Prof. Nabeel Abdul Kareem Jarrah

Chemical Engineering Department
Mutah University
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Personal details

Date of birth : March 12th, 1972

Place of birth : Irbid-Jordan

Nationality : Jordanian

Education

2000 – 2004	PhD in Chemical Engineering, Catalytic Processes and Materials group, College of Science and Technology, University of Twente, the Netherlands. PhD thesis: Microstructured catalyst support based on Carbon Nano-Fibers (CNFs)
1995 – 1997	M.Sc. in Chemical Engineering, College of Engineering, Jordan University of Science and Technology (J.U.S.T), Jordan. Cumulative Average: 87.2/100 M.Sc. thesis: Investigation of thermal enhanced oil recovery of Jordanian oil using steam injection method.
1990 – 1995	B.Sc. in Chemical Engineering, College of Engineering, Jordan University of Science and Technology (J.U.S.T), Jordan. Cumulative Average: 80.9/100 Received 4 Honor awards

Experience

• ***Academic***	
02/2020- now	Full Professor, Chemical Engineering Department, College of Engineering, Mu'tah University, Jordan.
09/2017 – 02/2020	Associate Professor, Chemical Engineering Department, College of Engineering, Mu'tah University, Jordan.
08/2011 – 8/2017	Associate Professor, Environmental Engineering Department, College of Engineering, Imam Abdulrahman Bin Faisal University, KSA
02/2010 – 08/2011	Associate Professor, Chemical Engineering Department, College of Engineering, Mu'tah University, Jordan.
02/2005 – 02/2010	Assistant Professor, Chemical Engineering Department, College of Engineering, Mu'tah University, Jordan.
2000 – 2005	Research assistant, Catalytic Processes and Materials group, College of Science and Technology, University of Twente, the Netherlands
1995 – 1997	Teaching assistant, Chemical Engineering, College of Engineering, Jordan University of Science and Technology (J.U.S.T), Jordan.

- ***Administrative, and institutional and professional committee work***

1. Mu'tah University

09/2019- 09/2020	Vice dean of faculty of engineering, Faculty of Engineering, Mutah University
09/2018-09/2019	Chairman of chemical engineering department, Faculty of engineering, Mutah university
09/2018-09/2019	Assistant Dean for Innovation and Communication with Industry, Faculty of Engineering, Mutah University
09/2008- 09/2010	Chairman of chemical engineering department, Faculty of engineering, Mutah university
09/2006-09/2008	Representative of chemical engineering department in the engineering faculty council
09/2008- 09/2010	A board member of Prince Faisal Center for Dead sea, Environment, and Energy research council

09/2008-09/2010	Member of Industrial System Engineering Department Council
1998-2000	Chemical engineer, Arab Potash Company, Jordan.

2. Imam Abdulrahman Bin Faisal University

01/2014- 8/2017	Chairman of Environmental Engineering department, Imam Abdulrahman Bin Faisal University, KSA • Manage all issues related to **ABET** accreditation • Manage all the lab requirements and lab supervisors
2012 and 2013	Representative of the college in the Saudi Students Conference council. • Encourage students to participate in the conference • Help the students to fill all required forms for participation
09/2011 – 01/2014	A member of Academic committee, college of Engineering. • Preparing time table for each semester • Preparing time table for final exams
08/2011- 08/2012	A member of Accreditation and Quality Assurance Unit (AQAU), college of Engineering. • Preparing self-assessment report • Preparing self-study report

Academic courses taught

Mu'tah University	**Imam Abdulrahman Bin Faisal University**
1. Advanced chemical reaction engineering	1. Water Quality
2. Homogenous Reaction Engineering.	2. Water Supply Engineering
3. Catalytic Reaction Engineering.	3. Technical writing
4. Reaction Engineering Lab.	4. Unit operations and processes for Environmental Engineering
5. Advanced Chemical Engineering Thermodynamics	5. Desalination technologies
6. Fluid Mechanics	6. Waste water Engineering II
7. Fluid Mechanics Laboratory.	7. Graduation Project 1
8. Heat Transfer	8. Graduation Project II
9. Heat Transfer Lab.	

