

Zayed Al-Hamamre
Prof. of Chemical Engineering



Professor of chemical engineering with considerable experience in research, planning teaching and mentoring students at both the undergraduate and graduate level. Distinguished record of publication in scientific journals. Effective written communicator to students and other staff members and strong oral communicator and lecturer in the classroom. Effectively cooperate with different research groups. Commitment to helping university students develop their full potential in their studies.

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google scholar	https://scholar.google.com/citations?hl=en&user=bb61ftQAAAAJ&view_op=list_works
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Professional experience	from	to	Location
Prof. of chemical Engineering	April 2017	-	The University of Jordan
The head of the chemical Engineering Department	Sept. 2013	Sept. 2017	The University of Jordan
Associate prof.	April 2013	April 2017	Chemical Engineering Department, The university of Jordan
The head of the chemical Engineering Department	Sept. 2010	Sept. 2012	The University of Jordan
Assistant prof.	Sept. 2008	April 2013	Chemical Engineering Department, The university of Jordan
Part time lecturer	June 2008	Aug. 2008	The German Jordanian University, Amman-Jordan

Education	from	to	Location
PhD (Continue....)	June 2006	March 2008	TU- Bergakademie Freiberg (Institute of heat technology and Thermodynamic/Chair of Gas and Heat Technology)
PhD	May 2003	June 2006	Friedrich-Alexander-University Erlangen-Nuremberg University, The Fluid Mechanics Institute, Chemical and Bio Engineering department

M.Sc	April 2001	May 2003	Friedrich-Alexander-University Erlangen-Nuremberg, Chemical Engineering Department
B.Sc	Sept. 1995	June 2000	The Jordan University of Science and Technology
Secondary School	Sept. 1993	June 1995	Zaid Ben Al-Kattab Secondary School (Irbid-Jordan)
Primary School	Sept. 1984	June 1993	Bait Ras Primary School (Biat Ras- Jordan)

At the university of Jordan:

Fluid Mechanics, Chemical Engineering Thermodynamics (I & II), Chemical Reaction Engineering (I & II), Advance chemical Reaction Engineering, Chemical Engineering Principles (I & II), Fuel and Energy, Fuel Cells: fundamental and Applications, Process Heat Transfer, Alternative Fuels, Mathematical Methods for Chemical Engineering, General Safety Principles, Mass Transfer Operations, Industrial Process Safety.

**Teaching Experiences
(Taught course)**

At Prince Hussein bin Abdullah II Academy of Civil Protection:

Principle of fire Engineering, combustion fundamentals, Occupational Safety, hazard waste management, passive fire protection, Fire Investigations, Industrial Explosion.

Performed projects	from	to	Location	Funder (Budget)
Lignin-Based Solid catalyst for WVO to BD	March 2015	April 2017	UJ	Deanship of Scientific Research (€3000)
Jojoba Cool flame	November 2014	May 2016	UJ	Deanship of Scientific Research (€29000)
Zeolite Based Catalyst for WVO to BD	June 2013	October 2014	UJ	Deanship of Scientific Research (€3000)
Solar cooling	October 2012	December 2015	UJ	Deanship of Scientific Research (€ 31000)
Biodiesel from WVO	May 2010	March 2012	UJ	Deanship of Scientific Research (€ 20000)
Biodiesel from coffee oil	June 2009	September 2009	DBFZ/Germany	DFG
FlameSOFC (continued)	June 2006	December 2007	TU- Freiberg	EU-Project € 12, 258,841
FlameSOFC (Development of a multi-fuel reformer for solid oxide fuel cell)	October 2005	June 2006	LSTM-Erlangen	EU-Project € 12, 258,841

Awards	Donor
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The DVGW award, 2005	Deutsch Vereinigung des Gas und Wasserfaches, Leipzig-Germany
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DFG research grant, 2009	DFG, Germany
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Refereeing	Journal
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Energy Conversion and Management, International Journal of Hydrogen Energy Renewable Energy, BioEnergy Research, Fuel, Energy
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Industrial training	from	to	Location
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Process Engineer	May 2002	August 2002	Framatome-Siemens, Erlangen Germany
Operational Chemical Engineer	June 1999	September 1999	Training at Jordan Petroleum refining company, Jordan-Zarqa

