

# Ziad Abu El-Rub, PhD, JCE

## PERSONAL INFORMATION

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Assistant Professor  
Pharmaceutical & Chemical Engineering Department  
Schools of Applied Medical Sciences  
German Jordanian University  
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## CAREER SUMMARY

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- Accomplished Ph.D. Chemical Engineer
- Consultant Engineer in Bioenergy Engineering
- A dedicated researcher with strong teaching experience; conducting high-level scientific research focused on bioenergy, shale oil production, membrane separation, and wastewater treatment.
- Distinguished industrial experience in the oil and gas sector with leadership roles involving Business Development Manager, and Regional Manager for the Middle East and North Africa.
- Developing a strategic relationship with the industry through chairing the industrial relations committee at the German Jordanian University.
- Administrative-university experience involving the positions department head, and dean assistant.
- Sophisticated knowledge of multicultural and interdisciplinary teams.
- Fluent in Arabic and English.

## EDUCATION

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| 2007 | Ph.D. in Chemical Engineering<br>Thermal Engineering Laboratory, University of Twente, Enschede, the Netherlands<br>Dissertation: Biomass char as an in-situ catalyst for tar removal in gasification systems<br>Supervisor: Prof. Gerrit Brem |
| 2002 | Master of Technological Design<br>Process Development Department, University of Twente, Enschede, the Netherlands<br>Thesis: High-temperature catalytic tar removal from producer gas of biomass-fueled gasifiers                              |
| 2000 | M.Sc. courses in Chemical Engineering<br>Chemical Engineering, Chemical Engineering Department, University of Jordan, Amman, Jordan, GPA: 3.86 /4.00 (Rank: 1 <sup>st</sup> )  |
| 1998 | B.Sc. in Chemical Engineering<br>Chemical Engineering Department University of Jordan, Amman, Jordan<br>Thesis: Plant design for the production of biogas from Amman's municipal solid waste, GPA: 3.48 /4.00 (Rank: 3 <sup>rd</sup> )         |

## **EXPERIENCE**

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- 10/2020-Present **Department Head**, Pharmaceutical and Chemical Engineering Department, German Jordanian University, Amman, Jordan.
- 12/2016-10/2020 **Dean Assistant for Industrial Relations**, Schools of Applied Medical Sciences, German Jordanian University, Amman, Jordan.
- 10/2012-Present **Assistant Professor**, Pharmaceutical and Chemical Engineering Department, German Jordanian University, Amman, Jordan.
- Conducted scholarly research, teaching, advising, and administrative work.
  - Published numerous papers in referred periodicals, winning more than USD1 million in grants.
- 2/2011 - 6/2012 **Regional Manager for the Middle East and North Africa**, ASCOM Separation Company, Arnhem, the Netherlands.
- Oversaw the development of process design and technical sales of ASCOM's separation technologies in the MENA region that resulted in meeting target sales.
  - Designed and qualified advanced separation equipment of crude oil, water, gas, and sand.
- 2/2007 - 11/ 2010 **Business Development Manager**, Petrolink Holding Company, Kuwait
- Managed a project for establishing a US\$120mn large-scale polyethylene terephthalate (PET) plant in Kuwait that resulted in the successful submission of all technical studies.
  - Worked closely with investment companies and technology developers that resulted in market assessment, technical, and commercial viability of different energy and petrochemical projects.
- 8/1998 - 10/1999 **Quality Control Manager**, National Paints Factories, Amman, Jordan  
Managed the quality control labs of the finished products and raw materials.

## **LICENSES AND CERTIFICATION**

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- 2018 Consultant Engineer (JCE) in Bioenergy Engineering  
Jordan Higher Council for Professional Qualifications and Accreditation,  
Jordan Engineers Association, Amman, Jordan
- 2015 Professional Engineer (JPE) in Bioenergy Engineering  
Jordan Higher Council for Professional Qualifications and Accreditation,  
Jordan Engineers Association, Amman, Jordan

## **HONORS AND RECOGNITION**

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- 2019 Distinguished Industrial Professor Award of excellence for the academic year 2018/2019, German Jordanian University.
- 2018 Best presentation award at the 2018 3<sup>rd</sup> International Conference on New Energy and Applications (ICNEA 2018), 2-4 Nov. 2018, Singapore.

