

## Hussam Alkhasawneh

hussam.alkhasawneh@wmich.edu

hussamkhasawneh@yahoo.com

---

### Education

PhD Candidate in Paper Science, Chemical Engineering. Expected graduation June 2007  
Department of Paper Engineering, Chemical Engineering & Imaging  
*Area of Research: Dewatering and Drying Behavior and of Fractionated Fibers*  
Western Michigan University. Kalamazoo, MI, USA

Master of Science in Materials Engineering. August 2003.  
*Thesis Topic: Texture and Residual Stresses on Nanocomposites.*  
Western Michigan University. Kalamazoo, MI, USA

Bachelor of Science in Chemical Engineering, February 1998  
*Senior Project: Production of Formaldehyde from Ethanol using Silver Catalytic Method.*  
Jordan University of Science and Technology. Irbid, Jordan

### Employment and Research Experiences

#### Western Michigan University. Kalamazoo, MI.

- Department of Paper Engineering and Chemical Engineering and Imaging

Doctoral Associate (2005-Current)

- Researching dewatering and drying behavior of single and multi-layered fractionated fiber. The research target to study the differences in the drying behavior and drying energy consumption of fractionated fibers and the effect of fractionation on recycled fiber. The mechanical and physical properties of the different fractions will be reported and the drying energy consumption will be studied. A new dewatering method in under investigation, in which the bulk will be preserved.

Teaching Assistant (2004-2005)

- Control Operations Lab, Chemical Engineering curriculum  
The lab objective is to familiarize the students of the ways chemical processes are controlled, using and calibrating different kind of sensors and the factors affect the operational performance of the controllers.
- Coating Formulations Lab, Paper Engineering curriculum  
Teaching ways to formulate and make an applicable coating formula for certain substrate. Factors affecting the production process or applying process are also studied.
  - National Council for Air and Stream Improvement, Inc – Northern Regional Center  
Western Michigan University, Kalamazoo, MI. USA
- Graduate Research Assistant – Methane Generation Project (2003 – 2004)
- Collected the necessary data involved in the methane generation project from paper mill's sludge. Maintaining the spreadsheets and statistical analysis of the data.
- Performed periodical gas collection, measured gas volume and gas chromatographic analysis of gas concentration

○ Department of Materials Science and Engineering  
Graduate Teaching Assistant – Materials Properties and Metallurgy Laboratories (2001-2003)

- Instructed Metallography, Materials Testing and Failure Analysis lab. This lab considers the introduction to undergraduate student to the world of metallurgy and materials science. The lab concentrate on teaching the student the basics of preparation metallographic samples of different materials, ways of etching, heat treatment and testing of different metals and alloys. Also few ways of testing polymers and plastics are introduced to the students.

#### **Yamoon Paints and Dyes Establishment. Jordan**

- Research and Development Engineer, Irbid, Jordan (1999-2000)
- Quality Assurance to Maintain Conforming Products

#### **Publications, Presentations & Conferences**

- Alkhasawneh, H. Cameron, J. AbuBakr, S. TAPPI Engineering, Pulping, Environmental Conference. *Drying Characteristics of Fractionated Fiber Using Thermo-gravimetric Analysis and Paper Drying Simulator*. Atlanta. GA 2006.
- Alkhasawneh H., AbuBakr S., Cameron J. *The Effect of Fractionation on the Drying Behavior of Recycled Fiber and Their Retention Values*. Progress in Paper Recycling-submitted for publication.
- Alkhasawneh, H. Cameron, J. TAPPI Engineering, Pulping, Environmental Conference. *Effect of Fiber Fractionation on Sheet Properties and Drying Behavior*. Philadelphia PA 2005
- Alkhasawneh et al. *The Effect of Texture and Residual Stresses on Wear Resistance of Nano-Composites*. STLE Annual Meeting April 2003 New York City.

#### **Laboratory Skills**

Proficient and skilled in using the following instruments

- Thermo Gravimetric Analyzer (TGA)
- Differential Scanning Calorimetry (DSC)
- Fiber Quality Analyzer (FQA)
- Gas Chromatography (GC)
- Atomic Absorption Spectrometer
- Fourier Transform InfraRed (FTIR)
- Rigaku high intensity rotary anode for Crystallographic Texture Measurement
- Rigaku X-ray portable residual stress measurement equipment
- Scanning Electron Microscope (SEM)
- Transition Electron Microscope (TEM)

#### **Computer Skills**

- Proficient in essential computer software
- ChemCAD 5.2
- MathCAD 13
- Statistical software: SAS 9.0, SPSS 14 Statgraphics and Minitab 14
- Proficiency in Computer Hardware Assembly and Maintenance.

**Honors and Awards**

- Doctoral Associateship for the academic year 2006/2007. Department of Paper Engineering, Chemical Engineering and Imaging. Western Michigan University.
- Doctoral Associateship for the academic year 2005/2006. Graduate College at Western Michigan University
- National Council for Air and Stream Improvement, Inc Fellowship for the 2003/2004
- 2003 Graduate Research and Creative Scholar Award at Western Michigan University
- ASM scholarship in the year 2003 for excellence in materials science studies.

**Professional Memberships and Affiliations**

- Member of Technical Association of the Pulp and Paper Industry (TAPPI)
- Member of American Institution of Chemical Engineers (AIChE)
- Member of Engineering College Curriculum Committee in Western Michigan University for the year 2003
- Member of Graduate Students Advisory Committee in WMU (GSAC) for the year 2003