Language Ability

Arabic: Mother Language
English: Excellent in writing and speaking
German: good

Computer Experiences

MS Office, CHEMKIN CHEMCAD

List of Journal publications

1. Z. Al-Hamamre, S. Diezinger, P. Talukdar, F. von Issendorff, D. Trimis, Combustion of Low Calorific Gases from Landfills and Waste Pyrolysis Using Porous Medium Burner Technology, Process Safety and Environmental Protection, Trans IChemE, Part B, 2006; 84(B4): 1–12.
2. Z. Al-Hamamre, S. Deizinger, A. Mach, Franz von Issendorff and Dimosthenis Trimis, Thermal partial oxidation of diesel in porous reactors for synthesis gas production, International Journal of Energy for a Clean Environment, 7(4):391-401, 2006.
3. Z. Al-Hamamre, S. Voß, D. Trimis, Characterisation of the emissions behaviour and combustion stability in porous media burner by using low and medium calorific value gases [Charakterisierung des Emissionsverhaltens und der Verbrennungsstabilität von Schwach- und Mittelgasen in Porenbrennern], Gaswaerme International 2007; 56 (3): 200-204,
4. G. Vourliotakis, G. Skevis, M.A. Founti, Z. Al-Hamamre, D. Trimis, Detailed kinetic modelling of the T-POX reforming process using a reactor network approach, International Journal of Hydrogen Energy, 2008; 33(11): 2816-2825, June.
5. Z. Al-Hamamre, S. Voß, D. Trimis, Hydrogen Production by Thermal Partial Oxidation of Hydrocarbon Fuels in Porous Media Based Reformer, International Journal of Hydrogen Energy, 2009, 34: 827-823.
6. Z. Al-Hamamre, D. Trimis, Investigation of the intermediate oxidation regime of Diesel fuel, combustion and flame, 2009; 156 (9): 1791-1798.
7. Z. Al-Hamamre; A. Al-Zoubi; D. Trimis, Numerical investigation of the partial oxidation process in porous media based reformer, Combustion Theory and Modelling, 2010; 14(1):91–103