2017	Second Prize in Industrial Graduation projects competition 2017 – Chemical Engineering, organized by the Jordan Engineers Association and Amman Chamber of Industry, Jordan.
2017	Certificate of excellence for distinguished academic performance for the year 2016/2017, German Jordanian University.
2016	First Prize –Graduation projects competition 2016 – Chemical Engineering, organized by the Jordan Engineers Association and Amman Chamber of Industry, Jordan.
2016	Train the trainer award, training at Beuth Hochschule für Technik Berlin, Germany, 30 June – 1 Aug. 2016.
2016	USD 100,000 fund for Research project: Elimination of Tar produced from biomass gasification using Jordanian low-cost mineral catalysts, German Jordanian University.
2016	Certificate of excellence for distinguished academic performance for the year 2015/2016, German Jordanian University.
2015	USD 783,000 fund for Erasmus+ project: Vocational training Center for undergraduate university students and teachers in Jordan.
2013-2016	Industrial experience allowance award, German Jordanian University.
1998-2000	Teaching Research Assistant Scholarship, MSc Chemical Engineering, Chemical Engineering Department, University of Jordan (1998-2000).
1997	University of Jordan Summer Training scholarship, Larissa, Greece (1997).
1994-1998	Honor List, College of Engineering, University of Jordan (1994-1998).
1993-1998	BSc Royal Scholarship, Chemical Engineering Department, University of Jordan (1993-1998).

## **TEACHING EXPERIENCE**

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2012-present	<p><b>German Jordanian University</b>, Department of Pharmaceutical and Chemical Engineering, Instructor for the following courses and laboratories:</p> <ol style="list-style-type: none"> <li>1- General Chemistry</li> <li>2- General Chemistry Lab</li> <li>3- Introduction to Pharmaceutical and Chemical Engineering</li> <li>4- Principles of Chemical Engineering</li> <li>5- Fluid Mechanics for Chemical and Medical Engineers</li> <li>6- Chemical Reaction Engineering</li> <li>7- Chemical Engineering Economics</li> <li>8- Fluid, Heat and Reaction Engineering Lab</li> <li>9- Industrial Processes Management</li> </ol>
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- 10- Pharmaceutical Plant Design
- 11- Separation Processes Lab
- 12- Graduation Project I
- 13- Graduation Project II
- 14- Special topics: Shale Oil Production Processes
- 15- Special Topics: Introduction to Oil and Gas Production
- 16- Special Topics: Technical Writing

2002-2007	<b>The University of Twente</b> , Thermal Engineering Laboratory, Teaching Assistant <ul style="list-style-type: none"> <li>• Transport Phenomena</li> </ul>
7/2016	<b>Beuth Hochschule für Technik Berlin</b> , Berlin, Germany <ul style="list-style-type: none"> <li>• Chemical Reaction Engineering</li> </ul>

### UNIVERSITY SERVICE

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12/2018-Present	Head of General Safety Committee at the School of Applied Medical Sciences
10/2015-Present	GJU Coordinator of VTC Erasmus+ Project
5/2016-present	Head of GJU Industrial Relations Committee
12/2014-present	Liaison officer with GJU Training Center
2014-2015	Faculty of Applied Medical Sciences Council
2014-present	Graduation Projects Coordinator
2013-2014	German Jordanian University Council
2013-2014	Laboratory and Tenders Committee
2013-2014	Furnishing Laboratories Committee
2013-2014	Quality and accreditation committee
2013-2014	Study plan committee
2013-2014	Scientific research committee
2013-2014	Faculty recruitment committee

### PROFESSIONAL ACTIVITIES

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08/2019-10/2020	Vice President of the Preparatory Committee of the 9 <sup>th</sup> Jordan International Chemical Engineering (JICChE 09) Conference to be held Oct. 2021, Amman, Jordan
2-4/11/2018	Member of the technical program committee of the 2018 3 <sup>rd</sup> International Conference on New Energy and Applications (ICNEA 2018), 2-4 Nov. 2018 in Singapore
9-11 /10/2018	Member of the organizing committee of the Second International Oil Shale Conference held on 9-11 Oct. 2018 in Amman, Jordan
5/2018 – Present	Board member of the Chemical Engineering Division for the period 2018-2021, Jordan Engineers Association, Amman, Jordan
8/2016 – 2/2017	Head of JEA Branches Committee for Workshops, Jordan Engineers Association, Amman, Jordan
4/2016 – present	Advisory board member of Engineering Training Center, Jordan Engineers Association, Amman, Jordan
5/2015 – 5/2018	Board member of the Chemical Engineering Division for the period 2015-2018, Jordan Engineers Association, Amman, Jordan
2014-2015	Member of the Chemical Engineering Graduation Projects Evaluation Committee, Jordan Engineers Association, Jordan