10. Chemical Engineering Thermodynamics
11. Mass Transfer
12. Separation Processes
13. Separation Process Lab.
14. Unit Operation
15. Unit Operation Lab
16. Introduction to Chemical Engineering
17. Engineering Chemistry
18. Industrial Analytical Chemistry
19. Materials Science and Engineering
20. Communication Skills for Engineers
21. Environmental Impact Assessment.
22. Industrial Safety

Publications

	All	Since 2019
Citations	1580	1044
h-index	21	17
i10-index	28	22

1. Rima A. Aljeradat, , Salah H. Aljbour, **Nabeel A. Jarrah**, Performance of chemically modified Tripoli in catalytic pyrolysis of date kernels, Case Studies in Chemical and Environmental Engineering 7, 2023.
2. Rima A. Aljeradat, Salah H. Aljbour, **Nabeel Jarrah**, Pyrolysis of date kernels using natural Jordanian Tripoli as a catalyst under different operational conditions, Case Studies in Chemical and Environmental Engineering 2, 2022.
3. Rima A. Aljeradat, Salah H. Aljbour, **Nabeel A. Jarrah**, Natural Minerals as Potential Catalysts for the Pyrolysis of Date Kernels: Effect of Catalysts on Products Yield and Bio-oil Quality, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 1-9, 2021.
4. SA Haladu, ND Mu'azu, **Nabeel Jarrah**, M Zubair, SA Ali, Investigation of biodegradable polyaspartate as an effective chelant for washing of lead from soil: response surface

methodology approach, International Journal of Environmental Analytical Chemistry 101 (15), 2679-2696, 2021.

5. Musiliu A Liadi, Nuhu Dalhat Mu'azu, **Nabeel Jarrah**, Mukarram Zubair, Omar Alagha, Mamdouh A Al-Harthi, Mohammed H Essa, Comparative performance study of $ZnCl_2$ and NaOH sludge based activated carbon for simultaneous aqueous uptake of phenolic compounds, International Journal of Environmental Analytical Chemistry 101 (14), 2428-2452, 2021.
6. Mousa K Magharbeh, Khaled M Khleifat, Mohammad A Al-kafaween, Razan Saraireh, H Qaralleh, T El-Hasan, T Hujran, **N Jarrah**, A Al-Tarawneh, SH Ajbour, Biodegradation of Phenol by Bacillus simplex: Characterization and Kinetics Study, Appl Environ Biotechnol 6 (2), 1-12, 2021.
7. ND Mu'azu, M Zubair, MH Essa, **N Jarrah**, Novel Doubled Layered Hydroxides Nanocomposites for Effective Remediation of Water Contaminated with Toxic Pollutants, Towards a Sustainable Water Future: Proceedings of Oman's International Conference on Water Engineering and Management of Water Resources, 31-37, 2021.
8. Musiliu A Liadi, Nuhu Dalhat Mu'azu, **Nabeel Jarrah**, Mukarram Zubair, Omar Alagha, Mamdouh A Al-Harthi, Mohammed H Essa, Comparative performance study of ZnCl2 and NaOH sludge based activated carbon for simultaneous aqueous uptake of phenolic compounds, International Journal of Environmental Analytical Chemistry 1-25, 2020.
9. Mukarram Zubair Nuhu Dalhat Muazu, **Nabeel Jarrah**, A comparison of ANN and RSM models for anionic dye adsorption onto bentonite-clay intercalated cobalt-aluminum LDH nanocomposites, Desalination and Water Treatment 179, 340-353, 2020
10. Shamsuddeen A Haladu, Nuhu Dalhat Mu'azu, **Nabeel Jarrah**, Mukarram Zubair, Shaikh A Ali, Investigation of biodegradable polyaspartate as an effective chelant for washing of lead from soil: response surface methodology approach, International Journal of Environmental Analytical Chemistry 1-18, 2020
11. Nuhu Dalhat Mu'azu, Mukarram Zubair, **Nabeel Jarrah**, Omar Alagha, Mamdouh A Al-Harthi, Mohammed H Essa, Sewage Sludge ZnCl2-Activated Carbon Intercalated MgFe–LDH Nanocomposites: Insight of the Sorption Mechanism of Improved Removal of Phenol from Water, Int. J. Mol. Sci. 21(5), 1563, 2020

