

Name: Ibrahem Altarawneh, Ph.D.
 Date of Birth: DECEMBER -20-1975
 Nationality: JORDANIAN
 Mail Address: Department of Pharmaceutical and Chemical Engineering, School of Applied Medical Sciences, German Jordanian University, Amman Madaba Street, P.O. 35247, Amman 11180 Jordan
 Tel: -----
 Mobile: +962/796183938
 Email: Ibrahem.Altarawneh@gnu.edu.jo, ibrahemst@Gmail.com
 Scopus Author ID: 23007359100
 Researcher ID: M-5417-2017
 ORCID ID <https://orcid.org/0000-0003-4744-5384>



Education

- **Doctor of Philosophy, 2005-2008**
 School of Chemical and Biomolecular Engineering, University of Sydney, Sydney, Australia.
Thesis Title: Control of key polymer properties via reversible addition-fragmentation chain transfer in emulsion polymerization
- **Master of Engineering Studies (Hons), 2004-2005**
 School of Chemical and Biomolecular Engineering, University of Sydney, Sydney, Australia.
- **Bachelor Degree in Chemical Engineering (Hons), 1994-1999**
 Chemical Engineering Department, Mu'tah University, Karak, Jordan,
- **High school Baccalaureate, 1992-1994**
 Alhussinya High School, Karak, Jordan

Research Interests

	Research achievements		
	Published	Submitted	In Progress
Control of polymerization reactions and reactors	5		
Polymeric materials and carbon nano-tubes	5	1	
Chemical processes modeling and simulations	4		1
Renewable Energy, environment and water treatment	2	2	2
Computational thermodynamics	5		2

Experiences

October 2016 –Present	Associate professor- Department of Pharmaceutical-Chemical Engineering, School of Applied Medical Sciences at German Jordanian university (sabbatical leave)
July 2015 – September 2015	Visiting Academic, Department of Pharmaceutical-Chemical Engineering, School of Applied Medical Sciences at German Jordanian university
November 2014 –October 2016	Director of the renewable energy research center (RERC) / Al-Hussein Bin Talal University
September 2014 –October 2016	Associate professor-Chemical Engineering Department/ Al-Hussein Bin Talal University
Jun 2014 – August 2014	Visiting Academic, Faculty of Engineering at Al-Balqa' Applied University
September 2012 - September 2014	Assistance professor-Chemical Engineering Department/ Al-Hussein Bin Talal University
Jun 2013 – September 2013	Visiting Academic, Faculty of Engineering at Al-Balqa' Applied University
September 2011 - September 2012	Assistance professor- Department of Metallurgical Engineering at AlBalqa' Applied University
February 2010 - September 2011	Assistance professor-Chemical Engineering Department/ Al-Hussein Bin Talal University
August 2008 - February 2010	Research Fellow in Polymer Engineering Laboratories/ School of Chemical and Biomolecular Engineering/ The University of Sydney, Sydney, Australia
July 2005 - July 2008	PhD candidate at Polymer Engineering Laboratories/ School of Chemical and Biomolecular Engineering / The University of Sydney, Sydney, Australia
July 2004 - Jun 2005	Master program at School of Chemical and Biomolecular Engineering / The University of Sydney, Sydney, Australia

Jun 2003 - Jun 2004.	Laboratory Supervisor, Department of Chemical Engineering / Mu'tah University.
March 2003 – Jun 2003	Quality Control Engineer / Jordan Institution for Standards and Metrology
March 1999 – March 2003	Private business, co-owner and manager for a chain of minimarkets

Teaching and research experience

German Jordanian University (GJU), Jordan.

- **Courses delivered**

Chemical Reaction Engineering, Transport Phenomena, Separation Processes II, Applied statistics and probability for engineers, Fluid mechanics, and General chemistry lab

- **Research activities:**

- Experimental investigation on the effect of geometrical and operational parameters on the performance of parabolic trough solar collector
- Integrated solar desalination system for enhanced performance.
- Extraction of valuable compounds from organic waste
- Producing bio-gas from organic waste
- Formation and remediation of pollutants in recycling, incineration and fires of brominated flame retardants
- Computational thermodynamics. (Ongoing research)

Al-Hussein Bin Talal University, (AHU)

- **Courses delivered:**

Mass transfer, Heat transfer, Water desalination, Fluid mechanics, Separation processes, Process control, Principles of chemical engineering, Polymer technology, Engineering drawing and AUTOCAD, Chemical reaction engineering I and II, Unit operations lab, fluid mechanics lab, thermodynamic lab, control lab and reaction lab.

