

## **Spring 2013 Graduate School Degree Recipients**

### **Master of Science**

#### **Graduates**

Qirui Fan  
Viraj Modak  
Hrishikesh Munj  
Alexander Roth  
Hui Yang  
Lin Zhao

#### **Advisors**

Jessica Winter  
Barbara Wyslouzil  
David Tomasko  
Andre Palmer  
Liang-Shih Fan  
Winston Ho

## **Summer 2013 Graduate School Degree Recipients**

### **Master of Science**

#### **Graduates**

Jeevan Baretto  
Brian Belcik

#### **Advisors**

David Wood  
Andre Palmer

### **Doctor of Philosophy**

#### **Graduates**

Yinming Du

Dissertation: High-yield and high-titer n-butanol production from lignocellulosic feedstocks by metabolically engineered *Clostridium tyrobutyricum*

Berrin Kursun

Dissertation: Towards Design of Sustainable Energy Systems in Developing Countries: Centralized and Localized Options

Meimei Liu

Dissertation: Expansion and Osteogenic Differentiation of Human Amniotic Fluid Derived Stem Cells

Laura Merugula

Dissertation: Supporting Sustainable Markets through Life Cycle Assessment: Evaluating Emerging Technologies, Incorporating Uncertainty and the Consumer Perspective

Nihar Phalak

Dissertation: Calcium Looping Processes for Pre- and Post-Combustion Carbon Dioxide Capture Applications

Kartik Ramasubramanian

Dissertation: An experimental & process modeling study on CO<sub>2</sub>-selective membranes for fuel cell Hydrogen purification & fluegas carbon capture

Yanan Zhao

Dissertation: Carbon dioxide-selective Membranes Containing Sterically Hindered Amines

## **Autumn 2013 Graduate School Degree Recipients**

### **Master of Science**

#### **Graduates**

Cassandra Dorcena

#### **Advisors**

Jessica Winter

Zi Tong

Winston Ho

**Doctor of Philosophy**

**Graduates**

Patrick Bennett

Dissertation: Solid State Fermentation in a Spouted Bed Reactor and Modeling Thereof

Anthony Duong

Dissertation: Electrohydrodynamic Spray Fabrication of Microparticles and Nanoparticles for Use as Biomedical Delivery Vehicles

Kalpesh Mahajan

Dissertation: Development of Nanodevices for Bio-detection, Separation, Therapy, and Mechanotransduction

Brandon Miller

Dissertation: Quantitative Multiparameters Analysis of Fluorescently-Stained Negatively Enriched Peripheral Blood from Cancer Patients

Harshad Pathak

Dissertation: Nucleation and Droplet Growth During Co-condensation of Nonane and D2O in a Supersonic Nozzle

Ibrahim Soykal

Dissertation: Characterization of cobalt and cerium coordination environments for catalytic steam reforming of bio-derived liquids

**Advisors**

Shang-Tian Yang

Barbara Wyslouzil

Jessica Winter

Jeffrey Chalmers

Barbara Wyslouzil

Umit Ozkan

### **Spring 2013 Seminar Series:**

- 1/10 Nicholas Brunelli**, Postdoctoral Fellow, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology, "The Sub-Nanometer Length Scale: Exploring Fundamental Challenges in Aerosols & Catalysis"
- 1/31 Elijah Thimsen**, Postdoctoral Associate, Chemical Engineering and Materials Science and Mechanical Engineering, University of Minnesota, "Atomic Layer Deposition of  $\text{Cu}_2\text{ZnSnS}_4$  (CZTS) For Nanostructured Solar Cells and Fundamental Materials Research"
- 2/7 Jason Burdick**, Associate Professor, Department of Bioengineering, University of Pennsylvania, "Injectable Hydrogels with Engineered Properties and Molecule Release for Cardiac Repair"
- 2/14 Qing Peng**, Research Scientist, Electrical and Computer Engineering Department, Duke University, "Chemical Assembly of Materials at the Molecular Level"
- 2/21 James A. Dumesic**, Steenbock Professor and Michel Boudart Professor, Chemical and Biological Engineering, University of Wisconsin-Madison, "Strategies for Catalytic Conversion of Lignocellulosic Biomass to Fuels and Chemicals"
- 2/28 Jim Wallace**, Professor Emeritus, Director, Burgers Program for Fluid Dynamics, Department of Mechanical Engineering, University of Maryland, "Highlights of Fifty Years of Turbulent Boundary Layer Research"
- 3/7 Nitash Balsara**, Professor, Department of Chemical Engineering, University of California, Berkeley, "Nanostructured Block Copolymers for All-Solid Lithium Batteries"
- 3/21 Linda Broadbelt**, Sarah Rebecca Roland Professor and Chair, Department of Chemical and Biological Engineering, Northwestern University, "Designing Reaction Pathways to Novel Chemicals and Materials Using Kinetic Modeling"
- 4/4 Mark Davis, Lowrie Lecture I**, Warren and Katharine Schlinger Professor, California Institute of Technology, Chemical Engineering, Member, City Hope Comprehensive Cancer Center, Experimental Therapeutics Program, "Fighting Cancer with Nanoparticle Medicines: The Nanoscale Matters!" **E0001 Scott Lab, Reception in E100 Scott Lab**
- 4/5 Mark Davis, Lowrie Lecture II**, "The Rise and Realization of "Molecular" Chemical Engineering" **10:00 a.m., Physics Research Building 1080**
- 4/11 Monica Burdick**, Assistant Professor, Chemical and Biomolecular Engineering, Ohio University, "Identification of E-selectin Ligands on Breast Cancer Cells: Implications for Bloodborne Metastasis"
- 4/18 Peter Tessier**, Assistant Professor, Chemical & Biological Engineering, Rensselaer Polytechnic Institute, "Antibodies by Design"

