

Curriculum Vitae

Name:	SALEH ESMAIL RAWADIEH
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BIOGRAPHY

Professor Saleh Esmail Rawadieh is a scholar and academic hailing from Jordan. Born on May 27, 1976, he has made significant contributions to the fields of Chemical Engineering, Renewable Energy, and Environmental Studies. His extensive educational background and notable professional experiences have solidified his reputation as a respected figure in academia.

Prof. Rawadieh embarked on his academic journey with a Bachelor's Degree in Chemical Engineering from the University of Jordan, Amman, Jordan, which he completed between 1994 and 1999. His thirst for knowledge and academic excellence led him to pursue further studies, culminating in a Master of Engineering Studies at the University of Sydney, Australia, from 2004 to 2005. Continuing his pursuit of higher education, he obtained his PhD in Chemical Engineering from the University of Sydney in 2009, specializing in the area of Integrated Reaction and Separation Systems.

Throughout his academic and professional career, Prof. Rawadieh has held various key positions, showcasing his leadership and administrative skills. He had served as the Dean of the Engineering Faculty at Al-Hussein Bin Talal University for two years from October 2022 to October 2024. In this role, he had been responsible for strategic planning, accreditation activities, budget planning, faculty staff performance evaluation, and more.

One of his significant contributions was as the Director of the Renewable Energy Center from September 2016 to December 2019. During his tenure, he oversaw the design and construction of a 3 MW PV plant under D.B.O.T (design, build, operate and transfer) and the study of a 50 MW PV plant, both at Al-Hussein Bin Talal University. He also played a crucial role in supervising the building process of the 3 MW PV plant, including testing, termination, and commissioning. Prof. Rawadieh's expertise in renewable energy was further demonstrated as he studied the impact of PV plants on the grid.

His commitment to education and academia is evident through his role as the Head of the Chemical Engineering Department from September 2013 to September 2020. During this time, he lectured on various courses, ranging from Separation Processes and Chemical Reaction Engineering to Thermodynamics and Safety Engineering. Additionally, he supervised numerous graduation projects, shaping the future of aspiring engineers.

Prof. Rawadieh's rich academic journey also includes his postgraduate studies at the University of Sydney, where he worked as a tutor and research assistant. His research focused on the enhancement of reactive systems using multifunctional reactors, including fixed-bed columns

containing solid catalysts and adsorbents. His theoretical and experimental evaluations paved the way for innovative chemical processes.

Notably, he served as the Lead Process Engineer at the Water Authority of Jordan's Wastewater Treatment Plant from March 2000 to July 2004. His responsibilities included controlling process parameters, supervising a team of operators and lab technicians, and ensuring high-quality effluent from the system. He also managed the treatment plant and pump stations, overseeing up to 50 employees, issuing purchase orders, and coordinating maintenance.

Prof. Rawadieh's dedication to learning and development is not confined to his formal education. He continuously seeks additional education and training opportunities. Some of his endeavors include training courses, workshops, and educational programs related to wastewater treatment, renewable energy, and operation of treatment plants.

His research interests are broad and impactful, encompassing areas such as Integrated Reaction and Separation Systems, Reaction Kinetics, Thermochemistry, and Solar Desalination. Prof. Rawadieh's research has been published in numerous prestigious journals and presented at various international conferences, reflecting his commitment to advancing scientific knowledge and understanding.

In addition to his academic and research pursuits, Prof. Rawadieh has actively participated in various committees related to scientific research, postgraduate studies, and engineering. His involvement in these committees underscores his dedication to the growth and development of his academic institution and the broader field of engineering.

Education

1. PhD in Chemical Engineering, University of Sydney, Sydney, Australia, 2005 – 2009.
2. Master of Engineering Studies, University of Sydney, Sydney, Australia, 2004 – 2005.
3. Advanced Courses in Environmental Engineering, California State University, Sacramento, 2001.
4. Bachelor Degree in Chemical Engineering-University of Jordan, Amman, Jordan, 1994-1999.
5. Scientific Stream Tawjehee Certificate, Wadi Mousa Secondary School, 1993-1994.

Experiences

January 2021– up to date.

Professor at Al-Hussein Bin Talal University, Department of Chemical Engineering.

August 2014 – January 2021.

Associate Professor at Al-Hussein Bin Talal University, Department of Chemical Engineering.

August 2009 – August 2014.

Assistant Professor at Al-Hussein Bin Talal University, Department of Chemical Engineering.

