

Rund A. Abu-Zurayk

Personal details

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Education

PhD “The Effect of Processing On Structure and Properties of Polypropylene/Clay Nanocomposites”, Queen’s University Belfast – 2009.

M.Sc. Chemical Engineering - University of Jordan- 2004 – 4.0/4.0

B.Sc. Chemical Engineering- University of Jordan- 2001- 3.72/4.0

Job Positions

Vice Director 05/2014-present, Hamdi Mango Center for Scientific Research, The University of Jordan

Assistant Researcher 03/2013-present, Hamdi Mango Center for Scientific Research, The University of Jordan

Researcher 09/2011-02/2013, Hamdi Mango Centre for Scientific Research, The University of Jordan

Research Fellow 02/2009-5/2011, School of Mechanical and Aerospace Engineering - Queen’s University Belfast

Standardization Engineer 08/2002-08/2005- Jordan Institution For Standards and Metrology- Standardization Department – Jordan

Processing/Characterization Experience

- Processing of polymers via twin-screw extrusion, blown film extrusion and compression molding using platen press.
- Organic modification of clay.
- Water treatment via adsorption.
- Water treatment via polymeric membranes
- Structural characterization using the following techniques
 1. Scanning Electron Microscopy (SEM)
 2. Transmission Electron Microscopy (TEM)
 3. X-Ray Diffraction (XRD)
- Mechanical Characterization using tensile test and impact test
- Barrier properties analysis
- Thermal properties analysis
 1. Optical Microscope/ Hot-stage Optical Microscope
 2. Differential Scanning Calorimetry (DSC)
 3. Thermal Gravimetric Analysis (TGA)

Publications/conferences

- Harkin-Jones E, Figiel L, Spencer P, **Abu-Zurayk R**, Al-Shabib W, Chan V, Rajeev R, Soon K, Buckley P, Sweeney J, Menary G, Armstrong ., Assender H, Coates P, Dunne F, McNally T, Martin P “Performance enhancement of polymer nanocomposites via multiscale modelling of processing and properties”, *Plastics, Rubber & Composites; Macromolecular Engineering*, 37, 113-123, **2008**
- **Abu-Zurayk R**, Harkin-Jones E, McNally T, Menary G, Martin P, Armstrong C, “Investigating The Effect Of Processing Route On Polypropylene/Clay Nanocomposite Performance”, *Polymer Processing Society 24th Annual Meeting ~ PPS-24 ~ June 15-19, 2008* Salerno (Italy)
- Xu B, Leisen J, Beckham HW, **Abu-Zurayk R**, Harkin-Jones E, McNally T, “Evolution of Clay Morphology in Polypropylene/Montmorillonite Nanocomposites upon Equibiaxial Stretching: A Solid-State NMR and TEM Approach” *Macromolecules*, 42, 8959–8968, **2009**.
- **Abu-Zurayk R**, Harkin-Jones E, McNally T, Menary G, Martin P, Armstrong C. “Biaxial deformation behavior and mechanical properties of a polypropylene/clay nanocomposite”- *Composites Science and Technology* 69, 1644–1652, **2009**
- Harkin-Jones E, **Abu-Zurayk R**, Armstrong C, Martin P, Menary G, McNally T “ Biaxial Deformation of Polypropylene- Clay Nanocomposites”, *Congress Centrum Mainz, Germany 7-9 June 2009* – Poster.
- **Abu-Zurayk R**, Harkin-Jones E, McNally T, Menary G, Martin P, Armstrong C “The Effect Of Processing On Structure And Properties Of Polypropylene/Clay Nanocomposites”. *Eurofillers 2009 International Conference*, 21-25 June, **2009**-Poster.
- Patel R, Benkreira, Khan A, Coates P, Shen Y, Xie S, **Abu-Zurayk R**, Harkin-Jones E, McNally T, Hornsby P. “Polypropylene –MMT Clay Nanocomposites Formulation: from small bench top mini-mixer to scaled-up twin screw extruder” *Polymer Process Engineering* 09, **2009**, Bradford, UK
- **Abu-Zurayk R**, Harkin-Jones E, McNally T, Menary G, Martin P, Armstrong C, McAfee M “Structure-Property Relationships In Biaxially Deformed Polypropylene Nanocomposites”- *Composites Science And Technology* 70, 1353-1359, **2010**
- Shen Y, Harkin-Jones E, Xie S, **Abu-Zurayk R**, McNally T, Hornsby P, Patel R, Benkreira H, Khan A, Coates P , “Tailored Structuring and Biaxial Deformation Behaviour of Polyethylene Terephthalate – Clay Nanocomposites”, *PPS-26, Banff, Canada, 4-8 July 2010*.
- **Abu-Zurayk R**, Harkin-Jones E, Hornsby P, McNally T. “An Investigation of Process-Material Interactions in the Manufacture of HDPE/Clay Nanocomposite”. *Hybrid Materials 2011, Strasbourg, France, 6-10 March 2011*
- Shen Y, Harkin-Jones E, Hornsby P, McNally T, **Abu-Zurayk R**. “The effect of temperature and strain rate on the deformation behaviour, structure development and properties of biaxially stretched PET–clay nanocomposites” *Composites Science and Technology* 71, 758-764, **2011**.

- **Abu-Zurayk R**, Harkin-Jones E, "The influence of processing route on the structuring and properties of HDPE/clay nanocomposites". *Polymer Engineering and Science* 52, 2360–2368, **2012**.
- Al Bakain R, **Abu-Zurayk R**, Hamadneh I, Khalili F, Al-Dujaili A, “ A study on removal characteristics of o-, m-, and p-nitrophenol from aqueous solutions by organically modified diatomaceous earth”, *Desalination And Water Treatment* 56(3):826-838, **2015**.
- **Abu-Zurayk R**, Al Bakain R , Hamadneh I, Al-Dujaili A, “Adsorption of Pb(II), Cr(III) and Cr(VI) from aqueous solution by surfactant-modified diatomaceous earth: Equilibrium, kinetic and thermodynamic modeling studies”, *International Journal of Mineral Processing*, 140:79-87, **2015**.
- Hamadneh I, **Abu-Zurayk R**, Abu-Irmaileh B, Bozeya A, Al-Dujaili A, “ Adsorptive performance comparison of surfactant and fatty hydroxamic acid-modified bentonite for Pb (II) removal from aqueous solutions”, *Clay Minerals*, 50: 485–496, **2015**.
- **Abu-Zurayk R**, “Interfacial interactions between polyethylene matrix and clay layers in polyethylene/clay nanocomposites”, *IOP Conf. Series: Materials Science and Engineering* 92, **2015**.
- Hanandeh A., **Abu-Zurayk R.**, Hamadneh I., Al-Dujaili A., “Characterization of biochar prepared from slow pyrolysis of Jordanian olive oil processing solid waste and adsorption efficiency of Hg²⁺ ions in aqueous solutions”, *Water Science & Technology*, 74(8): 1899-1910, **2016**.