12. ND Mu'azu, **N Jarrah**, M Zubair, MS Manzar, TS Kazeem, M Al-Harthi, Evaluation of novel Mg/Al/Ni-BaFe ternary layered hydroxides uptake of methyl orange dye from water, Korean Journal of Chemical Engineering, 36, pages2008–2022 (2019)
13. ND Mu'azu, MH Essa, O Aga, **N Jarrah**, Life cycle assessment approach to sustainable sewage sludge management for water pollution control, Journal of Physics: Conference Series 1349 (2019) 012145
14. ND Mu'azu, MH Essa, SA Haladu, SA Ali, **N Jarrah**, M Zubair, IA Mohamed, Removal zinc ions from contaminated soil using biodegradable polyaspartate via soil washing process, Journal of Physics: Conference Series, 1349 (2019) 012146
15. **Nabeel Jarrah**, Nuhu Dalhat Muazu, Mukarram Zubair, Mamdouh Al-Harthi, Enhanced adsorptive performance of Cr (VI) onto layered double hydroxide-bentonite composite: Isotherm, kinetic and thermodynamic studies, Separation Science and Technology, 1-12, 2019.
16. O Alagha, A Alomari, **Nabeel Jarrah**, Medical waste management and production rate in the Eastern Province of the Kingdom of Saudi Arabia, Euro-Mediterranean Journal for Environmental Integration 3 (1), 35, 2018.
17. Nuhu Dalhat Mu'azu, **Nabeel Jarrah**, Taye Saheed Kazeem, Mukarram Zubair, Mamdouh Al-Harthi, Bentonite-layered double hydroxide composite for enhanced aqueous adsorption of Eriochrome Black T, Applied Clay Science 161, 23-34, 2018.
18. Abdulaziz Shaibani Mohammed Makkawi Musiliu A. Liadi, Bassam Tawabin, Reyad Shawabkeh, **Nabeel Jarrah**, Tajudeen A. Oyehan, Treating MTBE-contaminated water using sewage sludge-derived activated carbon, Environmental science and pollution research 25 (29), 29397-29407, 2018.
19. **Nabeel Jarrah**, Nitrite hydrogenation over palladium–carbon nanofiber foam: a parametric study using factorial design of experiments, Reaction Kinetics, Mechanisms and Catalysis, 125(1), 287-301, 2018.

20. Mukarram Zubair, **Nabeel Jarrah**, Arsalan Khalid, Mohammad Saood Manzar, Taye Saheed Kazeem, Mamdouh A Al-Harthi, Starch-NiFe-layered double hydroxide composites: efficient removal of methyl orange from aqueous phase, Journal of Molecular Liquids 249, 254-264, 2018.

21. Nuhu Mu'azu, Shamsudeen A. Haladu, **Nabeel Jarrah**, Mukarram Zubair, Mohammad H. Essa, Shaikh A. Ali, Polyaspartate extraction of cadmium ions from contaminated soil: Evaluation and optimization using central composite design, Journal of Hazardous Materials, 342, 58, 2018

22. **Nabeel Jarrah** "Competitive adsorption isotherms of rhodium 6G and methylene blue on activated carbon prepared from residual fuel oil", Journal of Environmental Chemical Engineering, 5 (5), 4319, 2017.

23. Nuhu Muazu, **Nabeel Jarrah** and Mohammed Essa, Binary adsorption of phenol and o-cresol from aqueous solution on date palm pits based activated carbon: A fixed bed column study. Desalination and water treatment, 58, 192, 2017.

24. Nuhu Mu'azu, **Nabeel Jarrah**, Mukarram Zubair, Omar Alagha Removal of phenolic compounds from water using sewage sludge-based activated carbon adsorption: A review, International journal of environmental research and public health, 14(10), 1661, 2017.
25. Mukarram Zubair, **Nabeel Jarrah**, Mamdouh A Al-Harthi, Mohammad Saood Nuhu Mu'azu, Highly efficient removal of Pb(II) ion from aqueous phase using surface-modified graphene: Equilibrium and kinetic study, 80, 174, 2017.

26. Mukarram Zubair, **Nabeel Jarrah**, Mohamad manzar, MamdouhAl-Harthi, Muhammad Daud, Nuhu Mu'azu, Shamsuddeen Haladuf, Adsorption of eriochrome black T from aqueous phase on MgAl-, CoAl- and NiFe- calcined layered double hydroxides: Kinetic, equilibrium and thermodynamic studies, Journal of Molecular Liquids, 230, 344, 2017.

27. **Nabeel Jarrah** and Nuhu Mu'azu, "Simultaneous Electro-oxidation of Phenol, CN^-, S_2^- and NH_4^+ in Synthetic Wastewater Using Boron Doped Diamond Anode", Journal of Environmental Chemical Engineering, 4 (3), 2656, 2016.

