Resume

(Private and Confidential)

Awni Y. Al-Otoom

Dean of Student Affairs
Professor of Energy – Chemical Engineering
Jordan University of Science and Technology
Irbid, 22110 – Jordan
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Overview

Over 20 Years of combined industrial experience, research, and serving in international organization towards a world free of chemical weapons. Extensive outstanding research in Energy (Renewable energy and unconventional energy sources).

Education

DOCTOR OF PHILOSPHY (CHEM. ENG.) ..... **1998 – 2001**
Chemical Engineering Department, University of Newcastle, *Newcastle, Australia*

M.SC. (CHEM. ENG.) **1998**
Chemical Engineering Department, University of Newcastle, *Newcastle, Australia*

B.SC. (CHEM. ENG.) **1997**
Chemical Engineering Department, Jordan University of Science &Technology *Irbid, Jordan*

EXPERIENCE

SEPT 2017 –Current

Dean of Student Affairs

Professor of chemical engineering

Jordan University of Science and Technology Irbid, Jordan

Principle functions and duties:

- Provide an engaging, safe, and welcoming campus climate for all members of the community.
- Foster a respectful and safe community focused on multi-faceted learning and student development.
- Develop a rich co-curricular experience for all students that requires their active engagement, participation, and reflection.
- Encourage good health and well-being.
- Plan and advocate for the human, physical, fiscal, and intellectual resources to attain our goal
- Plan the budget for the deanship.
- Management of personnel at the Deanship (105 employees)

S E P T 2 0 1 6 –SEPT 2017

VICE DEAN OF GRADUATE STUDIES

Jordan University of Science and Technology Irbid, Jordan

Principle functions and duties:

- Facilitation of admission of graduate students
- Advising and coaching of graduate students
- Reviewing the curricula of graduate programs
- Reviewing and management of study plans for different graduate programs at the University
- Management of graduate students' Theses and defense.
- Management of personnel at the faculty

Achievements

- Establishing the strategic goals and objectives through the higher university committee for strategic planning (champion of the graduate studies pillar)
- Revision of the graduate regulations (MSc, and PhD programs)
- Establishing research track for the masters programs
- Establishing best thesis award for the graduate students
- Establishing 5MT@JUST competition (presentation of thesis in 5 minutes competition)
- Establishing a complete quality management system for the faculty of graduate studies based on ISO9001.2000.
- Improving the general look of the graduate defense and recording the thesis via Y-tube.
- Fully computerizing the promotion of faculty members through the web including the external evaluators.
- Developing a new admission system for graduate student through the web
- Conducting various workshops for graduate students to improve the soft skills of the graduates.

2013 – 2015

2009 - 2011

I N S P E C T I O N T E A M L E A D E R

Deputy Head of Declaration Assessment Team

Special Leave from University

Organization for the Prohibition of Chemical Weapons

The Hague, The Netherlands

Principle functions and duties:

- With the OPCW teams, completed the destruction of the production facilities, munitions, missile warheads of the Syrian Chemical program as part of the UN-OPCW joint mission (October 2013-December 2014)
- Performed analysis of the Syrian chemical weapons program over the complete period of development, including material balances, technology evaluation, and sampling and analysis.
- Analysis of chemical synthesis roots and pathways.

- Comprehensive and thorough investigation of R&D, production and weaponistion of toxic chemical agents
- Analyze results and available information and submit the relevant recommendations to the managements
- Interviewing key principles of the Syrian chemical weapons program in their military and civilian capacities.
- Detection of toxic chemicals throughout Chemical Weapon inspections and industrial inspections using different types of available technologies.
- Conduct short industrial inspections and long inspections on chemical weapon destruction facilities.
- Execute short-term and long term planning of industrial inspection under Article VI of the chemical weapon convention;
- Evaluate different industries from technical point of view worldwide among state parties and their relevance to the purpose and object of the convention.
- Writing progress interim reports of different types of missions submitted to the Executive Council of the OPCW.
- Supervise the execution of industrial inspections
- Facilitate the production of Final Inspection reports
- Support management of the technical secretariat;
- Making recommendation and advising management on the chemistry and industry related technical issues.
- Making recommendation to the management based on the compliance of different state parties to the treaty