During those periods, I have been working as:

I. Dean of Engineering Faculty, October 2022 – October 2024.

- Responsible of strategic planning and implementation of all engineering faculty activities such as: accreditation activities, annual budget plan, annual development plan, Evaluation of faculty staff performance, Evaluation of new applicants, etc.

II. Director of Renewable Energy Center, September 2016 – December 2019.

- Study bids of designing and building a 3 MW PV plant under D.B.O.T (design, build, operate and transfer) at Al-Hussein Bin Talal University.
- Study bids of designing and building a 50 MW PV plant at Al-Hussein Bin Talal University.
- Supervise all stages of building a 3 MW PV plant at Al-Hussein Bin Talal University, including testing, termination and commissioning.
- Prepare contracts and tenders.
- Study the impact of PV plants on the grid

III. Head of Chemical Engineering Department, September 2013 - September 2020.

IV. A lecturer for several courses: Separation Processes, solid particulate, chemical industries, chemical reaction engineering I & II, principles of chemical Engineering, physical chemistry, thermodynamic 1, fluid mechanics, process dynamics and control, engineering mathematics, Process Modeling by Statistical Methods, safety engineering, process Modeling and Simulation, and supervising many Graduation projects

V. Director of Engineering Workshops, April 2010 – November 2011.

- Be Responsible for the day to day safe and efficient running of the workshops.
- Coordinate resources, (operational & human) schedules and activities to effectively manage jobs.
- Ensure supplies are ordered for each job.
- Assist with quoting, project management, materials purchasing and quality checks.
- Provide oversight and check job estimates.
- Manage inward goods, checking quantities, dispatching goods and receipting invoices.
- Regularly report progress on each job and quickly manage delays.
- Act as a technical advisor on key projects and other areas of the business as requested.
- Respond to client's requests and keep the communication channels open to ensure information is accurate.
- Receive and review feedback from customers and follow up to ensure customer satisfaction.
- Investigate customer complaints and concerns arising from products and suggest appropriate solutions.
- Develop and implement systems to record, file and store information pertaining to client inquiries.
- Identify staff that require on-going training and implement training opportunities to ensure their skills are improved.
- Work with trainee and semi-skilled staff to improve their technical skills.

- Provide feedback to staffs that are not performing to the expected level and ensure human resources are informed of trends in performance.
- Promote a Health and Safety culture within the business.

July 2004 – July 2009.

Postgraduate studies (Master and PhD) in the University of Sydney: The PhD Thesis title is: *Variable Configurations of Integrated Reaction and Separation for Enhanced Performance.*

During This period, I've been employed as:

I. Tutor in The School of Chemical Engineering, 2007 – 2009:

1. Tutored various subjects in the school's undergraduate program, including *Applied Mathematics for Chemical Engineering* and Process Design
2. Tutor who had responsibility to develop most of subject, *Applied Computing for Master of Professional Engineering*. This included developing the course outlines, slides and additional course materials.

II. Research Assistant in The School of Chemical and Biomolecular Engineering, March – July, 2009

March 2000 – July 2004.

Water Authority of Jordan, Wastewater Treatment Plant. During This Period I was working as:

III. Lead Process Engineer

3. Controlling issuing decisions that regard process parameters
4. Supervising a team of process operators and lab technicians
5. Supervising, over viewing, And Analyzing obtained lab results
6. Carrying out all necessary procedures (Quality Control \Quality Assurance) in Order to Assure high quality effluent of the system
7. Coordinating pumpage and maintenance time of pump stations and treatment plant
8. Implementing SCADA System for the operation of treatment plant and the associated pump stations

IV. Manager for treatment plant and pump stations, October, 2001 to July, 2004

1. Managing and supervising up to 50 employees including engineering, maintenance, operation and workers staff
2. Issuing necessary purchase orders
3. Member of tendering and pricing department
4. Supervising the associated safety procedures and plans of wastewater plants
5. Coordination with private and international organizations
6. General public relations and human resources management

Program training services for Operation and Maintenance of wastewater treatment plants, for Petra wastewater plant staff, November 2000 – 2003, Morganti Group incorporated.