28. Nuhu Dalhat Mu'azu, Muhammad Al-Malack and **Nabeel Jarrah**, "Electrochemical Oxidation of Low Phenol Concentration on Boron Doped Diamond Anodes: Optimization via Response Surface Methodology", Desalination and Water Treatment 52, 7293, 2016.

29. N. Muazu, A. Usman, **N. Jarrah**, O. Aga, "pulsed electro-kinetic removal of Chromium, Mercury and Cadmium from contaminated mixed clay soils". Soil and Sediment contamination: An International Journal, 1-19, 2016

30. Nuhu Dalhat Muazu, **Nabeel Jarrah** and Aladdin Bukhari, "Kinetic Modeling of Electrochemical Oxidation of Phenol on Boron-Doped Diamond Anode in Presence of Inorganic Species. Desalination and water treatment, 1-8, 2014.

31. AM Al-Haj-Ali, **NA Jarrah**, ND Mu'Azu and RO Rihan, Thermodynamics and Kinetics of Inhibitors of Aluminum in Hydrochloric Acid by Date Palm Leaf Extract. J. Appl. Sci. Environ. Manage., 18(3), 543, 2014.

32. **Nabeel Jarrah**, "Adsorption of Cu^{+2} and Pb^{+2} from aqueous solution using Jordanian natural zeolite based on factorial design methodology," Desalination and water treatment 16, 1-9 (2010)
33. Fares Al Momani, **Nabeel Jarrah**, "Treatment and kinetic study of cyanobacterial toxin by ozone." Journal of Environmental Science and Health, Part A. Toxic/Hazardous Substance & Environmental Engineering, 45(6) 719-731 (2010)
34. Fares Al Momani, **Nabeel Jarrah**," Solar/UV-induced photocatalytic degradation of volatile toluene,"Environmental Technology 30 (10) 1085 (2009)

35. **Nabeel Jarrah**, "Studying the influence of process parameters on the catalytic carbon nanofibers formation using factorial design," Chem. Eng. J. 151 (1-3), 367 (2009).

36. M. A. Allawzi, **N. A. Jarrah**," Study of the Effect of steam Injection on Crude Oil Displacement Yield from an oil Contaminated Soil Bed," Jordan Journal of Civil Engineering (2008).

37. Isam H. Aljundi, **Nabeel A. Jarrah**, "A study of characteristics of activated carbon produced from Jordanian olive cake,"J. Anal. Appl. Pyrolysis 81(1), 33 (2008)

38. **Nabeel Jarrah**, J. G. van Ommen and L. Lefferts, "Mechanistic aspects of the formation of carbon nanofibers on the surface of Ni foam: a new microstructured catalyst support," J. Catal. 239(2), 460 (2006)

39. **Nabeel Jarrah**, F. Li, J. G. van Ommen and L. Lefferts,"Immobilization of a layer of carbon nanofibers (CNFs) on Ni foam: A new structured catalyst support," J. Mater. Chem.15, 1946 (2005).

40. **Nabeel Jarrah**, J. G. van Ommen and L. Lefferts, "Growing a carbon nano-fiber layer on a monolith support; Effect of nickel loading and growth conditions," J. Mater. Chem. 14, 1590 (2004).

41. **Nabeel Jarrah**, J. G. van Ommen and L. Lefferts, "Immobilization of carbon nanofibers: A new structured catalyst support," Prepr. Pap. – Am. Chem. Soc., Div. Fuel Chem. 49(2) (2004)

42. **Nabeel Jarrah**, J. G. van Ommen and L. Lefferts, "Development of monolith with a carbon nanofiber washcoat as a structured catalyst support in liquid phase," Catal. Today 79-80, 29 (2003).

Oral Presentations in conferences

1. ND Mu'azu, **N Jarrah**, M Zubair, Evaluation of anionic dye removal from water using bentonite-clay intercalated cobalt-aluminum LDH nanocomposites, 6th International Conference on Water, Energy and Environment (ICWEE2019), American University of Sharjah UAE, 2019

2. ND Mu'azu, **N Jarrah**, MH Essa, M Zubair, Treatment of Wastewater using Sludge Based Activated Carbon: A Sustainable Sludge Management Strategy in KSA, 5th International Conference on Water, Energy and Environment (ICWEE 2017) American University of Sharjah, Sharjah, UAE, 2017

3. ND Mu'azu, IM Abdel-Magid, **N. Jarrah**, N Blaise, Reusing of Treated Mosque Ablution Grey Water: A Sustainable Water Management Strategy Integrated into Mosques Design, The First International Conference on Mosques Architecture 2016, Imam Abdulrahman Bin Faisal University, KSA; 5- 7 December 2016.