2007 – 2009
2011 - 2016

CHEMICAL ENGINEERING PROFESSOR

Chemical Engineering Department
Jordan University of Science and Technology
Irbid, Jordan

Principle functions and duties:

- Conducting research projects related to :
  - Destruction of Toxic chemical
  - Renewable Energy
  - Oil shale utilization
  - Tar sand utilization as energy source
  - Extraction of bitumen from tar sand by different methods
  - Supercritical fluid extraction
  - Beneficiation of tar sand
  - Construction chemicals
  - Modeling of flow through porous media.
  - Solar desalination
- Teaching undergraduate students such as
  - Plant design & Economics'
  - Process simulation –ASPEN/Hysys
  - Principles of chemical engineering
  - Reactor Design

- Fluid Mechanics
- Thermodynamics
- Energy Engineering and management
- Heat Transfer
- Energy and Fossil Fuel
- Unit operation lab.
- Heat transfer lab.

➢ Supervision of Postgraduate students

Sept. 2012 – Sept. 2013

Director of Energy Center

Jordan University of Science and Technology

➢ Management of research projects related to :
- Solar desalination
- Solar drying
- Solar Photovoltaic
- Biodiesel production
- Wind energy
- Energy efficiency
- Beneficiation of tar sand

➢ Design of several renewable energy projects in campus such as
- 5 MWe photovoltaic power plant
- 1 MWe wind energy
- Optimization of thermal insulation inside campus buildings
- Replacement of lightening system with energy efficient systems.

➢ Establishing a long term cooperation between the university and different energy companies such as:
- Total petroleum
- Windjet Co..

2005-2007

CHEMICAL PLANT AND PROJECT MANAGER

International Chem-Crete Inc.

Holic, Slovakia

Principle functions and duties:

Project: Designing and operation of a manufacturing facility for the production of various chemicals for the construction industry.

- Performing all design requirements which included:
  - Performing material and energy balances.
  - Sizing of equipment.
  - Constructing Process Flow Diagrams (PFD)
  - Constructing Piping and instrumentation diagram (P&ID)
  - Performing Hazardous and operability studies (HAZOP)
  - Preliminary cost estimation
  - Commissioning, operation and trouble shooting for a new construction chemicals plant.
  - Obtaining the manufacturing licenses within European Community by communicating with local offices and communities.
- Management of project budgets and continuous reporting to the CEO.
- Obtaining product certifications according to the EU regulations.

2003 – 2005

CHEMICAL ENGINEERING ASSISTANT PROFESSOR

Chemical Engineering Department

Mutah University

Karak, Jordan

Principle functions and duties:

- Conducting research projects related to :
  - Oil shale utilization
  - Tar sand utilization as energy source
  - Extraction of bitumen from tar sand by different methods
  - Supercritical fluid extraction
  - Beneficiation of tar sand
  - Construction chemicals
  - Modeling of flow through porous media.
- Teaching undergraduate students such as
  - Plant design & Economics'
  - Principles of chemical engineering
  - Reactor Design
  - Fluid Mechanics
  - Heat Transfer
  - Communication skills for engineers
  - Unit operation lab.
  - Heat transfer lab.
- Supervision of Postgraduate students

2001-2003

CHEMICAL PLANT AND PROJECT MANAGER

International Chem-Crete Inc.

Jeddah – Saudi Arabia

Principle functions and duties:

Project: Designing and operation of a manufacturing facility for the construction chemicals for the Middle East.

Duties:

- Performing all design requirements which included:
  - Performing material and energy balances.
  - Sizing of equipment.
  - Constructing Process Flow Diagrams (PFD)
  - Constructing Piping and instrumentation diagram (P&ID)
  - Performing Hazardous and operability studies (HAZOP)
  - Preliminary cost estimation
  - Commissioning, operation and trouble shooting for a new construction chemicals plant.
  - Obtaining the manufacturing licenses within European Community by communicating with local offices and communities.
- Management of project budgets and continuous reporting to the CEO.
- Obtaining product certifications according to the local regulations.