Additional and continuing education

1. Two months training course at Aqaba industrial complex (phosphate company) Graduation requirements.
2. Training services in operation and maintenance of wastewater treatment plant – one-year training program, Morganti Group Inc.
3. Wastewater treatment and reuse, March 11-29, 2001- USAID in cooperation with University of Jordan – Amman, Jordan.
4. Operation of wastewater treatment plants, volume (I), 2001, Amman – Jordan, Morganti Group Inc, in cooperation with California State University, Sacramento.
5. Operation of wastewater treatment plants, volume (II), 2001, Amman – Jordan, Morganti Group Inc, in cooperation with California State University, Sacramento.
6. Advance waste treatment, 2001, Amman – Jordan, Morganti Group Inc, in cooperation with California State University, Sacramento.
7. Management of wastewater treatment plants, March, 10-21, 2002 – USAID in cooperation with University of Jordan – Amman, Jordan.

Area of Research and Publications

Integrated Reaction and Separation Systems

Many industrially important chemical reactions are limited by the equilibrium conversion of reactants within a feed and product mix. For most chemical processes, the effluent from the reactor is separated into unconverted reactants, by-products and products. The unconverted feed is usually recycled, and the products and by-products are separated for meeting requisite specifications. Process Intensification (PI) through integrated reaction and separation, presents one of the most important trends in today's process technology. It consists in the development of innovative processes that offer drastic improvements in chemical manufacturing and processing, substantially decreasing equipment volume, energy consumption, or waste formation, and ultimately leading to cheaper, safer, sustainable technologies. This combining of the reaction and separation steps in a single unit operation known as *reactive separation process (RSP)* or *integrated reactive separation (IRS)* and the process unit is called a *multifunctional reactor*. The potential advantages of process integration are:

- Greater productivity
- Higher selectivity
- Reduced energy consumption
- Improved safety
- Reduced catalyst requirement
- Achieve difficult separations
- Heat transfer integration
- Avoidance of chemical wastes

Integrated Design, Optimization and Control

The emphasis in industry on energy savings, sustainable processes and environmental protection has driven process systems engineers, including design and operations engineers, to incorporate a number of crucial steps in developing integrated designs of chemical processes. Design teams are required to integrate the process with control to satisfy economical, environmental and social objectives, while at the same time achieving optimal performance.

The purpose of my thesis was to investigate the enhancement of reactive systems using multifunctional reactors. The catalytic separative configurations with optimization of operating conditions were explored in such systems. Fixed-bed columns containing solid catalysts and adsorbents were employed for simultaneous reaction and separation. Theoretical and experimental evaluations of packed-bed adsorptive reactors with and without pressure swing (PSR) effect were carried out in order to gain conceptual understanding of how the layering of the catalyst and adsorbent within a bed would affect the separation enhanced reaction. Three different reaction schemes were considered: metathesis of propene, dehydrogenation of 1-butene, and steam reforming of methane (SMR). The former reactions represent a single limited-equilibrium reaction case in which the kinetics and thermodynamics of the reaction enables operation at mild condition such as ambient. The product of interest (ethene) could be recovered in the high-pressure reaction/adsorption stream by removing 2-butene and propene.

Reaction kinetics and the mechanisms and thermochemistry

Due to the deficiency of research funding and inadequate research resources in Jordan, I couldn't add much to my basic research of interest. So, I have joined my department colleague's interests in the fields of reaction kinetics and the mechanisms and thermochemistry of species. We had made a contributions to the understanding of the formation and destruction of highly toxic pollutants from thermal processes, low-temperature oxidation of hydrocarbons and behavior of nitrogen content in fuels.

Solar Desalination

Energy and water are both essential for sustainable development in all sectors. Jordan and most of the Middle East countries are facing serious challenges in terms of limited resources of energy and fresh water. Jordan imports of about 98% of its energy need which accounts for 13% of the GDP in 2009. Ma'an city has favourable geographic and climatic conditions that allow the development of the major national productive projects utilizing renewable energy sources. This is indicated by a number of imported renewable energy technologies (solar and wind) being constructed in Ma'an and other cities in Jordan. My recent research works were focusing on theoretical and experimental investigation of availability of solar radiation in Ma'an region, Jordan (Latitude: 31 N, Longitude: 36 E). A mathematical model was developed and designed to investigate variations of the received solar radiation on horizontal and inclined surfaces of solar stills with different orientations. In addition, a solar desalination model was developed and integrated with the solar radiation model.