4. **Nabeel Jarrah**, Omer Aga, and Nuhu Muazu, Production and characterization of activated carbon (AC) from waste tires using factorial design of experiments World Environment Day Symposium, The Royal Commission for Jubail, June 5th 2012.

5. MA Aliedeh, **NA Jarrah**, Application of full factorial design to optimize phosphogypsum beneficiation process (P2O5 Reduction) by using sulfuric and nitric acid solutions, Sixth Jordanian International Chemical Engineering Conference, Amman, Jordan 2012.

6. **N. Jarrah**, J. G. van Ommen and L. Lefferts, Immobilization of carbon nanofibers on macro-structured support, 228th American Chemical Society (ACS) National meeting and exposition, Philadelphia, USA, August 2004.
7. **N. Jarrah**, J. G. van Ommen and L. Lefferts, Growing a carbon nano-fiber layer on a monolith support; Effect of nickel loading and growth conditions. NIOK Symposium - the Future of the Dutch Catalyst Institute, Utrecht, The Netherlands, September 2003.

8. **N. Jarrah**, J. G. van Ommen and L. Lefferts, Development of monolith with a carbon nanofiber washcoat as a structured catalyst support, 4th Netherlands' Catalysis and Chemistry Conference, Noordwijkerhout, The Netherlands, March 2003.

Supervisor/ co-supervisor of the following master thesis

1) Rima Aljeradat, Catalytic Pyrolysis of Date Kerns By Using Jordanian Minerals as Catalysts, 2020.
2) Alaa Gababsheh , Kinetics and Equilibrium Modeling of Gasification Processes, 2021.
3) Heba Al-Rowad , Extraction of valuable Metals from Jordanian Oil Shale, 2022
4) Anfal Al-Tarawneh , Catalytic Pyrolysis of Olive Cake Using Natural and Chemically-modified Oil Shale Ash as Catalysts, 2023.
5) Wasan Al-Saraireh , Agricultural Wastewater Management and Treatment for Industrial Utilization, 2024

Supervisor of the following student's graduation projects

Mu'tah University

1. Catalytic removal of nitrite from drinking water using Pd supported on CNF
2. Catalytic removal of nitrate from drinking water using Pd/Cu supported on CNF
3. Microstructuring carbon nano-fibers
4. Production of activated carbon from waste tires.
5. Production of carbon nano fibers (CNF) from solid waste materials
6. Adsorption of heavy metals on natural materials

Imam Abdulrahman Bin Faisal University

7. Production of activated carbon from sewage sludge and utilization as adsorbent for phenol removal from water.
8. Binary adsorption of lead and zinc on local bentonite and clay.
9. Production of activated carbon from palm date seeds and utilization as adsorbent for phenol removal from water
10. Corrosion inhibition of Al alloys in acidic medium using environmental friendly green inhibitors

Research Interest

1. Development of catalytic reactors with superior mass transfer properties.
2. Production, microstructuring and utilization of carbon nanofibers.
3. Utilization of low cost materials and production of activated carbon
4. Adsorption

Research Grants

NSTIP-KACST

1. **Nabeel Jarrah**, Nuhu Muazu, Omer Aga and Ahmed Abu Yaghi, "Production of Granular activated carbon from sludge for utilization in phenolic water treatment: a Life Cycle Assessment Approach". SR ~2,000,000
2. Reyad A. Shawabkeh, **Nabeel Jarrah**, Naim M. Faqir, "Development of selective catalyst for conversion of CO_2 to formic acid". SR ~2,000,000
3. Omer Aga, **Nabeel Jarrah** and Fahim Hussein, Development of innovative sustainable tools for infrastructure planning and efficient management of urban wastewater systems in the Kingdom of Saudi Arabia. ~2,000,000

