals, SAR 999,400 (\$266,464)**, Sept 1, 2009-Sept.1, 2011.
 10. Co-I: The development of leak and contamination sensors for water pipeline network, Co-PI with Dr. Rashad Mansour (collaboration between **King Fahd University of Petroleum & Minerals** (KFUPM) and **Massachusetts Institute of Technology** (MIT)).
 11. PI: Synthesis of titania nanofiber and its application for oxidation/reduction of solutes from aqueous solution. **King Abdul-Aziz City for Science and Technology, SAR 1,475,000 (\$393,270)** Sept. 1, 2008-Jan.1, 2011.
 12. PI: Adsorption of anthracene, naphthalene and 2-chlorophenol by activated carbon from palm-date pits. **Deanship of Scientific Research- KFUPM, SAR 72,000 (\$19,200)** Jan 1, 2008-June 1, 2010.
 13. Co-I: Design of adsorption-refrigeration cycles, Deanship of Scientific Research-Mutah University, **JD 8000 (\$12,000)** , 2004-2006.
 14. PI: Sorption of Toxic gases by slurry of oil shale ash, Japan International Cooperation Agency- Jordan, **JD 3,000 (\$ 5,000)** , 2002-2005.
 15. PI: Synthesis of engineered zeolite from oil shale ash and application for removal of metal ions from aqueous solutions. Higher Council for Science and Technology-Royal Scientific Research, **JD 17,000 (\$24,500)**, 2002-2004.
 16. PI: Feasibility of sand-cement-clay mixture for encapsulation of metal ions and radioactive isotopes from sludge. Deanship of Scientific Research-Mutah University, **JD 2000 (\$3,000)**, 2001-2003.
 17. PhD Student: Synthesis of activated carbon from pecan shells. Waste-management Education & Research Consortium-NMSU, USA, **(\$81,000)**, 1996-1998.
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I have taught the following courses at Mutah University-Jordan, KFUPM-KSA and University of Jordan-Jordan..

Note. [The number in brackets indicates the no. of times of teaching this course].

Course Work

- Graduate Courses:**
1. Advanced Reaction Engineering [6]
 2. Adsorption [3]
 3. Advanced Heat Transfer Unit Design –IFP [2]
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Undergraduate Courses:

1. Chemical Engineering Plant Design [2]
2. Heterogeneous Chemical Reaction Eng. [4]
3. Chemical Engineering Thermodynamics I [1]
4. Numerical Analysis [5]
5. Unit operation (II) [1]
6. Industrial Analytical Chemistry [1]
7. Automatic Control [2]
8. Labs (Unit operation, Reaction and Control) [2]
9. Communication Skills [1]
10. Homogeneous Chemical Reaction Engineering [5]
11. Electrochemical Engineering [7]
12. Applied Mathematics for Chemical Eng. [4]
13. Unit Operation (I) [1]
14. Heat Transfer [2]
15. Mass Transfer Operation [4]
16. Principles of Chemical Engineering [1]
17. Optimization of Chemical Engineering [1]
18. Chem. Eng. Thermodynamics II [5]
19. **Integrated design (Project) [26]**
20. Heat Exchanger Design [3]
21. Corrosion [3]
22. Plant Design
23. Chemical Process Design

Awards received

- (1) Excellence in Research Award, KFUPM, 2017.
- (2) Recognition of KFUPM Inventors, KSA, April 2013.
- (3) Second place, Environmental Design Contest, United Arab Emirates, May 26-29, 2004.
- (4) First place, Engineering Design Contest, United Arab Emirates, March 22-26, 2002.
- (5) **Grand Prize, The National Excellence in Environmental Engineering, Washington DC, USA, April 16, 1998.**
- (6) BF Goodrich Collegiate Inventors Program recognition of distinguished contribution.
- (7) First place of Top honors: Graduate Research Symposium, Engineering Session Presenters/NMSU, USA, 1997.
- (8) Riotech Environmental Excellence Scholarship, Las Cruces, USA, 1997.