3/2014 – present	Member of the Advisory Board for the Chemical Engineering Department at Jordan University for Science and Technology, Irbid, Jordan
09/2013-11/2014	Vice President of the Preparatory Committee of the seventh Jordan International Chemical Engineering (JICHe 07) Conference, Amman, Jordan
21/11 /2013	Chair of the workshop “Oil Shale in Jordan: Reality, Potential, and Limitations” Jordan Engineers Association, Amman, Jordan
1/2013 – 5/2015	Head of Chemical Engineering Scientific Committee at Jordan Engineering Association, Amman, Jordan
27/2/-1/3/2012	Steering committee member, 2 <sup>nd</sup> Annual 2012 Global Sand Management and Control Workshop, Dubai, UAE
24-28/10/2011	Steering committee member, 4 <sup>th</sup> Annual 2011 Global Produced Water Management Workshop, Istanbul, Turkey

## **MEMBERSHIPS**

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2006-present	Jordan Engineers Association
2009	Society of Petroleum Engineers

## **JOURNAL REVIEWER**

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2005-present	Industrial & Engineering Chemistry Research
2008-present	Energy & Fuels
2008-present	Fuel Processing Technology
2013-present	Biofuels

## **LANGUAGES**

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Arabic:	Mother language
English:	Fluent
Dutch:	Basic
German:	Basic

## **SKILLS**

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MS Office Applications:	Word, Excel, PowerPoint, Outlook, MS Visio, MS Project
Chemical Engineering Softwares:	ASPEN PLUS, COMSOL
Mathematical Softwares:	MATCAD, MATLAB

## **FUNDING**

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- 1) Project title: Elimination of Tar produced from biomass gasification using Jordanian low-cost mineral catalysts

Supporting Authority: German Jordanian University

Role: Principal Investigator

Grant: USD 100,000

Duration: 2016-2019 (completed)
- 2) Project title: Vocational training Center for undergraduate university students and teachers in Jordan

Supporting Authority: ERASMUS+

- Role: Coordinator for the German Jordanian University  
Grant: Total Grant: USD 783,000  
Duration: Oct. 2015- Oct. 2018 (completed)
- 3) Project title: Experimental & Economic Evaluation of a Designed Machine for Converting WCO into Biodiesel  
Supporting Authority: KADDB and KAFD  
Role: Supervisor on a BSc graduation project  
Grant: USD 7,000  
Duration: Feb 2015-Feb-2016 (Completed)
- 4) Project title: Investigation of the effect of heating rates on the BET surface area of Jordanian minerals  
Supporting Authority: German Jordanian University  
Role: Supervisor on a BSc graduation project  
Grant: USD 700  
Duration: Jan 2017- Dec 2019 (completed)
- 5) Project title: Olive Mills Wastewater Valorization and Treatment (Accepted preliminary application, submitted detailed application)  
Supporting Authority: Scientific Research Support Fund  
Role: Principal Investigator  
Grant: USD 140,000  
Duration: 30 months

## **RESEARCH**

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### **Research Interest**

- **Bioenergy:** development of sustainable energy and fuels from biomass and waste
- **Oil shale:** characterization and pyrolysis
- **Separation:** membrane separation, and physical separation of crude oil-water-gas-sand
- **Wastewater treatment**

### **Previous Research Experience**

- 2/2002-6/2012
- Research Assistant, Advanced Separation Company (ASCOM), Arnhem, the Netherlands
  - Designed and qualified advanced separation equipment of crude oil, water, gas, and sand
- 2/2002-1/2007
- Research Assistant, Thermal Engineering Laboratory, University of Twente, Enschede, the Netherlands
  - Designed a process for Catalytic tar removal in biomass gasification
- 2/2000-1/2002
- Research Assistant, Process Development Department, University of Twente, Enschede, the Netherlands
  - Played a key role in a framework of numerous short projects covering the main aspects of chemical engineering and process design

### **Research Advisees**

#### **Examiner – MSc Theses**

1. Hamzeh Al-Omari, Olive mill wastewater treatment using membrane technology, Chemical Engineering Department, Jordan University of Science and Technology, 2019.