Key Achievements

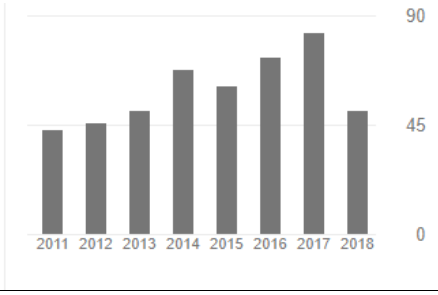
- Won King Abdallah II award for innovation in the field of science, 1st place , 2016.
- Won with the OPCW the Nobel peace prize for 2013. Selected by the DG to participate in receiving this prize.
- Design and construction of two complete construction chemicals plants from the concept stage to the legal documentations and licensing. Then this was followed by commissioning and running of this plant. Establishing a complete management system for the manufacturing plants in addition to obtaining ISO9001:200 certification.
- Developing a new technique to determine the sintering temperature of coal ash from a concept stage. This Technique is called The Pressure-Drop Technique, which also can be used to obtain the sintering kinetics parameters, which are important in the fluidized bed combustion technology in addition to the ceramics industry.
- Developed new filtration material for hot gas filtration for the removal of the particulates and SOX emissions- Filed for patent.
- Developing a new feeding system which can be used for feeding solid fuels into a commercial pressurized fluidized bed combustion system.
- Established international cooperation between scholars from Japan, Finland, USA, UAE, and Australia through joint research programs.
- Have been selected for the frontiers of science panel in the Middle East (2003).

Publications

A. Citations of publications.

I. Google Scholar

Cited by		VIEW ALL
	All	Since 2013
Citations	717	387
h-index	16	12
i10-index	19	14



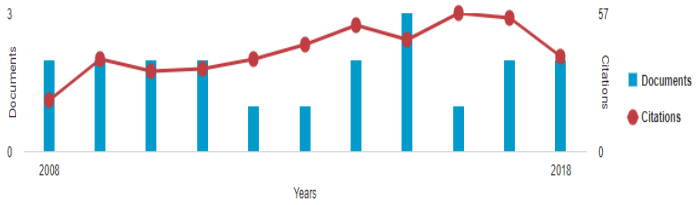
II. Scopus

h Index : 13

Subject Area per Scopus:

Energy , Chemical engineering , Environmental Science , Earth and Planetary Sciences , Materials Science , Engineering , and Chemistry.

Produced Publications



B. Publications in International Peer Review Journals

1. Al-Harahsheh, M., Aljarrah, M., **Al-Otoom, A.,** Altarawneh, M., Kingman, S. Pyrolysis kinetics of tetrabromobisphenol a (TBBPA) and electric arc furnace dust mixtures (2018) Thermochimica Acta, 660, pp. 61-69.
2. Al-Harahsheh, M., **Al-Otoom, A.,** Al-Jarrah, M., Altarawneh, M., Kingman, S. Thermal Analysis on the Pyrolysis of Tetrabromobisphenol A and Electric Arc Furnace Dust Mixtures (2017) Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, pp. 1-16. Article in Press.
3. Abu-Arabi, M., Al-Harahsheh, M., Tashtoush, R., Mousa, H., **Al-Otoom, A.** Experimental investigation of a solar desalination with humidification-dehumidification using a rotating surface (2017) Desalination and Water Treatment, 73, pp. 101-106.
4. Kandah, M., **Al-Otoom, A**., Al-Harahsheh, M., Al-Zoubi, R.M., Al-Harahsheh, A., Document Extracting oil from used auto tires at low temperature after chemical treatment, Waste Management, 61, pp. 307-314.
5. Mousa Abuarabi, Mohammad Al-Harahsheh, Hasan Mousa, **Awni Al-Otoom**, Raeda Tashtoush, Experimental investigation of a solar desalination with humidification-dehumidification using a rotating surface", Desalination and Water Treatment, 73, pp. 101-106.
6. M. Azzam, Z Al-Ghazawi, **A Al-Otoom**, Incorporation of Jordanian oil shale in hot mix asphalt , Journal of Cleaner Production, 2259-2277, 2016.
7. **Awni Al-Otoom,** Abdelrahman Tamimi and Samer Abandeh, "Effect of solar area concentration ratio on performance of a conventional solar still with air humidification, J. Renewable and Sustainable Energy 7, 053103, 2015.