Professional Review Activities

- Associate Editor for Arabian Journal of Science and Engineering
 - Peer reviewer for the following journals:
1. *Separation and Purification Technology Journal*
 2. *Journal of Colloid and Interface Science*
 3. *Water International Journal*
 4. *Journal of Hazardous Materials*
 5. *Biosource Technology Journal*
 6. *Enzyme & Microbial Technology Journal*
 7. *Mutah Journal*
 8. *Microporous & Mesoporous Materials*
 9. *Current Microbiology Journal*
 10. *Process Biochemistry Journal*
 11. *Chemical Engineering Science Journal*
 12. *Drying Technology Journal*

PhD and Master Thesis Supervised & Examined

1. Aban Skhaita, electrochemical conversion of CO₂ to formic acid using rotating cylinder electrode, in progress.
2. Badr Bageri, Filter Cake Removal of Barite Weighted Water Based Mud (WBM) in Horizontal well, Co-advisor, Petroleum Engineering, **King Fahd University of Petroleum & Minerals**, in progress
3. Abdullah Mohammad, Electrocatalytic conversion of CO₂ to formic acid in three-phase reactor, **King Fahd University of Petroleum & Minerals**, in progress
4. Abdullah Musbah, Photocatalytic degradation of Benzene, Toluene and Xylene from water, **King Fahd University of Petroleum & Minerals**, May 2015
5. Adeem Rana, Photocatalytic conversion of CO₂ to hydrocarbons using Cu/Zn-TiO₂ catalyst, **King Fahd University of Petroleum & Minerals**, May 2015
6. Waqar Ahmen, Conversion of CO₂ from mobile phase to methane using Ru/Cu-Al₂O₃ catalyst **King Fahd University of Petroleum & Minerals**, May 2015
7. Qussay Bkour, Adsorption of CO₂ by chemically treated Kaolin, **King Fahd University of Petroleum & Minerals**, May 2014
8. Hafiz Zaheer Aslam, synthesis of selective H₂s and CO₂ adsorbent from oil fly ash. **King Fahd University of Petroleum & Minerals**, December 2014
9. Ali Yawmi, Adsorption of carbon dioxide using chemically treated fly ash, **King Fahd University of Petroleum & Minerals**, May 2012.
10. Musab Gaily, Synthesis of titania nanofiber and its application for oxidation/reduction of solutes

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- from aqueous solution, *King Fahd University of Petroleum & Minerals*, May 2012..
11. Nawaf Baker, Batch and Kinetic study of different corrosion inhibitors for 1018 carbon steel. *King Fahd University of Petroleum & Minerals*, 2009
 12. Saeed Al Gamidi, Adsorption of anthracene, naphthalene and 2-chlorophenol by activated carbon from palm-date pits. *King Fahd University of Petroleum & Minerals*, 2010
 13. Ibraheem Al-Majali, Biodegradation kinetics of phenol using *Ewingilla americana*, Biology Department, *Mutah University* (Co-advisor with Dr. Khaled Khaifat)
 14. Mahmood Zboun, Synthesis of activated carbon from asphalt, Chemical Engineering Department, *Jordan University of Science & Technology* (Co-advisor with Dr. Munther Qandah)
 15. Basel Saydah, Synthesis and characterization of photocatalytic material from titanium dioxide and application for reduction of silver and lead ions from aqueous solution, Chemistry & Environment Department, *AL-Balqa Applied University* (Co-advisor with Dr. Eyad Naimah)
 16. Khader Abu Khdeer, Kinetic of adsorption of silver, lead and cadmium ions onto iron-impregnated titanium dioxide, Chemistry & Environment Department, *AL-Balqa Applied University* (Co-advisor with Dr. Eyad Naimah)
 17. Dheay' Rousan, Comparison between biosorbents for the removal of heavy metal ions from aqueous solutions, May 2001, Chemical Engineering Department, *Jordan University of Science & Technology* (Examiner)
 18. Naser Al-Dabaybeh, Evaluation of animal solid waste (Manure) as a new adsorbent, August 2001, Chemical Engineering Department, *Jordan University of Science & Technology* (Examiner)
 19. Basheer Hlihil, Removal of ammonia from industrial wastewater containing hydrogen sulfide using Jordanian zeolites and metal oxides, August 2002, Chemical Engineering Department, *University of Jordan* (Examiner)
 20. Mohammad Laymoun, The effect of different carbon and nitrogen sources on copper uptake by three strains of *Escherichia coli*, August, 2004, Biology Department, *Mutah University* (Examiner)
 21. Khaled Shurafa, Factors affecting the production of B-galactosidase in different strains of enterobacter aerogenes, August 2004, Biology Department, *Mutah University* (Examiner)
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Professional memberships

1. American Institute of Chemical Engineering
 2. American Chemical Society
 3. International Adsorption Society
 4. Jordan Engineering Association
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