Imam Abdulrahman Bin Faisal University

4. **Nabeel Jarrah**, Omer Aga, and Nuhu Muazo," Production and characterization of activated carbon (AC) from waste tires using factorial design of experiments", Deanship of Scientific Research, Imam Abdulrahman Bin Faisal University, Budget = SR 117,000 (2012)
5. Ahmend Abu Yaghi, **Nabeel Jarrah**, Rihan Rihan and Nuhu Muazu, " Thermodynamics and kinetics of corrosion and corrosion inhibition for aluminum alloys exposed to acidic, chloride-containing environment using green chemical inhibitors", Deanship of Scientific Research, Imam Abdulrahman Bin Faisal University, Budget = SR 99,000. (2012)
6. Nuhu Muazu, **Nabeel Jarrah** and Omer Aga, "Pulsed-Current electrokinetic remediation of ground water contaminated with heavy metals, Deanship of Scientific Research, Imam Abdulrahman Bin Faisal University, Budget = SR 175,000. (2012)

7. **Nabeel Jarrah**, Nuhu Muazu and Omer Aga, " Sewage sludge based activated carbon: Production, characterization and utilization in phenolic compounds removal from wastewater", submitted to Deanship of Scientific Research, Imam Abdulrahman Bin Faisal University, Budget = SR 197,000. (2013)

Mu'tah University

1. **Nabeel A. Jarrah**, Isam H. Al-Jundi, "Catalytic removal of Nitrate from Jordanian drinking water sources using Carbon nano-Fibers", Deanship of scientific research, Mutah University, Budget = 10000 JD (0.71JD= 1USD)

Conferences, Exhibitions, Workshops, Meetings and Symposiums

1. First Saudi Renewable Energy Conference and Exhibition, KFUPM, Dhahran, Saudi Arabia, Feb. 19-21, 2012.
2. Water conservation and waste minimization, Petroleum Environmental Research Forum (85th PERF), Saudi Aramco, March 10-12, 2012.
3. World Environment Day Symposium, The Royal Commission for Jubail, June 5th 2012
4. Strategies for Improving Research Outcomes, Imam Abdulrahman Bin Faisal University, September 15, 2012
9. The Big 5 show, International Building and Construction show, Dubai, November 5-8, 2012
10. Interactive lecturing skills, Deanship of educational development, Imam Abdulrahman Bin Faisal University, Dammam, 26/11/2012.
11. Assessment strategies in higher education, Deanship of educational development, Imam Abdulrahman Bin Faisal University, Dammam, 26/11/2012
12. Environment in the Arabian Gulf region, 16th Gulf Engineering Forum, Jeddah, February 2-4, 2013
13. Innovative water and wastewater technologies for sustainable environment, Water Arabia 2013 Conference & Exhibition, Al khobar, February 4-6, 2013
14. Collaboration in Protection of water supply, World water day 2013 symposium, Imam Abdulrahman Bin Faisal University, March 18, 2013

15. Opportunities offered by Biotechnology in Waste Management, Environmental Technology & Management Association (ETMA) meeting, Al-Khobar, April 30, 2013
16. Course Portfolio, Deanship of quality and accreditation, Imam Abdulrahman Bin Faisal University, Dammam, 27/5/2013.
17. Research skills development in the kingdom: from idea to outcome, KAUST, Dammam 12/12/2013.
18. GC/MS Operation and Chem-Station Data analysis, Agielent Technologies Singapore, 24-27/6/2014
19. Teaching for creativity and Innovations, Imam Abdulrahman Bin Faisal University in collaboration with Buffalo State, Dammam 19-20/11/2014.
20. Environmental Impact Assessment (EIA) for sustainable development, Trinity, Environmental Consultancy International, Doha, Qatar 9-10/12/2014.
21. Promoting Innovation in Higher Education, Academic Leadership Center, Ministry of Education, Imam Abdulrahman Bin Faisal University, Dammam, 15-16/2/2015.

Awards

2012/2013 University of Dammam Award of Excellence in Teaching as the best professor in college of engineering.

References

- **Dr. Abdulrahman Bin Saleh Hariri**, Ex-Dean of Faculty of Engineering at Imam Abdulrahman Bin Faisal University, deaneng2016@gmail.com, +966 50 552 6300
- **Prof. Taha AL-Khamis**, Chemical Engineering Department, Faculty of Engineering, Mu'tah University, Jordan. Alkhamis@mutah.edu.jo
- **Prof. Adnan Al-Harahsheh**, Chemical Engineering Department, Faculty of Engineering, Mu'tah University, Jordan. Adnan@mutah.edu.jo