8. **Awni Al-Otoom,** Fahmi Abu Al-Rub, Hasan Mousa and Mays Shadeed, "Semicontinuous solar drying of sludge from a waste water treatment plant" . J. Renewable and Sustainable Energy 7, 043137 (2015);
9. Al-Harahsheh M, **Al-Otoom A**, Al-Makhadmah L, Hamilton I, Kingman S, Al-Asheh, Hararah A, "Pyrolysis of poly(vinyl chloride) and-electric arc furnacedust mixtures. J Hazard Mater. 2015 Jun 25;299:425-436.
10. Mohammed O.J. Azzam, Ziad Al-Ghazawib , **Awni Al-Otoom**, " Incorporation of Jordanian oil shale in hot mix asphalt", Journal of Cleaner Production, 2015, In press, available online Nov. 2015.
11. **Awni Al-Otoom,** Sameer Al-Ashehb, Mamdouh Allawzia, Khalid Mahshia, Nahawand Alzenatia, Bader Banata, Bdour Alnimra, "Extraction of oil from uncrushed olives using supercritical fluid extraction method", The Journal of Supercritical Fluids, 95, 512-518, 2014.
12. **Awni Al-Otoom,** Mohammad Al-Harahsheh, Marwan Batih, "Sintering of Jordanian oil shale under similar conditions of fluidized bed combustion systems.", Journal of oil shale, 54-65, 2014.
13. Sameer Al-Asheh, Mamdouh Allawzi, **Awni Al-Otoom**, Hussein Allaboun, Amani Al-Zoubi, "Supercritical fluid extraction of useful compounds from sage", 8, 544-555, Natural science, 2012.
14. **A. Al-Otoom** , M. Allawzi, A. Ajlouni, F. Abu-Alrub and M. Kandah" The Use of Oil Shale Ash in the Production of Biodiesel From Waste Vegetable Oil", Jounral of Renewable and Sustainable Energy, 4, 6,2012.
15. **Awni Al-Otoom**, Mohammad Al-Harahsheh, Mamdouh Allawzi, Sam Kingman, John Robinson, Adnan Al-Harahsheh, Abdurrahman Saeid, "Physical and thermal properties of Jordanian tar sand", Fuel Processing Technology, 106, 174-180, 2013.
16. Sameer Al-Asheh, **Awni Al-Otoom**, Hussien Allabun, Amani Al-Zoubi, "Supercritical fluid extraction of useful compounds from sage", Natural Science, 2012, 4 (8), 544-551.
17. Mamdouh Allawzi, **Awni Al-Otoom**, Hussien Allabun, Abdulaziz Ajlouni, Fatima Nsirate, " CO_2 supercritical fluid extraction of Jordanian oil shale using co-solvents" Fuel processing technology, 92, 2011, 2016-2023.
18. **Awni Al-Otoom**, Mamdouh Allawzi, Naser Al-Omari, Emad Al-Hsienat. "Bitumen recovery from Jordanian oil sand by froth flotation using petroleum cycles oil cuts", Energy, 35 (2010) 4217-4225.
19. Mamdouh Allawzi, **Awni Al-Otoom**, Abdulaziz Ajlouni, Fahmi Abu-Alrub, Munther Qandah, "Biodiesel production from waste soybean oil using jordanian oil shale ash", Nuclear & Renewable Energy Conference (INREC), 2010 1st International, 1-6
20. **Awni Al-Otoom**, Mamdouh Allawzi , Adnan M. Al-Harahsheh , Mohammad Al-Harahsheh , Randa Al-Ghbari , Raeda Al-Ghazo , Husam Al-Saifi. "A parametric study on the factors affecting the froth floatation of Jordanian tar sand utilizing a fluidized bed floatator", Energy, 34 (2009) 1310–1314.
21. Adnan Al-Harahsheh, Mohammad Al-Harahsheh, **Awni Al-Otoom**, and Mamdoh Allawzi. "Effect of demineralization of El-lajjun Jordanian oil shale on oil yield "Fuel Processing Technology, 90 , June 2009, Pages 818-824.
22. S. Z. Abandeh, **A. Y. Al-Otoom**, A. I. Tamimi, "effect of area concentration ratio on performance of a conventional solar still with air humidification-dehumidification", desalination conference arwadex 2010, saudi arabia, 11-14 april 2010.
23. **Awni Y. Al-Otoom.** "An investigation into beneficiation of Jordanian el-lajjun oil shale by froth floatation" oil shale, 25/2, 2008, 247-253.
24. H. Elboun and **A. Y. Al-Otoom** " Energy requirements for the utilisation of oil shale in production of Portland clinker,25/3,2008, 301-309.