8. Z. Al-Hamamre, A. Al-Zoubi, The Use of Inert Porous Media Based Reactors for Hydrogen Production, *International Journal of Hydrogen Energy* 35: 2010; 1971–1986
9. M. R. Abdelkader, A. Al-Salaymeh, Z. Al-Hamamre, Firas Sharaf, A comparative Analysis of the Performance of Monocrystalline and Multicrystalline PV Cells in Semi-Arid Climate Conditions: the Case of Jordan, *Jordan Journal of Mechanical and Industrial Engineering*, 4(5),2010: 543- 552
10. A. Al-Salaymeh, Z. Al-Hamamre, F. Sharaf, M.R. Abdelkader, Technical and economical assessment of the utilization of photovoltaic systems in residential buildings: The case of Jordan, *Energy Conversion and Management*, 51 (2010) 1719–1726
11. Z. Al-Hamamre, M. A. Hararah, Hydrogen Production by Thermal Partial Oxidation of Ethanol: Thermodynamics and Kinetics Study, *International Journal of Hydrogen Energy*, 35(2010) 5367-5377.
12. Zayed Al-Hamamre, Sascha Foerster, Franziska Hartmann, Michael Kröger Martin Kaltschmit, Oil extracted from spent coffee grounds as a renewable source for fatty acid methyl ester manufacturing, *Fuel* 96 (2012) 70–76
13. Menwer Attarakih, Tamadur Albaraghtih, Mazen Abu-Khader, Zayed Al-Hamamre and Hans-Jorg Bart, Mathematical Modeling of High- Pressure Oil-Splitting Reactor using a Reduced Population Balance Model, *Chemical Engineering Science*, 84 (2012) 276–291
14. A. Fafous, J. Asfar, A. Al-Salaymeh, A. Sakhrieh, Z. Al-Hamamre, A. Al-bawwab, M. Hamdan, Potential of utilizing solar cooling in The University of Jordan, *Energy Conversion and Management* 65 (2013): 729-735
15. Zayed Al-Hamamre, Jojoba is a Possible Alternative Green Fuel for Jordan, *Energy Sources, Part B: Economics, Planning, and Policy*, 8(3), (2013): 217-226
16. Zayed Al-Hamamre, Jehad Yamin, The Effect of Hydrogen Addition on Premixed Laminar Acetylene-Hydrogen-Air and Ethanol-Hydrogen-Air Flames, *International Journal of Hydrogen Energy*, (2013), 38: 7499 -7509.
17. Zayed Al-Hamamre, Thermodynamic and Kinetic Analysis of the Thermal Partial Oxidation of n-Heptane for the Production of Hydrogen Rich Gas Mixtures, *International Journal of Hydrogen Energy*, 2013, 38 (26): 11458–11469
18. Zayed Al-Hamamre, Ali Al-Matar, fawaz sweis, khalid Rawajfeh, Assessment of the Status and Outlook of Biomass Energy in Jordan, *Energy Conversion and Management*, 2014; 77: 183–192
19. Zayed Al-Hamamre, Jehad Yamin, Parametric study of the alkali catalyzed transesterification of waste frying oil for Biodiesel production, *Energy Conversion and Management*, 2014;79: 246–254
20. Khaled M. Rawajfeh, Tamar Al-Hunaidi, Zayed Al-Hamamre, Motasem Saidan, The activity Coefficients and Equilibrium Constants of Commercial Potash at temperatures from 25 to 70oC, *Life Science Journal* 2014;11(3):166-172
21. Zayed Al-Hamamre, Ahmed Al-Salaymeh, Physical properties of (jojoba oil + biodiesel), (jojoba oil + diesel) and (biodiesel + diesel) blends, *Fuel*, 2014; 123:175–188.
22. Khaled Rawajfeh, Tamar Al-Hunaidi, Motasem Saidan, Zayed Al-Hamamre, Upgrading of Commercial Potassium Chloride by Crystallization: Study of Parameters Affecting the Process, *Life Science Journal* 2014;11(6s)
23. Zayed Al-Hamamre, Khalid Rawajfeh Investigating the Energy Value of Jojoba as an Alternative Renewable Energy Source, *International Journal of Green Energy*, 2015:12 (4), 398-404
24. Zayed Al-Hamamre, Potential of Utilizing Olive Cake Oil for Biodiesel Manufacturing, *Energy Sources Part A: Recovery Utilization and Environmental Effects*, 2015, 37:2609–2615.
25. Malek Alkasrawi, Zayed Al-Hamamre, Mohammad Al-Shannag, Md Joynal Abedin, and Eric Singasaas, Conversion of Paper Mill Residuals to Fermentable Sugars, *BioResources* 2016; 11(1): 2287-2296
26. Muhanned A. Hararah, Motasem N. Saidan, Ahmad M. Abu-Jrai, Zayed Al-Hamamre, Jihad Alsawair, Raed A. Damra, The PCDD/PCDF Emission Inventory in Jordan: Aqaba City. *Journal of Chemical Technology and Metallurgy*, 2016; 51 (1): 112-120
27. Noor Al-Jammal, Zayed Al-Hamamre, Mohammad Alnaief, Manufacturing of zeolite based catalyst from zeolite tuft for biodiesel production from waste sunflower oil, *Renewable Energy* 2016; 93: 449-459