2. Fadi Alrawash, Treatment of olive mill wastewater using membrane distillation, Chemical Engineering Department, Jordan University of Science and Technology, 2019.

#### **Supervisor - MSc Theses**

1. Mathijs Snippet, Characterization of biomass char as a catalyst for tar reduction in a fixed bed reactor, University of Twente, Thermal Engineering Laboratory, MSc Thesis, June 2004.
2. Jorke Jellema, Catalytic Tar Reduction from Biomass Gasification Gas using Wood Char as a Catalyst, University of Twente, Thermal Engineering Laboratory, MSc Thesis, July 2003.

#### **Supervisor - BSc Theses**

1. Yasmeeen Muhiar, "Operational Qualification of a Temperature Controlled Room", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Oct. 2020.
2. Abdullah Al-Khudari, "Fixed Bed Reactor Model for Catalytic Toluene Removal in Biomass Gasification Application, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Aug. 2020.
3. Yazan Swiess, "Determining the kinetic parameters for oil shale Pyrolysis using Thermogravimetric analysis", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Aug. 2019.
4. Noor Hamarneh and Karmen Kildany, "Design of a Tannery Wastewater Treatment Facility using Chemical Precipitation and Reverse Osmosis for the Modern Company for Tanning", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2019.
5. Manar Abdulhadi, "Characterization of Oil Shale Ash as a Catalyst for Tar Removal", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Feb. 2019.
6. Joud Odeh, "A Stability Investigation of Innovative Packaging Materials for the Microencapsulation of Phase Change Materials", Fraunhofer Institute for solar energy, Freiburg, Germany, Feb. 2019.
7. Adel Karadshih, "Kinetic investigation of ammonia synthesis catalysts", hte GmbH, Germany, BSc Thesis, June 2018
8. Hane Al Ajeilat, "Feasibility study for a PV-assisted evaporation tannery wastewater treatment facility for the Modern Company for Tannery", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2018
9. Danielle Hallak and David Khzouz, "Investigation of Jordanian Minerals as Potential Catalysts for Tar Elimination in Biomass Gasification Systems", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2018
10. German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2018
11. Dina Jweihan, "Investigation of the effect of heating rates on the BET surface area of Jordanian minerals, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Feb. 2018
12. Jamal Daboul, "Proposed Fragrances Manufacturing for Household Products at Alwazir Plant", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jun. 2017
13. Ghaidaa Al-Mutaireen, "Experimental Design of Microwave-Assisted Pyrolysis of Polystyrene", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jun. 2017.
14. Yahya Taftanazi, "Stability study of Phase Change Material between 100 °C and 200 °C", Fraunhofer Institute for solar energy, Freiburg, Germany, BSc Thesis, Feb. 2017.

15. Karam Masadeh and Mohammad Abu Obeid, "Technical and Economic Evaluation for a PV-Enhanced Evaporation Wastewater Treatment Facility at ARAL Plant", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jan. 2017.
16. Abdelrahman Budair and Anas Bader, "Investigation of Jordanian Minerals as Potential Catalysts for Tar Elimination in Biomass Gasification Systems", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jan. 2017.
17. Shaden Musa, "Preparation and Characterization of Lignin-Based Hydrophobic Macroporous Membranes", TH Koeln, Germany, Feb. 2016
18. Ghassan Zurikat and Hussein Hamandi, "Condensate Recovery System in Jordan Petroleum Refinery Company (JPRC)", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2016.
19. Dana Maani and Fatima Hussain, "Improving the chemical aspect of a designed machine for converting restaurant's waste oils into biodiesel" German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jan. 2016.
20. Zahra Aswad, "Treatment of Olive Mill Wastewater", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Jan. 2016
21. Mahmood Al-Sammarraie, "Finding a cost-effective approach to reduce the concentration of dissolved solids in wastewaters resulting from an Anodizing process", German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Sep. 2015.
22. Yasmeen Majeed, Development of novel insulating paints from local natural resources, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2015.
23. Majid AlNajjar, Investigating the experimental correlation between Fischer Assay yield of oil shale and Thermogravimetric Analysis (TGA), German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, June 2015.
24. Heba Sacca, Evaluation of Fabric Staining Prevention Approaches for Nivea Sun Care, Beiersdorf Company, Hamburg, Germany, BSc Thesis, Feb. 2015.
25. Ibrahim Tbaileh and Dirgam Amro, Technical and economic evaluation for an Olive Cake gasification plant to produce electricity, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Sep. 2014.
26. Reem Dawood and Ali Alnawateer, Technical and economic evaluation for an MSW biomass gasification plant for electricity production in Jordan, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Mar. 2014.
27. Nour Al-Jabery, Technical and Preliminary Economic Evaluation for Producing Shale Oil in Jordan, German Jordanian University, Department of Pharmaceutical Chemical Engineering, BSc Thesis, Aug. 2013.
28. Aya Bitar, Revalidation of a test prescribed for characterization and quantification of AMT (4-Aminomethyltrioxsalen-Hydrochloride), Roche diagnostics Company, Penzberg, Germany, BSc Thesis, Jan. 2013.