25. **Awni Al-Otoom** and Abdelaziz Al-Khlaifat, Ahmed Shawaqfeh ." Crystallization technology for reducing water permeability into concrete", Industrial & Engineering Chemistry Research,46, 2007 5463-5467
26. **Awni .Y. Al-Otoom,** "Utilization of oil shale in the production of Portland Clinker". Cement and Concrete Composites, 2/1, 2006, 3-11.
27. **Awni .Y. Al-Otoom,** "Prediction of the collection efficiency, the porosity, and the pressure drop across filter cakes in particulate air filtration", Atmospheric Environment, 39/1, 2005, 51-57.
28. Abdelaziz Al-Khlaifat, **Awni Al-Otoom**, "Modeling of Reduced Water Flow through Concrete Caused by Crystallization Technology**"**, 9(8), 2006, 723-730.
29. **Awni .Y. Al-Otoom, "** A thermodynamic study on the utilization of Jordanian oil shale in the cement industry". Oil shale, 22(1), 1-11.
30. **Awni Al- Otoom,** Reyad Shawabkeh, and Adnan Al-Harahsheh," The chemistry of minerals obtained from the combustion of Jordanian oil shale", Energy, 2005, 30, 611-619.
31. Adnan Al-Harahsheh, **Awni Al- Otoom**, **and** Reyad Shawabkeh**,**" sulfur distribution in the oil fractions obtained by thermal cracking of Jordanian oil shale", Energy, 2005, 30, 2784-2795.
32. Reyad Shawabkeh, Adnan Al-Harahsheh, and **Awni Al- Otoom,**" Production of zeolite from Jordanian oil shale ash and application of zinc removal from waste water", Oil Shale, 2004, 21,2, 125-136.
33. **A.Y. Al-Otoom**, Liza Elliott. Moghtaderi andT.F. Wall "Sintering of coal ash, agglomeration, and defluidisation in fluidised bed combustion systems", Fuel, 2004,84, 109-114.
34. **A.Y. Al-Otoom**, "The role of calcium-based sulphur sorbents on the operational problems of solid fired combustors", 3rd International Engineering conference, Mutah-Jordan, April. 2004.
35. Reyad Shawabkeh, Adnan Al-Harahsheh and **Awni Al- Otoom**," Copper and Zinc Sorption by Treated Oil Shale Ash", Separation and Purification Technology, 2004, 40, 251-157.
36. **A.Y. Al-Otoom**, Y. Ninomiya, B. Moghtaderi andT.F. Wall " Coal Ash Build up in hot gas filtration system, Energy and Fuels, 2003, 17, 316-320.
37. **A.Y. Al-Otoom**, L.K.Elliot, T.F. Wall and B. Moghtaderi, " Measurement of the Sintering Kinetics of Coal Ash", Energy and Fuels, 2000,14, 994-1001.
38. **A.Y. Al-Otoom**, G. W. Bryant, L.K.Elliott, B. J. Skrifvars, M. Hupa, and T.F. Wall, "Experimental options for determining the temperature for the onset of sintering of coal ash", Energy and Fuels, 2000,14,277-233.
39. **A.Y. Al-Otoom**, L.K.Elliot, T.F. Wall and B. Moghtaderi "Sintering Kinetics of Minerals in Coal", in proceedings of the 1999 Australian symposium on combustion and the sixth Australian flame days, (Ed. B. Moghtaderi, B. Dlugogorski and E. Kennedy), Newcastle-Australia, Sept. 1999, pp113-118.
40. Meigooni AS, Dini SA, Sowards K, Hayes JL, **Al-Otoom A** , "Experimental determination of the TG-43 dosimetric characteristics of EchoSeed model 6733 I25I brachytherapy source. Med Phys 2002 Jun;29(6):939-42.
41. Meigooni AS, Yoe-Sein MM, **Al-Otoom AY**, Sowards KT. " Determination of the dosimetric characteristics of InterSource125 iodine brachytherapy source", Appl. Radiat Isot. 2002 Apr;56(4):589-99.