28. Muhannad Harara, Zayed Al-Hamamre, Viscosity correlations for jojoba oil blends with biodiesel and petroleum diesel, *Energy Sources Part A Recovery Utilization and Environmental Effects*. 2016;38(13): 1904–1911
29. Khalid Rawajfeh, Zayed Al-Hamamre, Study on the viscosity of jojoba oil blends with biodiesel or petroleum diesel, *Energy Sources Part A Recovery Utilization and Environmental Effects*. 2016; 38(22): 3290–3299
30. Zayed Al-Hamamre, Motasem Saidan, Muhanned Hararah, Khaled Rawajfeh, Hussam E. Alkhasawneh, Mohammad Al-Shannag, Wastes and biomass materials as sustainable-renewable energy resources for Jordan, *Renewable and Sustainable Energy Reviews* 2017;67: 295–314
31. Mohammad Al-Shannag, Zakaria Al-Qodah, Mansour Nawasreh, Zayed Al-Hamamre, Khalid Bani-Melhem, Malek Alkasrawi, On the performance of *Ballota undulata* biomass for the removal of cadmium(II) ions from water, *Desalination and Water Treatment*, 2017;67:223–230
32. Raed Al-Rbaihat, Ahmad Sakhriehb., Jamil Al-Asfar, Ali Alahmer, Osama Ayadi, Ahmed Al-Salaymeh, Zayed Al-hamamre, Abeer Al-bawwab, Mohammed Hamdan, Performance Assessment and Theoretical Simulation of Adsorption Refrigeration System Driven by Flat Plate Solar Collector, *Jordan Journal of Mechanical and Industrial Engineering*, 2017; 11(1):1 -11
33. Motasem N. Saidan, Muhanned A. Hararah, Zayed Al-hamamre, Jihad Alsawair, Raed A. Damra, Bashar Bataineh, Mohammad Badran, PCDD/Fs into sediments of Aqaba Coastal City, Jordan: the relation to atmospheric pollution. *Desalination and Water Treatment*, 104 (2018) 91–98
34. Mohammad Alrbai, Bashar R. Qawasmeh, Zayed Al-Hamamre, Ma'en S. Sari and Yazan Taamneh, Impact of Exhaust Gas Recirculation on Performance and Emissions of Free-Piston Electrical Generator Fueled by DME, *Journal of Energy Engineering*, 144 (3); 2018
35. Zayed Al-Hamamre, Arwa Sandouqa, Energy analysis jojoba plantation system for the production of biodiesel, *Energy sources, part a: recovery, utilization, and environmental effects*, 40 (23); 2018: 2867–2875
36. Arwa Sandouqa, Zayed Al-Hamamre, Energy analysis of biodiesel production from jojoba seed oil, *Renewable Energy* 130 (2019) 831-842
37. Arwa Sandouqa, Zayed Al-Hamamre, Jamil Asfar, Preparation and performance investigation of a lignin-based solid acid catalyst manufactured from olive cake for biodiesel production, *Renewable Energy* 132 (2019) 667-682
38. Arwa Sandouqa, Mohammad Al-Shannag, Zayed Al-Hamamre, Biodiesel purification using biomass-based adsorbent manufactured from delignified olive cake residues, *Renewable Energy* 151 (2020) 103-117
39. Noor Al-Jammal, Zayed Al-Hamamre & Tatjana Juzsakova, Parametric study on the production of biodiesel from waste sunflower oil using Zeolitic tuff based catalyst, *Energy Sources, Part A: Recovery, Utilization, And Environmental Effects*, <https://doi.org/10.1080/15567036.2019.1671551>
40. Arwa Sandouqaa, Zayed Al-Hamamrea, and Jamil Asfar, Structural characteristics of lignin extracted from Jordanian olive cake using different fractionation conditions, *Energy Sources, Part A: Recovery, Utilization, And Environmental Effects* <https://doi.org/10.1080/15567036.2019.1668877>.
41. Yousef Mubarak, Shaden AlBtoosh, Zayed Al-Hamamre, Aya Salman, Effects of the Exposure to Fire and Fire Extinguishing Agents on the Behavior of Building Materials, *International Journal of Emerging Trends in Engineering Research* 8(7), July 2020, 3433
42. Mohammad Alnaief , Arwa Sandouqa, Ibrahim Altarawneh 1, Mohammad Al-Shannag, Malek Alkasrawi and Zayed Al-hamamre, Adsorption Characteristics and Potential of Olive Cake Alkali Residues for Biodiesel Purification, *Energies* 2021, 14, 16. <https://doi.org/10.3390/en14010016>
43. Arwa Sandouqa, Zayed Al-Hamamre, Economical evaluation of jojoba cultivation for biodiesel production in Jordan, *Renewable Energy*, 177 (November 2021); 1116-1132, <https://doi.org/10.1016/j.renene.2021.06.025>.

List of conferences publications

1. **Z. Al-Hamamre**, D. Trimis, K. Wawrzinek (2003), Thermal partial oxidation of methane in porous burners for hydrogen production, 7th International Conference on Technologies and Combustion for a Clean Environment (Clean Air VII), Lisbon, Portugal, July 2003.