## **PUBLICATIONS**

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### **Researcher ID**

Google Scholar: <https://scholar.google.com/citations?user=UrJWKdgAAAAJ&hl=en>  
>1263 citations, and h-index: 7. (Oct. 15, 2020)

Research Gate: [www.researchgate.net/profile/Ziad\\_Abu\\_El-Rub](http://www.researchgate.net/profile/Ziad_Abu_El-Rub)  
RG Score: 16.4. (Oct. 15, 2020)

Scopus Author ID: 6506446262

ORCID: <http://orcid.org/0000-0003-4664-2132>

## Journal papers

1. **Ziad Abu El-Rub**, Joanna Kujawa, Samer Al-Gharabli. (2019). Pyrolysis Kinetic Parameters of Omari Oil Shale using Thermogravimetric Analysis. *Energies* 13 (16), 1-13, [Q2, 5-year IF: 3.0]
2. **Abu El-Rub, Z.** (2019). TGA and BET Characterization of Spent Oil Shale as a Catalyst in Biomass Tar Removal Applications. *International Journal of Smart Grid and Clean Energy* 2019, 8(6)680-687, <https://doi.org/10.12720/sgce.8.6.680-687>.
3. **Ziad Abu El-Rub**, Joanna Kujawa, Esra'a Albarahmiah, Nafisah Rifai, Fathieh Qaimari, Samer Al-Gharabli. (2019). High Throughput Screening and Characterization Methods of Jordanian Oil Shale as a Case Study. *Energies* 2019, 12(16), 3148, doi: <https://doi.org/10.3390/en12163148>, [Q2, 5-year IF: 3.0]
4. **Ziad Abu El-Rub**, Eddy Bramer, Samer Al-Gharabli, and Gerrit Brem. (2019). Impact of char properties and reaction parameters on naphthalene conversion in a macro-TGA fixed char bed reactor. *Catalysts* 2019, 9, 307, doi: <https://doi.org/10.3390/catal9040307> , [Q2, IF (2017): 3.465].
5. Samer Al-Gharabli, Eyad Hamad, Munib Saket, **Ziad Abu El-Rub**, Hassan Arafat, Wojciech Kujawski, and Joanna Kujawa. (201). Advanced material - ordered nano-tubular ceramic membrane covalently capped with single wall carbon nanotubes. *Materials* 2018, 11(5), 739, doi: <https://doi.org/10.3390/ma11050739>, [Q1, 5-Year IF: 3.236].
6. Samer Al-Gharabli, Wojciech Kujawski, **Ziad Abu El-Rub**, Eyad M. Hamad, Joanna Kujawa. (2018). Enhancing membrane performance in removal of hazardous VOCs from water by modified fluorinated PVDF porous material. *Journal of Membrane Science*, 556, 214-226, doi: <http://dx.doi.org/10.1016/j.memsci.2018.04.012> , [Q1, five years IF: 5.983].
7. **Abu El-Rub, Z.**, Brem, G., & Bramer, E. A. (2015). Single Char Particle Model for Naphthalene Reduction in a Biomass Gasification System. *Biomass and Bioenergy*, 72, 19-27. doi: <http://dx.doi.org/10.1016/j.biombioe.2014.11.021> , [Q1, five years IF: 4.186]
8. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2008). Experimental comparison of biomass chars with other catalysts for tar reduction. *Fuel*, 87(10–11), 2243-2252. doi: <http://dx.doi.org/10.1016/j.fuel.2008.01.004> , [Q1, five years IF: 4.726].
9. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2004). A Review of Catalysts for Tar Elimination in Biomass Gasification Processes. *Ind. Eng. Chem. Res.*, 43, 6911-6919. doi: <http://dx.doi.org/10.1021/ie0498403> , [Q1, IF (2016): 2.843].