The output of the validated solar radiation model was used as an input to the solar desalination model. The integrated model was used to investigate the effect of geometrical and operational parameters on the performance of single slope, double slope and pyramidal solar stills

Journal articles:

1. **Saleh Rawadieh** and Gomes, V. G. “Catalyst-Adsorbent Configurations in Enhancing Adsorptive Reactor Performance”: International Journal of Chemical Reactor Engineering, 2007, Vol. 5: p A108.
2. **Saleh Rawadieh** and Gomes, V. G. “Integrated reaction and separation for butadiene production”. The journal of Adsorption.
3. **Saleh Rawadieh** and Gomes, V. G. “Steam reforming for hydrogen generation with in situ adsorptive separation”. International Journal of Hydrogen Energy, 2009, Vol 34, 343-355.
4. Marwan Batiha, Mohammednoor Altarawneh, Abdullah Alsofi, Mohammad Al-Harabsheh, Ibrahim Altarawneh, **Saleh Alrawadieh**. “Theoretical study on the reaction of hydrogen atoms with aniline”. Theoretical Chemistry Accounts, 2011, Vol 129, Issue 6, pp 823-832
5. Marwan Batiha, Mohammednoor Altarawneh, Mohammad Al-Harabsheh, Ibrahim Altarawneh, **Saleh Rawadieh**. “Theoretical derivation for reaction rate constants of H abstraction from thiophenol by the H/O radical pool”. Computational and Theoretical Chemistry, 2011, Vol 970, Issues 1–3, 1–5
6. Ibrahim Altarawneh, Khaled Altarawneh, Ala’a H. Al-Muhtaseb, **Saleh Alrawadieh**, Mohammednoor Altarawneh (2012), “Theoretical study of thermochemical and structural parameters of chlorinated isomers of aniline”. Computational and Theoretical Chemistry, Vol 985, 30-35.
7. Ibrahim Altarawneh, Mohammednoor Altarawneh, **Saleh Rawadieh**. “Theoretical study on thermochemical parameters and IR spectra of chlorinated isomers of nitrobenzene”. *Canadian Journal of Chemistry*, 2013, Vol 91, No10, 999-1008,
8. **Saleh Rawadieh**, Ibrahim Altarawneh, Heba B. Alateyat, Mohammednoor Altarawneh. “Theoretical study on the unimolecular decomposition of proline”. Computational and Theoretical Chemistry, 2013, Volume 1018, 45–49.
9. Ibrahim Altarawneh, **Saleh Rawadieh**, Vincent G. “The influence of intermediate radical termination and fragmentation on controlled polymer synthesis via RAFT polymerization”. *Designed Monomers and Polymers*. 2013, Volume 17, Issue 5, 430 – 437.
10. **Saleh Rawadieh**, Mohammednoor Altarawneh, Ibrahim Altarawneh, Mouath A. Al-Shaweesh. “Mechanisms for the Formation of Polychlorinated Dibenzo-p-dioxins and Furans (PCDD/Fs) from Chlorinated Toluenes”. *Reaction Kinetics, Mechanisms and Catalysis*. 2014. Volume 112, Issue 2, 321-333