C. <u>International Conferences Publications</u>

1. **Awni Al-Otoom**, "The minerals of Jordanian oil shale: Characterization and beneficiation", International Workshop on Minerals Processing and Beneficiation, Johannesburg, South Africa, 25-27 September, 2012.
2. **Awni Al-Otoom**, Sameer Al-Asheh, Mamdouh Allawzi, Kalid Mahshi, Noor Alzenati, Bandar Banat, Bdoor Alnimr, "Supercritical Fluid Extraction of Uncrushed Jordanian

Olives" , 20th international conference on Chemical and Process Engineering, Prague, Czech Republic, 25-29 August 2012.

3. Allaboun, H, Allawzi, M, **Al-Otoom**, **A,** Abu Al-Rub, F.A., " Effect of particle size on the alkaline leaching behavior of low grade uranium ore", 11th International Multidisciplinary Scientific Geoconference and EXPO, SGEM 2011; Varna; Bulgaria; 20 June 2011, Conference Proceedings/ ISSN 1314-2704, Volume 1, 2011, Pages 1131-1138.
4. S. Z. Abandeh, **A. Y. Al-Otoom**, A. I. Tamimi, "effect of area concentration ratio on performance of a conventional solar still with air humidification-dehumidification", desalination conference arwadex 2010, Saudi Arabia, 11-14 april 2010.
5. **A.Y. Al-Otoom**, L.K.Elliot, T.F. Wall and B. Moghtaderi "Sintering Kinetics of Minerals in Coal", in proceedings of the 1999 Australian symposium on combustion and the sixth Australian flame days, (Ed. B. Moghtaderi, B. Dlugogorski and E. Kennedy), Newcastle-Australia, Sept. 1999, pp113-118.
6. **A.Y. Al-Otoom**, G. W. Bryant, L.K.Elliot, T.F. Wall, "Experimental options for measuring the sintering temperature of coal ash", in the proceedings of the 9th Japan/Australia Joint Technical meeting on Coal, (Ed. Energy and Environment Division, Dept. of Industry, Science and resources), Melbourne-Australia, June 1999.
7. **A.Y. Al-Otoom**, L.K.Elliot, T.F. Wall and B. Moghtaderi "Sintering Kinetics of Minerals in Coal", in proceedings of the 1999 Australian symposium on combustion and the sixth Australian flame days, (Ed. B. Moghtaderi, B. Dlugogorski and E. Kennedy), Newcastle-Australia, Sept. 1999, pp113-118.
8. **A.Y. Al-Otoom**, "The role of calcium-based sulphur sorbents on the operational problems of solid fired combustors", 3rd International Engineering conference, Mutah-Jordan, April. 2004.

D. Books

1. Minerals processing & Beneficiation, Chapter5, "The mineral of Jordanian oil shale: Characterisation and Beneficiation", pages: 51-64, Centre for science and technology of the non-aligned and other developing countries (NAM S&T Centre). Astral international publisher, New Delhi, 2015, ISBN: 978-93-5124-352-6.
2. Co-editor of Minerals processing & Beneficiation, Centre for science and technology of the non-aligned and other developing countries (NAM S&T Centre). Astral international publisher, New Delhi, 2015, ISBN: 978-93-5124-352-6.