## Conference papers

10. **Abu El-Rub, Z.** (2018). Characterization of a spent-oil shale as a catalyst for tar removal. In: 2018 3rd International Conference on New Energy and Applications (ICNEA 2018), Singapore
11. **Abu El-Rub, Z.**, Kähler, B., Al-Khatib, J. (2017). University-Industry Collaboration: A Case Study from the German Jordanian University. In: 3rd MENA Higher Education Leadership Forum, Dubai, UAE.
12. Taftanazi, Y., Neumann, H., Burger, D., Hagelstein, G., **Abu El-Rub, Z.**, Gschwander, S. (2017), Stability study of Phase Change Material between 100 °C and 200 °C. Paper presented at the 8th Jordan International Chemical Engineering Conference, Amman, Jordan.
13. **Abu El-Rub, Z.**, Brem, G., Bramer, E.A. (2016). Parameters affecting the removal of naphthalene over fixed biomass char bed. In: Venice 2016, Sixth International Symposium on Energy from Biomass and Waste, CISA, Venice, Italy. (ISBN 978-88-6265-009-0).
14. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2016). Naphthalene Removal Experiments over a Fixed Bed of Biomass Char. Paper presented at the 5th Global Conference on Renewables and Energy Efficiency for Desert Regions (GCREEDER 2016), Amman, Jordan. <http://conferences.ju.edu.jo/sites/gcreeder/gcreeder2016/Pages/Home.aspx>
15. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2015). Real Tar Removal over Fixed Bed of Biomass Char. Paper presented at the 23rd European Biomass Conference and Exhibition, Vienna, Austria.

16. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2014). Formulation of a Single Char Particle Model for naphthalene Removal in Biomass Gasification. Paper presented at the 7th Jordan International Chemical Engineering (JICHe 07) Conference, Amman, Jordan.
17. Al-Gharabli, S. I., **Abu El-Rub, Z.**, & Khanfar, M. F. (2014). High Throughput Screening of Oil Content in Jordanian Oil Shale Using ATR-FTIR and Refractive Index Techniques. Paper presented at the 7th Jordan International Chemical Engineering (JICHe 07) Conference, Amman, Jordan.
18. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2004, 30 Aug to 2 Sep). Modeling of Tar Reduction in Biomass Gasification Using Biomass Char as a Catalyst. Paper presented at the Science in Thermal and Chemical Biomass Conversion, Victoria, Vancouver Island, BC, Canada.
19. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2004, 10-14 May). Tar Reduction in Biomass Gasification Using Biomass Char as a Catalyst. Paper presented at the Proceeding of Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection, Rome.
20. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2003, 2 September - 5 September). Tar Removal in Fixed Bed with Application to Biomass Gasification. Paper presented at the International Nordic Bioenergy 2003 Conference, Proceeding of an Expert Meeting, Jyvaskyla, Finland.
21. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2002, 17-21 June). Removal of Naphthalene as the Model Tar Compound on Calcined Dolomites, Olivine and Commercial Nickel Catalyst in a Fixed Bed Tubular Reactor. Paper presented at the 21st European Conference for Energy, Industry and Climate Protection, Amsterdam, The Netherlands.
22. **Abu El-Rub, Z.**, Bramer, E. A., & Brem, G. (2002, 30 September - 1 October 2002). Tar Removal in an Entrained Flow Cracker (EFC) with Application to Biomass Gasification. Paper presented at the Pyrolysis and Gasification of Biomass and Waste, Strasbourg, France.

