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# 2014 Chemical and Biomolecular Graduate Research Symposium Program

Clemson University

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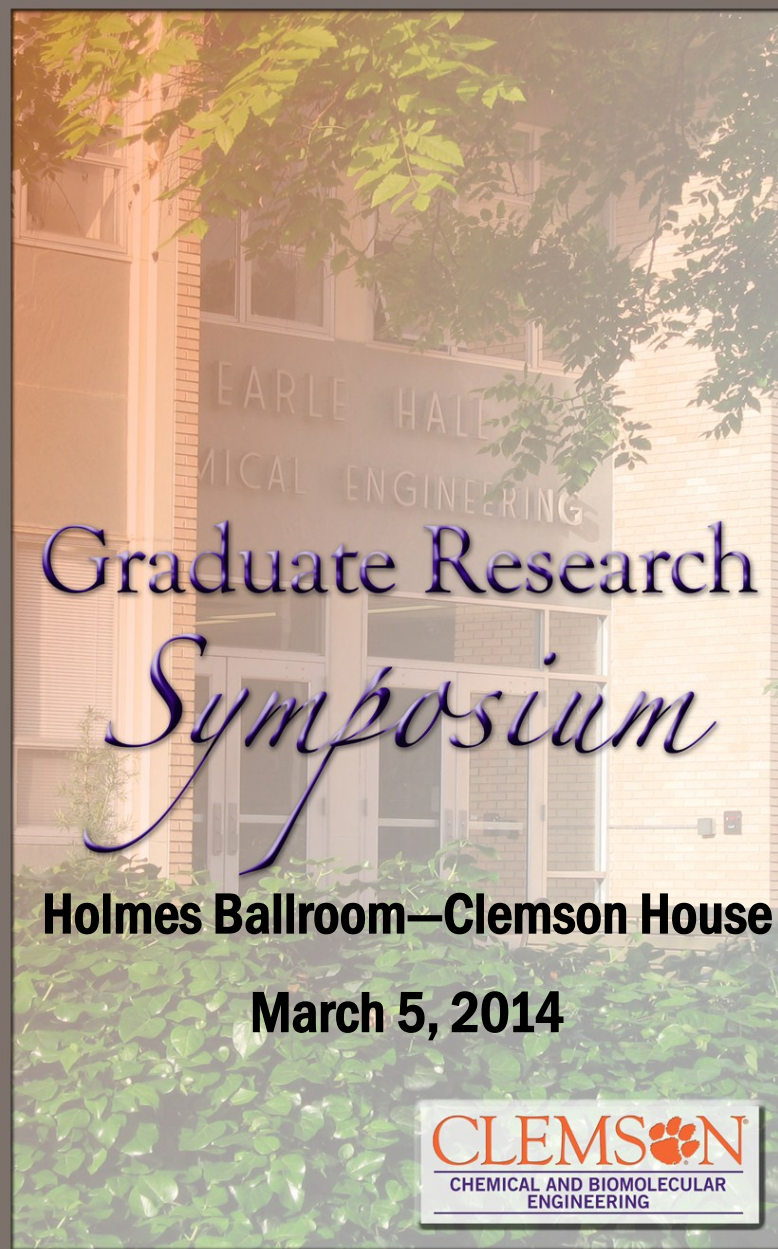
*About our Guest Speaker—Dr. Uwe Beuscher . . .*



**Dr. Uwe Beuscher** is the Global Separations Technology Leader at W.L. Gore & Associates, Inc., the world leader in fluoropolymer materials for a wide variety of applications. Best known for the Gore-Tex® brand of apparel, W.L. Gore & Associates has developed thousands of unique consumer, industrial, electronic, medical and surgical products as well as materials for a wide variety of filtration and separation applications.

Dr. Beuscher received his Diplom Engineer degree in Mechanical Engineering from RWTH Aachen (Germany) in 1992 and his Ph.D in Chemical Engineering from Clemson University in 1997. After joining W.L. Gore & Associates, Dr. Beuscher contributed to developments in a wide variety of separation applications including adsorption, catalysis, chromatography, polymer fuel cells, gas-liquid contactors, barrier materials, gas separation, liquid purification, and most recently advanced microfiltration.

Currently, Dr. Beuscher and his team are exploring and developing unique Gore materials for use in many challenging industrial separation applications. Dr. Beuscher has long experience in university - industry collaborations through direct research projects and membership in University and NSF Research Centers. Dr. Beuscher is the current chair of the Industrial Advisory Board of the I/UCRC Membrane Science, Engineering and Technology (MAST) research center at NJIT and the University of Colorado. He currently serves on the Board of Directors for the North American Membrane Society (NAMS) and the Professional Advisory Board for the Chemical Engineering Department of Clemson University. Dr. Beuscher has over thirty book, journal and conference publications.



**Graduate Research  
Symposium**

**Holmes Ballroom—Clemson House**

**March 5, 2014**

**CLEMSON**  
CHEMICAL AND BIOMOLECULAR  
ENGINEERING

2014 Graduate Research  
***Symposium***

Holmes Ballroom  
Clemson House

Wednesday, March 5, 2014

**Program Agenda**

8:30–9:00	Coffee and Breakfast
9:00–10:40	Poster Session
10:40–10:55	Break
11:00–12:00	Keynote Speaker—Dr. Uwe Beuscher
12:00–1:10	Lunch
1:15–2:30	Oral Presentations
2:30–2:45	Break
2:50–4:30	Oral Presentations
4:30–4:40	Closing Remarks

**Scheduled Speakers**

**Plenary Speaker**

11:00-12:00 **Dr. Uwe Beuscher, W. L. Gore** (see Bio Sketch on back)

**1st Session**

1:15-1:40 **Ashley Hart** (Dr. Chris Kitchens) *Investigation of Ligand Binding and Exchange on Gold Nanoparticles with Isothermal Titration Calorimetry*

1:40-2:05 **Lizzie Bollmann** (Dr. Rachel Getman) *Density Functional Theory-Based Modeling of Catalyzed Water Purification*

2:05-2:30 **Julian Velez** (Dr. Mark Thies) *Phase Behavior and Structural Characterization of the Liquid-Lignin Phase Precipitated with CO<sub>2</sub> from Kraft Black Liquor*

**2nd Session**

2:50-3:15 **Jesse Kelly** (Dr. Mark Roberts) *Using Thermally-Responsive Polymers for Inherently Safe Electrochemical Energy Storage*

3:15-3:40 **Meng Zhang** (Dr. Amod Ogale) *Carbon Fibers from Dry-Spinning of Acetylated Softwood Kraft Lignin*

3:40-4:05 **Bethany Carter** (Dr. David Bruce) *Synthesis and Purification of Renewable Aromatic Chemicals and Fuels from Biomass-Derived Lignin*

4:05-4:30 **Sam Lukubira** (Dr. Amod Ogale) *Characterization of Meat and Bone Meal Bioplastics Processed with Aid of Anhydrides*