E. Filed patents

1. Awni Al-Otoom, Mamdouh Allawzi, "Low temperature and low cost process for the removal of organically bound sulfur from Oil shale using Sodium bicarbonate" Submitted 2009, Pending , US patent office number : 12/286,524.
2. Awni Al-Otoom, Munther Kandah, "Low temperature fuel oil extraction from recycled automobile tires using chemical treatment ", submitted June 2012 through JUST university.

Awards

- Won King Abdallah award for innovation in science, first prize, 2016.
- Won with the OPCW the Nobel peace prize for 2013. Selected by the DG to participate in receiving this prize.
- University of Newcastle Alumni Award for international achievement 2011.
- Have been selected for the frontiers of science panel in the Middle East (2003).
- Winner of three national awards: first place at the 6th National Technology Parade/Environment, First place of JOSCO award and first place of Jordan Engineering Association competition/Chemical Engineering Section " Zinc Extraction from electric arc furnace dust via thermal treatment with plastic materials (June 2013)

Skills and Membership

COMPUTER SKILLS

1.Engineering Software

- Aspen Plus V 10.0 plant design and simulation
- HYSYS (Plant Design and Simulation) V 3.01.1
- Computational Fluid Dynamics (CFD), Fluent 5.0.
- Facility For the Analysis of Chemical Thermodynamics (F*A*C*T).
- Polymath, MathsCad Plus 6.0.
- Autocad 14.
- Visual basic, Fortran, and Unix system

2.Analysis Software

- Statistical Analysis and Experimental Design (JUMPIN, C.A Super calculation)
- Microsoft Excel

3.General

- Windows 97,98,2000, XP, Windows 8, Winows 10..
- Microsoft word, Excel, Microsoft Visio and Microsoft PowerPoint (95, 97, 2000, XP, 2003, 2010)

OTHER SKILLS

Operating and optimizing the following instruments

- Thermomechanical Analysis, Dilametry (TMA)
- Scanning Electron Microscopy (SEM)
- X-ray Fluorescence, and X-ray Diffraction
- Malvern Particle Size analyser
- Pulp Drainage Analyser (PDA)
- Gc-Ms, UV, flame photometer.
- Material and unit operation equipment

PROFESSI`ONAL COURSES AND TRAINING

- Energy Management course, Athens, Greece, November 2017.
- Toxic Chemical Training (TCT)-2009 AND 2013 Organization for the prohibition of chemical weapons
- Assistance Coordination and Assessment Team (ACAT)
- Workshop on "Ensuring a secure and safe nuclear infrastructure in Jordan", 2012.

- Associate Program - 2004 Organization for the prohibition of chemical weapons.
- ISO 9001:2000 internal audition and ISO9001:2000 implementation courses – 2005.
- Course in Leadership and Carrier Development – University of Melbourne- Australia
- Course in Advanced Thermodynamics and Computer Thermodynamic Calculations (F.A.C.T.) - University of Queensland.

SOCIETIES AND ASSOCIATION MEMBERSHIPS

- *Member of Institute of chemical engineers UK (IChemE).*
- *Member of American Chemical Society.*
- *Member of the Australian chemical engineer Institute. (IchemE)*
- *Member of Jordanian Engineers Associations*

COMMITTEES

- Member of the university higher committee for strategic planning at JUST (sept 2016-current)
- Member of the technical committee of the united nation Economic and Social Commission for Western Asia (ESCWA) (current)
- Head of the 20 MW solar power technical committee (sept 2016-current)
- Head of the university of Al-Balqa - Huson college accreditation committee
- Member of the technical committee for the 5MW solar power at JUST (2012).
- Member of the Total quality management committee at JUST (current)

Languages: Arabic (Mother tongue), English (Fluent)

Personal Information

DOB: 07/09/1974. Nationality: Jordanian