

JACKSON WALKER FORD

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EDUCATION & RESEARCH EXPERIENCE

2008 – present

University of Kansas. Lawrence, Kansas.

Postdoctoral Researcher in Chemical Engineering.

Advisor: Dr. Bala Subramaniam

Conduct research on catalysis and solvent engineering with biomass-derived substrates

- Evaluate catalyst and solvent effects on supercritical deoxygenation of biomass compounds
- Develop novel techniques to deoxygenate lignocellulosic materials
- Assist in proposal writing and project development for emerging biomass initiatives at the Center for Environmentally Beneficial Catalysis

2004 – 2007

Georgia Institute of Technology. Atlanta, Georgia.

Doctor of Philosophy in Chemical Engineering.

Advisors: Dr. Charles A. Eckert and Dr. Charles L. Liotta

Conduct research on reactions and separations using CO₂-tunable solvents

- Evaluated the effects of CO₂ composition on solvent properties of gas-expanded liquids and organic-aqueous tunable solvents
- Optimized homogeneous catalyst recovery in novel solvent systems
- Collaborated with chemical engineers and chemists to optimize reactions and separations in CO₂-tunable solvents

2002 – 2004

Mississippi State University. Starkville, Mississippi.

Master of Science in Chemical Engineering.

Advisors: Dr. Mark E. Zappi and Dr. W. Todd French

Developed techniques for anaerobic fermentation of synthesis gas to ethanol and acetic acid

- Identified and evaluated factors affecting the process efficiency
- Collaborated with chemical engineers and microbiologists to design a system to improve the batch fermentation process

1997 – 2001

Mississippi State University. Starkville, Mississippi.

Bachelor of Science in Chemical Engineering.

Undergraduate Research

Advisor: Dr. Mark E. Zappi, Supervisor: Dr. Rafael Hernandez

Performed experiments under the direction of a doctoral candidate

- Used advanced oxidation processes to treat contaminated wastewater

SELECTED PATENTS & PUBLICATIONS

Bala Subramaniam, Jackson W. Ford, Raghunath V. Chaudhari. Provisional patent filed, patent pending, 2009.

Bala Subramaniam, Jackson W. Ford. "Supercritical Phase Catalysis – Heterogeneous." In *Encyclopedia of Catalysis*, accepted for publication.

Jackson W. Ford, Malina E. Janakat, Jie Lu, Charles L. Liotta, Charles A. Eckert. "Local polarity in CO₂-expanded acetonitrile: substitution reaction and solvatochromic probes." *Journal of Organic Chemistry* **2008**, 73(9) 3364-3368.

Jason P. Hallett, Jackson W. Ford, Rebecca S. Jones, Pamela Pollet, Colin A. Thomas, Charles L. Liotta, Charles A. Eckert. "Hydroformylation catalyst recycle with gas-expanded liquids." *Industrial & Engineering Chemistry Research* **2008**, 47(8), 2585-2589.

Jackson W. Ford, Jie Lu, Charles L. Liotta, Charles A. Eckert. "Solvent effects on the kinetics of a Diels-Alder reaction in gas-expanded liquids." *Industrial & Engineering Chemistry Research* **2008**, 47(3), 632-637.

TEACHING EXPERIENCE

Instructor, Unit Operations Laboratory I, Fall 2009

- Plan and lead one hour lecture and five hour laboratory session each week
- Assist students in planning and conducting experiments
- Grade and provide feedback for student oral and written lab reports

Teaching Assistant, Communication Skills for Technical Problem Solving, Spring 2007

- Instructor: Dr. Charles Eckert, Georgia Institute of Technology
- Written and oral critiques of student presentations and writing assignments, assisted in course planning, managed course website

Teaching Assistant, Thermodynamics I, Spring 2006

- Instructor: Dr. David Bush, Georgia Institute of Technology
- Substitute instructor, graded homework and exams, weekly office hours

Teaching Assistant, Unit Operations Laboratory, Summer 2005

- Instructor: Dr. Jeff Empie, Georgia Institute of Technology
- Laboratory instructor, graded laboratory reports, weekly office hours

AIChE 2009 ANNUAL MEETING

#5ae Jackson W. Ford, Raghunath V. Chaudhari, Bala Subramaniam, Charles A. Eckert. "Solvent engineering for biorefining catalysis and separations." American Institute of Chemical Engineers Annual Meeting, Nashville, Tennessee, 2009.

- Time and Date: 2 p.m. on Sunday, Nov. 8
- Location: Ryman Hall B1/B2

#80c Jackson W. Ford, Raghunath V. Chaudhari, Bala Subramaniam. "Continuous supercritical-phase hydrogenations of biomass-derived compounds." American Institute of Chemical Engineers Annual Meeting, Nashville, Tennessee, 2009.

- Time and Date: 1:08 p.m. on Monday, Nov. 9
- Location: Ryman Hall C