11. **Saleh Rawadieh**, Vincent G Gomes, Ibrahim Altarawneh. "Optimizing packing heterogeneity for sorption enhanced metathesis reaction". Adsorption, 2014, Volume 20, Issue 5-6, 702 - 711
12. Ibrahim S. Altarawneh, **Saleh Rawadieh**, Muafag S. Tarawneh, Sultan M. Alrowwad · Firas Rimawi "Optimal tilt angle trajectory for maximizing solar energy potential in Ma'an area in Jordan". Journal of Renewable and Sustainable Energy, 2016
13. Mohammad A. Batiha, Elena A. Chizhova, Marwan M. Batiha, Leema A. Al-Makhadmeh, Saleh Rawadieh, Muawia Alqasaimeh, Abdullah Marashli. "Effect of Pyridine and Tribenzylamine on the Hydrolysis Kinetics of Benzoyl Chloride in Water-Dioxane System". Asian Journal of Chemistry, 2017.
14. Ibrahim Altarawneh, **Saleh Rawadieh**, Mohammad Batiha, Lima Mkhadmeh, Sultan Alrowwad, Muafag Tarawneh "Experimental and numerical performance analysis and optimization of single slope, double slope and pyramidal shaped solar stills". Desalination, 2017.
15. Leema A Al-Makhadmeh, Mohammad A Batiha, Mohammad S Al-Harabsheh, Ibrahim S Altarawneh, **Saleh E Rawadieh**. "The Effectiveness of Zn Leaching from EAFD Using Caustic Soda". Water, Air, & Soil Pollution, 2018.
16. Leema Al-Makhadmeh, Mohammad Batiha, Joerg Maier, **Saleh Rawadieh**, Ibrahim Altarawneh, Guenter Scheffknecht " Effect of air and oxyfuel staged combustion on oil shale fly ash formation with direct in-furnace limestone addition for sulphur retention". Fuel, 2018
17. Ibrahim Altarawneh, **Saleh Rawadieh**, Mohammad Batiha, Leema Al-Makhadmeh, Mouath Al-Shaweesh, Mohammednoor Altarawneh " Structures and Thermodynamic Stability of Cobalt Molybdenum Oxide (CoMoO 4-II). Surface Science, 2018.
18. **Saleh E Rawadieh**, Ibrahim S Altarawneh, Mohammad A Batiha, Leema A Al-Makhadmeh, Mansour H Almatarneh, Mohammednoor Altarawneh. "Reaction of Hydroperoxy Radicals with Primary C₁₋₅ Alcohols: A Profound Effect on Ignition Delay Times". Energy & Fuels, Vol 33 issue 11. 2019
19. Mohammad A Batiha, Abdullah A Marachli, **Saleh E Rawadieh**, Ibrahim S Altarawneh, Leema A Al-Makhadmeh, Marwan M Batiha. "A study on optimum insulation thickness of cold storage walls in all climate zones of Jordan". Case Studies in Thermal Engineering, Vol 15, pages 100538 – 100548. 2019
20. Ibrahim Altarawneh, Mohammad Batiha, **Saleh Rawadieh**, Mohammad Alnaief, Muafag Tarawneh. "Solar desalination under concentrated solar flux and reduced pressure conditions". Solar Energy, Vol 206, pages 983-996. 2020
21. **Saleh E. Rawadieh**, Mohammednoor Altarawneh, Ibrahim S. Altarawneh, Mohammad A. Batiha, Lemma A. Al-Makhadmeh, (2020) "A kinetic model for evolution of H₂ and CO over Zr-doped Ceria" Molecular Catalysis. Vol 498, pages 111256-111263

22. **Saleh E. Rawadieh**, Mohammednoor Altarawneh, Ibrahim S. Altarawneh, Mohammad A. Batiha, Lemma A. Al-Makhadmeh, (2020) "A kinetic model for evolution of H₂ and CO over Zr-doped Ceria" *Molecular Catalysis*. Vol 498, pages 111256-111263
23. **Saleh E Rawadieh**, Mohammednoor Altarawneh, Ibrahim S Altarawneh, Abolfazl Shiroudi, Ahmed M El-Nahas, (2021) " Exploring reactions of amines-model compounds with NH₂: In relevance to nitrogen conversion chemistry in biomass", *Fuel* Vol 291, 120076
24. Ibrahim S Altarawneh, Mohammednoor Altarawneh, **Saleh E Rawadieh**, Mansour H Almatarneh, Abolfazl Shiroudi, Ahmed M El-Nahas, (2021) "Updated yields of nitrogenated species in flames of ammonia/benzene via introducing an aniline sub-mechanism", *Combustion and Flame*, Vol 228, pages 433-442
25. Mohammad Batiha, **Saleh Rawadieh**, Marwan Batiha, AL-makhadmeh Leema, Muhammet Kayfeci, abdullah Marachli" (2023) Thermal insulation performance curves for exterior walls in heating and cooling seasons", *Journal of Thermal Engineering*, Vol. 9, issu 4, pages 1053-1069
26. Mohammad Batiha, Leema Al-Makhadmeh, Marwan Batiha, Muawia Alqasaimeh, Aseel Alhasan, Aseel Atalah, Maria Abo Aljoud, Salah Nasrallah, (2024) "Pollution Characteristics and Ecological and Human Health Risk Assessment of Toxic Elements in Fallout Dusts of Ma'an District Schools". *Jordanian Journal of Engineering and Chemical Industrie*, Vol.7 issu 1, pages 23 - 40

Conferences:

