

KENDRA MAXWELL

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Ph.D. Chemical Engineering, expected graduation: Spring 2012

- Thesis title: "Cationic polymer aided acceleration of Starch Hydrolysis"
- GPA: 3.61/4.00
- Minor: Paper Science & Technology

The University of Iowa

Iowa City, IA

B.S. Chemical Engineering, December 2006

- Minor: Business

RESEARCH EXPERIENCE

Georgia Institute of Technology

Accelerated Hydrolysis of Starch for the Production of Biofuels (2008-present)

- Investigate the mechanism by which cationic polyelectrolytes accelerated starch hydrolysis

Synthesis Gas Cleaning Catalysis (2007)

- Assessed catalyst methane reformation and collected kinetic data for the synthesis gas conditioning using Fourier Transform Infrared Spectroscopy

University of Iowa

Furfural and Phenol Resin Alternative Synthesis, Univ. of Iowa (2005)

- Conducted experiments to determine optimal furfural based resin synthesis condition including temperature, pH, and catalysis

Analysis for Biomedical Graphical User Interface Development (2003)

- Aided in the development of a graphical user interface for use by clinicians by creating a C++ analyzing data to determine common language features among tested clinicians using a C++ program to analyze data.

WORK EXPERIENCE

Kimberly-Clark, Non-wovens Division

Roswell, GA

Research Intern, August 2009- December 2009

- Screened and recommended alternative polymer/blends to replace current laminate elastic film core with improved functionality
- Performed testing of child training pant hook interaction with laminate materials of varying properties to determine the major material and processing parameters needed to resolve engagement issues

BP, Refining Technology

Naperville, IL

Research Intern, January 2007-June 2007

- Assessed Functionality of new technologies including Differential Mobility Spectrometry and Micro-combustor prototype
- Investigated 2-D-gas chromatograph detection limit and response factor

University of Iowa Chemistry Department

Iowa City, IA

Chemistry Lab Assistant August 2006-December 2006

- Helped students complete lab work and assignments
- Prepared lab rooms for weekly student experiments
- Assisted prep-room in maintaining and distributing chemicals and supplies

BP, Terephthalic Acid (TA) Technology

Naperville, IL

Research Intern, May 2006-August 2006

- Utilized process simulations (Aspen) to determine batch reactor inefficiencies
- Designed and updated reaction mechanism database
- Developed Visual Basic code to convert online experimental data

John Deere Harvester Paint Department Unit
Chemical Engineering Intern, May 2005-August 2005

Moline, IL

- Responsible for Paint Quality Tracking
- Assisted in water Recycle System Start-up

Deere and Company, Technology Center
Chemical Engineering Intern, May 2004-August 2004

Moline, IL

- Conducted physical tests on paint coated panels to determine quality of paint coatings
- Identified causes for coatings that failed qualifications

TEACHING AND SUPERVISING

Undergraduate Research Mentor

- “Polyelectrolyte effect on heat induced swelling of cornstarch in solution” Alison Krantz (2010-2011)
- “Temperature effects of C-PAM accelerated cornstarch hydrolysis” Helina Desta (2011)

Teaching Assistant

- Thermodynamics (Spring 2009, Spring 2010, Spring 2011)
- Unit Operations Lab (Fall 2008)

PUBLICATIONS AND PRESENTATIONS

- Reye, J.T., Maxwell, K., Banerjee, S. (2011). *Cationic polyacrylamides promote binding of cellulose and amylase*. Journal of Biotechnology. 154: 269-273
- Reye, J.T., Maxwell, K., Rao, S. Lu, J., Banerjee, S. (2009). *Cationic polyacrylamides enhance rates of starch and cellulose saccharification*. Biotech. Letters. 31: 1613-1616
- Maxwell, K. (2011). *Polymer Accelerated Hydrolysis of Starch for the Production of Biofuels*, American Institute of Chemical Engineers Spring Meeting, Chicago, IL.
- Maxwell, K. (2009). *Accelerated Hydrolysis of Starch for Biofuel Production*, National Society of Black Engineers Annual Convention, Las Vegas, NV.

HONORS & ACTIVITIES

- Georgia Tech Exxon Mobil Success Program Mentor (2009-present)
- American Institute of Chemical Engineers (2009-present)
- Technical Association of the Pulp and Paper Industry- Graduate student chapter, (2009-present)
 - Secretary (2010-2011)
- National Organization of Black Chemists and Chemical Engineers
 - The E.I. DuPont Fellowship Award (2011)
- Multi-Ethnic Engineering & Science Student Association (2002-2006)
 - Vice President (2004- 2005)
 - Tutor for Iowa City Public School District
- National Society of Black Engineers (2002-present)
 - Regional Academic Excellence Chair (2005-2006)
 - Fall Regional Conference Planning Committee (2005)
 - Academic competitions coordinator
 - President of Univ. of Iowa Chapter (2004-2005)
- Omega Chi Epsilon (OXE), Honor Society for Chemical Engineering (2005-present)
- GEM Consortium Fellowship (2007)
- Dean’s Achievement Award Recipient, Univ. of Iowa (2006)
- Univ. of Iowa Valedictorian Scholarship (2002)