### Conference Abstracts

23. Al-Gharabli, S., Kujawa, J., Kujawski, W., Hamad, E., **Abu El-Rub, Z.** *CNT-PVDF - hybrid materials for membrane-based separation*. Abstract accepted at the 6<sup>th</sup> International Conference on Multifunctional, Hybrid, and Nanomaterials, 11-15 March 2019, Sitges, Spain.
24. Kujawa, J., Al-Gharabli, S., Kujawski, W., **Abu El-Rub, Z.**, Hamad, E. M. Fluorinated membranes, activated by Piranha reagent and grafted with fluoralkylsilanes and alkylsilanes for the removal of hazardous VOCs. Abstract published at Euromembrane 2018 Conference, 9-13 July 2018, Valencia, Spain.

### Conference Presentations

- **Abu El-Rub, Z.** (2018). *Characterization of Spent Oil Shale as a Catalyst for Tar Removal*. In: 2018 3rd International Conference on New Energy and Applications (ICNEA 2018), Singapore.
- **Abu El-Rub, Z.**, Kähler, B., Al-Khatib, J. (2017). *University-Industry Collaboration: A Case Study from the German Jordanian University*. In: 3rd MENA Higher Education Leadership Forum, Dubai, UAE.
- **Abu El-Rub, Z.** “Dissemination and Implementation Lecture for VTC Project”, 6<sup>th</sup> global conference on Renewables and Energy Efficiency for Desert Regions (GCREEDER-2018), 3-5 Apr 2018, Amman, Jordan.
- Taftanazi, Y., Neumann, H., Burger, D., Hagelstein, G., **Abu El-Rub, Z.**, Gschwander, S. (2017), *Stability study of Phase Change Material between 100 °C and 200 °C*. Paper presented at the 8<sup>th</sup> Jordan International Chemical Engineering Conference, Amman, Jordan.
- **Abu El-Rub, Z.** “Removing Model Tar Component over a Fixed Bed of Biomass Char”, International Conference of Young Scientists on Innovative Applied Renewable Energy Researches, 18-20 May 2014, German Jordanian University, Amman, Jordan

- **Abu El-Rub, Z.**, Bramer, E.A., Brem, G., "Formulation of a Single Char Particle Model for naphthalene Removal in Biomass Gasification" published in the 7th Jordan International Chemical Engineering (JICHE 07) Conference, Amman, Jordan, 4-6 Nov. 2014
- **Abu El-Rub, Z.**, "Oil Shale Retorting Technologies –Jordanian Perspective", Chemical Engineering Scientific Day, 8 May 2014, Al-Huson College – Al-Balqa University, Irbid, Jordan.
- Vilas S. Koleshwar, Khaled A. Al-Yousef, R. Schook, **Z. Abu El-Rub**, "De-bottlenecking of Produced Water Treatment in Mature Heavy Oil Fields" Oil and Gas Water Management: From Reservoir to Reuse/Disposal, 20 – 21 March 2012, Intercontinental Hotel, Al-Khobar, Saudi Arabia
- **Abu El-Rub, Z.**, "Inline Desander Qualification", 2nd Annual 2012 Global Sand Management and Control Workshop, 27 Feb-01 Mar 2012, Dubai, UAE.
- Vilas S. Koleshwar, Khaled A. Al-Yousef, R. Schook, **Z. Abu El-Rub**, "De-bottlenecking of Produced Water Treatment in Mature Heavy Oil Fields", 4th Annual 2011 Global Produced Water Management, 24-28 Oct. 2011, Istanbul, Turkey.
- **Abu El-Rub, Z.**, Bramer, E.A., Brem, G., Tar removal using biomass char as a catalyst, Biomass AIO day, held at Wageningen UR, Thursday 29th September 2005.
- **Abu El-Rub, Z.**, Bramer, E.A., Brem, G., Tar reduction using char as a catalyst, Biomass Conversion Symposium, TU Eindhoven/TDO, 11 March 2005.
- **Abu El-Rub, Z.**, Bramer, E.A., Brem, G., High-Temperature Catalytic Tar Removal from Producer Gas of Biomass Fueled Gasifiers, Netherlands Process Technology Symposium (NPS4), 26-27 Oct. 2004, Veldhoven, The Netherlands.
- **Abu El-Rub, Z.**, Bramer, E.A., Brem, G., High-Temperature Catalytic Tar Removal from Producer Gas of Biomass Fueled Gasifiers, Netherlands Process Technology Symposium (NPS3), 28-29 Oct. 2003, Veldhoven, The Netherlands.