2. **Z. Al-Hamamre**, K. Wawrzinek D. Trimis, S. Diezinger (2003), Wasserstoffproduktion durch thermische partielle Oxidation von Methan im Porenbrenner, VDI-GET Verbrennung und Feuerungen - 21. Deutscher Flammentag, Cottbus, September 2003.
3. **Z. Al-Hamamre**, D. Trimis, K. Wawrzinek (2003), Hydrogen production by thermal partial oxidation of methane in a porous burner, 3rd European Conference on Small Burner and Heating Technology ECSBT3, Aachen, September 2003.
4. S. Diezinger, **Z. Al-Hamamre**, F. von Issendorff, D. Trimis (2004), Reforming of diesel by thermal partial oxidation in a reactor based on porous burner technology, Fuel Cells Science & Technology, München, Oktober 2004.
5. **Z. Al-Hamamre**, S. Diezinger, P. Talukdar, F. von Issendorff, D. Trimis (2005), Combustion of Low Calorific Gases from Landfills and Waste Pyrolysis Using Porous Medium Burner Technology, WasteEng 05, Albi (France), Mai 2005.
6. **Z. Al-Hamamre**, S. Diezinger, A. Mach, F. von Issendorff, D. Trimis (2005), Thermal partial oxidation of diesel in porous reactors for synthesis gas production, 8th International Conference on Technologies and Combustion for a Clean Environment (Clean Air VIII), Lisbon, Portugal, Juni 2005.
7. S. Diezinger, **Z. Al-Hamamre**, M. Steven, J. Schäfer, B. Vogel, D. zur Megede, F. von Issendorff, D. Trimis (2005), Theoretical and experimental investigations of the combustion of hydrogen and hydrogen rich mixtures in inert porous burners, 8th International Conference on Technologies and Combustion for a Clean Environment (Clean Air VIII), Lisbon, Portugal, Juni 2005.
8. **Z. Al-Hamamre**, A. Mach, S. Diezinger, F. von Issendorff, D. Trimis (2005), Thermal Partial Oxidation of Diesel in A porous Burner Based Refromer, 6th HiTACG Symposium, Essen, Germany, October 2005.
9. **Z. Al-Hamamre**, S. Voß, D. Trimis, Detailed Experimental and Numerical Investigation of the Partial Oxidation of Methane in a Porous Reactor, Proceedings of the European Combustion Meeting 2007, Chania, Crete, Greece, 2007
10. **Z. Al-Hamamre**, S. Voß, A. Al-Zoubi, D. Trimis, Experimental and Numerical Investigation of the Partial Oxidation of Methane in a Porous Reactor, 9th Conference on Energy for a Clean Environment, Lisbon, Portugal, July 2007.
11. O. van Rheinberg, J. vom Schloss, K. Lucka, H. Köhne, **Z. Al-Hamamre**, D. Trimis, Development of a Cool Flame Evaporator and TPOX Reformer for the use in a SOFC- System, 9th Conference on Energy for a Clean Environment, Lisbon, Portugal, July 2007.
12. **Z. Al-Hamamre**, S. Voß, A. Al-Zoubi, D. Trimis, Detailed Investigation of the Partial Oxidation of Methane in a Porous Reactor for Synthesis Gas Production: Experimental and Numerical Study, 23rd Deutscher Flammentag, Berlin, September 2007.
13. **Z. Al-Hamamre**, Thermodynamic and Kinetic Analysis of Syngas Production from Ethanol Thermal Partial Oxidation, 2009 AIChE Spring National Meeting, Tampa, FL. USA, April 2009
14. Fawaz K. Sweis, Ali Matar, Yousef Mubarak and **Zayed Al Hamamre**, Regulating the safety issue at the University of Jordan, 2nd International Chemical Engineering Conference, 12-13 October 2010, University of Jordan, Amman, Jordan
15. **Zayed Al-Hamamre**, Manar Naerat, Ahmed Al-Salaymeh, The cool flame behaviour of Jojoba oil-Biodiesel blends, GCREEDER 2016, Amman-Jordan, April 4th – 6th 2016
16. Jehad Yamin, **Zayed Al-Hamamre**, Testing of Local Jordanian Domestic Heaters using Biodiesel Fuel GCREEDER 2016, Amman-Jordan, April 4th – 6th 2016

Hobbies

Reading, Watching Football and Travelling