1. **Saleh Rawadieh** and Gomes, V. G. "Multi-step Multi-layer Enhanced Adsorptive Reactor". *The Second Jordanian International Conference of Materials Science and Engineering*, 4-6 September 2007, Amman-Jordan.
2. **Saleh Rawadieh** and Gomes, V. G. "Optimising Configurations for Enhanced Performance of Adsorptive Reactors" *35th Australasian Chem Eng Conference*, 23-26 September, 2007. Melbourne, Australia.
3. **Saleh Rawadieh** and Gomes, V. G. "Optimal Bed Configuration in a Multifunctional Dehydrogenation Reactor" *36th Australasian Chem Eng Conference*, 28 September – 1 October, 2008. Newcastle, Australia.
4. **Saleh Rawadieh** and Gomes, V. G. "Non-isothermal Steam Reforming Integrated with Adsorptive Separation" the *8th World Congress of Chemical Engineering (WCCE8)*, 23 – 27 August, 2009. Montréal, Canada.
5. **Saleh Rawadieh** and Gomes, V. G. "Multiobjective Multifunctional Reactor for Steam Reforming" *37th Australasian Chem Eng Conference*, 27-30 September, 2009. Perth, Australia.

committees

- Member of Editorial Board of The Jordanian Journal of Engineering and Chemical Industries (JJEI) (ISSN: 2616-9584 (October, 2024 – Present).
- Member of Scientific Research and Postgraduate Studies Council/ Al-Hussein Bin Talal University (2021/2022)
- Member of the Engineering and Nanotechnology Committee, Scientific Research Fund, Ministry of Higher Education, Jordan (10/2018- 10/2020)
- Member of University Council / Al-Hussein Bin Talal University (2014/2015)
- Renewable Energy Research & development Council Member Al-Hussein Bin Talal University (2016 - present)
- Member of the Technical and Evaluation Committee for the selection of the contractor for the construction of the 20 MW PV power plant at AHU.
- Member of committee for supervising the construction of 3MW PV power plant, at AHU
- Member of committee for establishing renewable energy master degree program in AHU University
- Member of Technical Committee of the 7th Jordan International Chemical Engineering Conference (JICHE07)
- Member of the Jordan Engineers Association Scientific Committee for Graduation Projects Evaluation(2013, 2014,2017,2018 and 2022)
- Member of Faculty Council / Faculty Engineering / Al-Hussein Bin Talal University
- Member of Equipment Specification Committee, Faculty of Engineering, Al-Hussein Bin Talal University (2010).

Pertinent skills

1. Using modeling tools such as Hysys, Matlab and gPROMs for simulating different chemical processes.
2. Using and applying the computerized maintenance management system (CMMS) program in WWTP maintenance, inventory, and employees management.
3. Using and applying SCADA system for wastewater treatment plant and pump stations operations.
4. Using Dynamic Integrated Model for Climate and Economy (DICE 99)
5. Using Regional Integrated Model for Climate and Economy (RICE 99)
6. Using and applying of “operator 10 plus” program for wastewater plant process control.
7. Other computer skill (word, excel, power point)

Interests

1. Reading
2. Sport

References

1. Vincent Gomes, Associate Professor, Director, Learning & Teaching, School of Chemical & Biomolecular Engineering, The University of Sydney, Sydney, NSW 2006, Australia, Tel: +61 (2) 9351 4868 , Fax:+61 (2) 9351 2854 , E-mail:  vincent.gomes@sydney.edu.au
2. Marwan Batiha, Professor of chemical engineering, Vice President for Academic Affairs, Al-Hussein Bin Talal University, Ma'an, Jordan. Tel: + (962) 777333666, Fax: +96232179050, E-mail: mmbatiha@ahu.edu.jo.
3. Mohammednoor Al-Tarawneh, Professor of chemical engineering, Department of Chemical & Petroleum, United Arab Emirates University (UAEU), United Arab Emirates University, P.O. Box 15551, Al Ain, UAE, Fax: + 971 37134343, Tel : +971 504795399, Email: mn.altarawneh@uaeu.ac.ae
4. Ibrahim Altarawneh, Professor of chemical engineering, Dean of School of Applied Medical Sciences, German Jordanian University, Amman Madaba Street, Building M, M-509, phone: +962 6 4294444 - Ext. 4401 email: ibrahem.altarawneh@gnu.edu.jo
5. Mohammed salameh Al-rsa'I, Professor in science and math teaching. Vice President for Administrative Affairs Al-Hussein Bin Talal University, Ma'an, Jordan. Tel: + (962) 777876786, Fax: +96232179050, E-mail: Rsaaie.mohmed@gmail.com
6. Omar Ali Al-Khashman, Professor of Environmental Engineering, Ex-Dean of Faculty of Engineering, Al-Hussein Bin Talal University, Ma'an, Jordan. Tel: +(962) 799031863, Fax: +96232179050, E-mail: omarkhashman@ahu.edu.jo

Memberships

Member in Jordan Engineering Association, since August 1999.