- **Research activities:**

- Modeling and validation of hourly global solar radiation on tilted surfaces in Ma'an City
- Theoretical and experimental investigation of the effect of design and operational parameters on the performance of solar still
- Computational thermodynamics.

Al-Balqa' Applied University (BAU), Jordan

- **Courses delivered**

Engineering Mechanics: Statics, Engineering Mechanics: Dynamics, Corrosion and Metal Protection, Corrosion and Metal Protection lab, Polymeric Materials, Polymeric Materials lab, Engineering Drawing and AutoCAD

Sydney University, Australia

- **Research Fellow in Polymer Engineering Laboratories / School of Chemical and Biomolecular Engineering / The University of Sydney, Sydney, Australia.**

- **Participating in the following research activities:**

- Conventional and Controlled Emulsion Polymerization
- Emulsion Polymerization of Multi Monomers (Co and Ter polymerizations)
- Conventional and Controlled Miniemulsion Polymerization
- Control and Optimization of Emulsion Polymerization reactions
- Block copolymer synthesis in nano-particles (Di and Tri block copolymers)
- Synthesis of nano-composite particles
- Monitoring polymerization reactions via reaction calorimetry
- Composite Polymeric Material (Polymer-Carbon nanotubes & Polymer-Silica Composites)

- **Operating and running instrumental analysis for polymer and block copolymer characterizations using:**

- Particle Size Distribution Analyzer (PSDA)
- Nuclear Magnetic Resonance (NMR)
- Fourier transform infrared spectroscopy (FT-IR)
- Differential Scanning Calorimeter (DSC)
- Size Exclusion Chromatography (SEC) with multiple detectors:

- **Tutoring and teaching assistant**

- Polymer Engineering
- Material and Energy Transformation
- Process Control

Mu'tah University

- **Laboratory Supervisor, Department of Chemical Engineering / Mu'tah University.**

- **Responsible for all activities in the laboratories including:**

- Instruments installation, operation and maintenance

- **Teaching the following laboratories:**

- Process Control Lab, Reaction Engineering Lab, Fluid Mechanics Lab, Thermodynamic Lab

Additional Experience:

- Director of the Renewable Energy Research Center (RERC)
- Reviewer for International Journals in Chemical Engineering
- Evaluation of graduation projects for the national graduation projects prize
- Grant Assessor for the Deanship of Scientific Research / Al-Hussein Bin Talal University
- Grant Assessor for the Jordan Scientific Research Support Fund / Ministry of Higher Education
- Guest Editor for the Journal of Chemical Product and Process Modelling
- External examiner to PhD and Master theses

Awards

- Scholarship towards B.Sc in Chemical Engineering, September 1994, Jordanian Ministry of Higher Education & Scientific Research based on the General Secondary Examination / Scientific Stream.
- Scholarship towards M.Sc & PhD in Chemical Engineering, Jun 2004, Al Hussein bin Tala University

Computer and experimental skills

- *gPROMS* (general PROcess Modeling System) for emulsion polymerization modeling, simulation and optimization
- Matlab and Simulink in Process Modeling and Control
- AutoCad and CAD software
- ChemSep, and PolyMath
- Dynamic Integrated Model for Climate and Economy (DICE 99)
- Regional Integrated Model for Climate and Economy (RICE 99)
- Other computer skill (word, excel, power point)
- Particle Size Distribution Analyzer (PSDA)
- Nuclear Magnetic Resonance (NMR)
- Fourier transform infrared spectroscopy (FT-IR)
- Differential Scanning Calorimeter (DSC)
- Size Exclusion Chromatography (SEC) with multiple detectors

Additional and continuing education

- Two months training course in Al-Hassa Mine (Jordan Phosphate Company).
- Four months training work as quality control engineer with JISM (Jordan Institution for Standards and Metrology)