### **Autumn 2013 Seminar Series:**

- 8/22 Dan Luss**, Cullen Professor of Engineering, Department of Chemical and Biomolecular Engineering, University of Houston, "Application of Chemical Reaction Engineering to Reducing Automobile Emissions"
- 8/29 Celeste Nelson**, Associate Professor, Department of Chemical and Biological Engineering, Princeton University, "Forcing Tissues to Build Themselves"
- 9/5 Laura Segatori**, Assistant Professor, Chemical and Biomolecular Engineering, Bioengineering, Biochemistry and Cell Biology, Rice University, "Reprogramming the Proteostasis Network to Enhance Cellular Clearance Pathways"
- 9/19 Mahmoud El-Halwagi**, Professor and Holder of the McFerrin Professorship, Artie McFerrin Department of Chemical Engineering, Texas A&M University, "Sustainable Process Design Through Mass and Property Integration"
- 9/26 Sanat Kumar**, Professor and Chair, Department of Chemical Engineering, Columbia University, "Nanoparticle Amphiphiles"
- 10/3 Jodie Lutkenhaus**, Assistant Professor, Artie McFerrin Department of Chemical Engineering, Texas A&M, "Temperature-Responsive Polyelectrolyte Multilayer Films and Microtubes"
- 10/10 Michael Boehm**, Postdoctoral Research Fellow, School of Chemical Engineering, The University of Queensland, Brisbane, "The Physics of Eating: How Do We Research Oral Processing?"
- 10/17 Sheldon Park**, Assistant Professor, Department of Chemical and Biological Engineering, University of Buffalo, "Engineered Molecular Recognition in Biotechnology and Medicine"
- 10/24 Doraiswami Ramkrishna**, H.C. Peffer Distinguished Professor, School of Chemical Engineering, Purdue University, "On Dynamic Modeling of Metabolism. The Cybernetic Approach."
- 10/31 GRIP Seminar, Yuanxin Chen**, "New Membranes Structures and Compositions Effective for CO<sub>2</sub> Separation and Capture", **Anshuman Fuller**, "Strontium Cobalt Ferrite Perovskite Materials as Electro-Catalysts for Solid Oxide Fuel Cells: Effect of Ce Substitution at the A-site", **Zi Tong**, "Zeolite/Polymer Composite Membranes for CO<sub>2</sub> Capture from Flue Gas"
- 11/14 Randall Winans**, Senior Scientist, X-ray Science Division, Advanced Photon Source, Argonne National Laboratory, "In Situ X-ray Scattering of Catalytic Transformations"
- 11/21 Susannah Scott**, Professor, Chemical Engineering, Chemistry and Biochemistry, University of California Santa Barbara, "Creating Catalytically Active Sites on Oxide Surfaces with Molecular Precision"

## **Graduate Student Awards 2013**

Former UG student Kunal Parikh and Winter lab alumnus received an NSF graduate research fellowship. He is pursuing a joint PhD/MBA at Hopkins.

Ehab Ammar: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Samuel Bayham: Special Recognition at the Lowrie Honors Banquet

Yinming Du: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Tony Duong: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Rebecca Hanes: Won second place in the student paper competition at the International Symposium for Sustainable Systems and Technology (ISSS)

Daniel Knight: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Meimei Liu: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Siwei Luo: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Kalpesh Mahajan: Special Recognition at the Lowrie Honors Banquet

Viraj Modak: Special Recognition at the Lowrie Honors Banquet

Harshad Pathak: Special Recognition at the Lowrie Honors Banquet, Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Nihar Phalak: Special Recognition at the Lowrie Honors Banquet

Kartik Ramasubramanian: Won the AIC Outstanding Graduate Student Award at the Lowrie Honors Banquet

Deepika Singh: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet, Received the 2013 Kokes Graduate Student Award at the 23<sup>rd</sup> North American Meeting of the Catalysis Society, Won the 2013 AIChE Catalysis and Reaction Engineering Division Travel award to attend the Annual National AIChE meeting in San Francisco

Ilgaz Soykal: Special Recognition at the Lowrie Honors Banquet, Received the 2013 Kokes Graduate Student Award at the 23<sup>rd</sup> North American Meeting of the Catalysis Society

Andrew Tong: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet

Lin Zhao: Special Recognition at the Lowrie Honors Banquet, Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet, Won Outstanding Poster Paper Award in the poster paper competition at the Annual Meeting of the North American Membrane Society (NAMS) in Boise, Idaho

Yanan Zhao: Outstanding Graduate Award for Academic Achievement at the Lowrie Honors Banquet