Training Courses

- Technical reading & writing
- Critical review
- Laboratory Demonstration
- Project Management
- Environmental Impact Assessment (EIA)

Career Objective

- To have a significant role in the process of education development
- To keep up with the latest developments in chemical engineering
- To work in a motivating environment where I can implement and enhance my knowledge and skills to serve my firm and my students

Languages

- Arabic Mother tongue
- English Fluent

Memberships and other positions

- 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.
- Head of committee for supervising the construction of 3MW PV power plant, at AHU
- Head of research group in Renewable Energy Research Center (RERC)
- Head of committee for following up the progress of the 50MW and 3MW power plants
- Head of committee for evaluating the university's 50MW and 3MW solar power plants tender
- Head of committee for establishing renewable energy master degree program in the University
- Member of the Organizing committee of the graduation projects competition (organized by Jordan engineering association)
- Member of Organizing Committee of the 7th Jordan International Chemical Engineering Conference (JICHE07)
- 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)
- Member of Faculty Council / Faculty Engineering / Al-Hussein Bin Talal University

- Member of Investigation Committee / Faculty Engineering / Al-Hussein Bin Talal University
- Member of Laboratories Assessment Committee / Faculty of Engineering / Al-Hussein Bin Talal University
- Member of Committee for Reviewing and Modifying the Chemical Engineering Studying Plan / Faculty of Engineering / Al-Hussein Bin Talal University
- Member of Committee for Addressing Students Suggestions and Complaints / Faculty of Engineering / Al-Hussein Bin Tala University
- Member in Process System Engineering (PSE), Sydney University-Australia
- Member in Ocean Technology Group, Sydney University-Australia
- Member in Jordan Engineering Association, since August 1999

Publications

PhD Thesis:

CONTROL OF KEY POLYMER PROPERTIES VIA REVERSIBLE ADDITION-FRAGMENTATION CHAIN TRANSFER IN EMULSION POLYMERIZATION, School of Chemical and Bio-Molecular Engineering, The University of Sydney, May, 2009

(<http://ses.library.usyd.edu.au/bitstream/2123/4984/1/IS-Altarawneh-2009-thesis.pdf>)

Record contributed by: Australasian Digital Theses Program, The University of Sydney

Master Treatise:

POPULATION DYNAMIC AND CLIMATE CHANGE, School of Civil Engineering, the University of Sydney, 2005

International Journal Articles:

1. **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), 423, 124-134
2. **Ibrahim S. Altarawneh**, Saleh I. Rawadieh, Muafag S. Tarawneh, Sultan M. Alrowwad and Firas Rimawi. "Optimal tilt angle trajectory for maximizing solar energy potential in Ma'an area in Jordan". Journal of Renewable and Sustainable Energy (2016) 8 (3), 033701
3. S Rawadieh, VG Gomes, **I Altarawneh**. "Optimizing packing heterogeneity for sorption enhanced metathesis reaction". Adsorption (2014) 20 (5-6), 701-711
4. **I Altarawneh**, S Rawadieh, VG Gomes. "The influence of intermediate radical termination and fragmentation on controlled polymer synthesis via RAFT polymerization". Designed Monomers and Polymers (2014) 17 (5), 430-437
5. 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), 112 (2), 321-333
6. Khalid A. Ibrahim, Khaeel A. Abu-sbeih, **Ibrahim Altarawneh**, Laurance Bourghli. “Preparation and Characterization of Alkyd Resins of JordanValley Tomato Oil”. Journal of Polymers and the Environment(2014), 22, 553-558
 7. **Ibrahim Altarawneh**, Mohammednoor Altarawneh, Saleh Rawadieh, Theoretical Study on Thermochemical Parameters and IR spectra of Chlorinate Isomers of Nitrobenzene. Canadian Journal of Chemistry (2013), 91, pp: 999-1008
 8. S Rawadieh, **I Altarawneh**, HB Alateyat, M Altarawneh, **Theoretical Study on the Unimolecular Decomposition of Proline**. Computational and Theoretical Chemistry, (2013), 1018, pp: 45-49
 9. **Ibrahim Altarawneh**, Khaled Altarawneh, Ala’a H. Almuhtaseb, Saleh Alrawadieh, Mohammednoor Altarawneh. **Theoretical study on thermochemical and structural parameters of chlorinated isomers of aniline**. Computational and Theoretical Chemistry. (2012), 985, pp: 30-35
 10. **Ibrahim S. Altarawneh**, Vincent G. Gomes and Mourtada H. Srou. **Block Copolymers From Living Emulsion Polymerization: Reactor Operating Strategies and Blocking Efficiency**. Macromol. React. Eng. (2012), 6, pp: 8-16
 11. Marwan Batiha, Mohammednoor Altarawneh, Abdullah Alsofi, Mohammad Al-Harashseh, **Ibrahim Altarawneh**, Saleh Alrawadieh. **Theoretical study on the reaction of hydrogen atoms with aniline**. Theor Chem Acc (2011), 129, pp: 823-832
 12. Marwan Batiha, Mohammednoor Altarawneh, Mohammed Al-Harashseh, **Ibrahim Altarawneh**, Saleh Alrawadieh. Theoretical derivation for reaction rate constants of H abstraction from thiophenol by the H/O radical pool. Computational and Theoretical Chemistry (2011), 970, pp: 1-5
 13. Miftah U. Khan, Vincent G. Gomes, **Ibrahim S. Altarawneh**. **Synthesizing polystyrene/carbon nanotube composites by emulsion polymerization with non-covalent and covalent functionalization**. Carbon (2010), 48 (10): p. 2925-2933
 14. **Altarawneh, I. S.**; Gomes, V. G.; Srou, M. H., Online Polymer Molecular Weight and Conversion Monitoring via Calorimetric Measurements in RAFT Emulsion Polymerization. *Polymer International* (2009), 58 (12): p. 1427 – 1434
 15. **Altarawneh, I. S.**; Gomes, V. G.; Srou, M. H. Polymer Chain Extension in Semi-Batch Emulsion Polymerization with RAFT Based Transfer Agent: The Influence of Reaction Conditions on Polymerization Rate and Product Properties. *Applied polymer Science* (2009), 114 (4): p. 2356-2376.
 16. **I. Altarawneh**, V.G. Gomes, M.Srou. Advanced Modelling for Investigating the Effects of Rector Operation on Controlled Living Emulsion Polymerization. *Chemical Product and Process Modeling* (2009), 4, (3), ISSN (Online) 1934-2659
 17. Srou, M. H.; Gomes, V. G.; **Altarawneh, I. S.**; Bhushan, B.; Romagnoli, J. A, Online model-based control of an emulsion terpolymerisation process, *Chemical Engineering Science* (2009), 64 (9), 2076
 18. Srou, M. H., Gomes, V. G. & **Altarawneh, I. S.** Optimal operating strategies for emulsion terpolymerisation. *Chemical Engineering Science* (2008), 63, 4257.
 19. **Altarawneh, I. S.**; Gomes, V. G.; Srou, M. H. The Influence of Xanthate Based Transfer Agents on Styrene Emulsion Polymerization: Mathematical Modelling and Model Validation. *Macromolecular Reaction Engineering* (2008), 2 (1): p. 58-79.

20. Srour, M. H.; Gomes, V. G.; **Altarawneh, I. S.**; Romagnoli, J. A. Inferential Conversion and Composition Monitoring via Microcalorimetric Measurements in Emulsion Terpolymerization. *Polymer-Plastics Technology and Engineering* (2008), **47**(1): p. 13 - 22.
21. **Altarawneh, I. S.**; Srour, M. H. and Gomes, V. G. RAFT with Bulk and Solution Polymerization: An Approach to Mathematical Modelling and Validation. *Polymer-Plastics Technology and Engineering* (2007), **46**(11): p. 1103-1115

Conferences:

1. **Ibrahim Altarawneh**; Vincent Gomes. **Multi-Block copolymers and living polymerization.** *11th Pacific Polymer Conference (PPC11)*, December 2009, Cairns, Australia
2. **Ibrahim Altarawneh**; Vincent Gomes and Jason Jung. **Block copolymers and living emulsion polymerization.** *Australasian Chemical Engineering Conference (CHEMECA)*, September 2009, Perth, Australia.
3. M. H. Srour, V. G. Gomes, **I.S. Altarawneh.** **Online control of terpolymer properties in styrene/ methyl methacrylate/methyl acrylate terpolymerisation reactor.** *The 16th International Conference of the Lebanese Association for the Advancement of Science.* September 2009, Beirut, Lebanon
4. Jason Jung; **Ibrahim Altarawneh**; and Vincent Gomes. **Block copolymers with living Miniemulsion polymerization.** *Australasian Chemical Engineering Conference (CHEMECA)*, September 2009, Perth, Australia
5. **Altarawneh, I. S.**; Gomes, V. G.; Srour, M. H. **Di-Block Copolymer synthesis via RAFT-Based Transfer Process in Emulsion Polymerization.** *8th World Congress of Chemical Engineering (WCCE8)*, August 2009, Montreal, Canada
6. Gomes, V.G.; Jung, J.; **Altarawneh, I.** **Prediction of Product Attributes for Co-stabilized Miniemulsion Polymerisation.** *8th World Congress of Chemical Engineering (WCCE8)*, August 2009, Montreal, Canada
7. V Gomes, **I Altarawneh**, M Srour. **Real-time Optimal Control of Emulsion Terpolymerisation Process.** *30th Australasian Polymer Symposium (30 APS)*, 30 November - 4 December, 2008, Melbourne, Australia
8. **Altarawneh, I. S.**, Jung, J., Srour, M. H and Gomes, V.G., **Controlled Living Emulsion Polymerization.** *Australasian Chemical Engineering Conference (CHEMECA)*, 28-September – 1 October, 2008, Newcastle, Australia. **Published on line under Particle Technology and Mineral Processing in Australian Engineering Collection database.** <<http://search.informit.com.au/documentSummary;dn=779839466626814;res=IELENG>> ISBN: 858258234.
9. **Altarawneh, I. S.**; Srour, M. H.; Gomes, V. G. **Manipulating Polymer Mass via Reversible Addition-Fragmentation Chain Transfer in Emulsion Polymerization Process.** *The Second Jordanian International Conference of Materials Science and Engineering*, 4-6 September, 2007, Al-Salt, Jordan.

10. **Altarawneh, I. S.**; Srour, M. H; Gomes, V. G. **Kinetic considerations in RAFT-mediated homogenous polymerization. 17th International Congress of Chemical and Process Engineering**, 27-31 August, 2006, Prague-Czech Republic
11. Ian S.F. Jones and **Ibrahim Altarawneh**. **Global cost and regional benefit of open ocean aquaculture with ocean nourishment**. *North American Association of Fisheries Economists*. Canada, May 2005

Work in progress:

- Conditions for secondary nucleation in emulsion polymerization (secondary formation of nano-particles)
- Modeling and validating hourly global solar radiation on tilted surfaces in Ma'an City (published)
- Theoretical and experimental investigation of the effect of design and operational parameters on the performance of solar still
- Experimental investigation of the effect of geometrical and operational parameters on the performance of parabolic trough solar collector
- Integrated solar desalination system for enhanced performance
- Production of bio-gas and extraction of valuable materials from organic waste
- Formation and remediation of pollutants in recycling, incineration and fires of brominated flame retardants

References

- 1- Prof. Dr. Taha Al-Khamis, President, Al-Hussein Bin Talal University, Ma'an, Jordan. E-mail: ahu@go.com.jo ; alkhamis@mutah.edu.jo
- 2- Prof. Dr. Mohammad Al-Nawafleh, Vice President, Al-Hussein Bin Talal University, Ma'an, Jordan. E-mail: m_nawafleh@hotmail.com
- 3- Dr. Vincent G Gomes, Ph.D. professor of chemical eng. School of Chemical and Biomolecular Engineering, University of Sydney, *Tel: +612-9351-4868*.
- 4- Prof. Dr. Marwan Batiha, Ph.D. professor of chemical eng, Al-Hussein Bin Talal University, mmbatiha@ahu.edu.jo
- 5- Dr. Mowafaq Altarawneh, Ph.D. professor of mechanical eng. Department of Mechanical Engineering, Mu'tah University