2017 CBE Graduate Degree Recipients

Spring 2017 Graduate School Degree Recipients

**Master of Science**

Graduates
- Chi Cheng
- Nitish Deshpande
- Robert Gammon Pitman
- Varsha Gopalakrishnan
- Tyler Hacker
- Muzhapaer Motianlifu
- Aamena Parulkar
- Yaswanth Pottimurthy
- Varun Venoor
- Guk hee Youn

Advisors
- ST Yang
- Nicholas Brunelli
- Jeffrey Chalmers
- Bhavik Bakshi
- Jeffrey Chalmers
- Bhavik Bakshi
- Nicholas Brunelli
- Liang-Shih Fan
- Kurt Koelling
- ST Yang

**Doctor of Philosophy**

Graduates
- Youngmi Seo
- Xin Xin

Advisors
- Lisa Hall
- ST Yang

Dissertation: “Structure and Dynamic Properties of Interfacially Modified Block Copolymers from Molecular Dynamics Simulations”

**Summer 2017 Graduate School Degree Recipients**

**Master of Science**

Graduates
- Deeksha Jain
- Mingyuan Xu

Advisors
- Umit Ozkan
- Liang-Shih Fan

**Doctor of Philosophy**

Graduates
- Varsha Gopalakrishnan
- Kuldeep Mamtani

Advisors
- Bhavik Bakshi
- Umit Ozkan

Dissertation: “Nature in Engineering: Modeling Ecosystems as Unit Operations for Sustainability Assessment and Design”

Dissertation: “Carbon-based Materials for Oxygen Reduction Reaction (ORR) and Oxygen Evolution Reaction (OER) in Acidic Media”
Andrew Maxson  
**Dissertation:** “Heat Transfer Enhancement in Turbulent Drag Reducing Surfactant Solutions”

Katja Meyer  
**Dissertation:** “Perovskite-type Oxides as Electrocatalysts in High Temperature Solid Electrolyte Reactor Applications”

Kristopher Richardson  
**Dissertation:** “Oxygenation Potential of Tense and Relaxed State Polymerized Hemoglobin Mixtures: A Potential Therapeutic to Accelerate Chronic Wound Healing”

Zi Tong  
**Dissertation:** “CO₂ facilitated transport membranes for hydrogen purification and flue gas carbon capture”

**Autumn 2017 Graduate School Degree Recipients**

**Master of Science**

**Graduates**  
Abhilasha Dehankar  
Rutuja Joshi  
Prateek Kumar  
Kehinde Ogunronbi  
Kyoung-Joo Jenny Park

**Advisors**  
Jessica Winter  
Nicholas Brunelli  
Liang-Shih Fan  
Barbara Wyslouzil  
Jeffrey Chalmers

**Doctor of Philosophy**

**Graduates**  
Andrew Amaya  
Chi Cheng  
Cheng Chung  
Gauri Nabar  
Kyoung-Joo Jenny Park

**Advisors**  
Barbara Wyslouzil  
Shang-Tian Yang  
Liang-Shih Fan  
Jessica Winter  
Jeffrey Chalmers

**Dissertations**

Andrew Amaya  
**Dissertation:** “Freezing Supercooled Water Nanodroplets”

Chi Cheng  
**Dissertation:** “Chemicals and Biofuels Production from CO₂ and Biomass by Fermentation”

Cheng Chung  
**Dissertation:** “Development of Iron-based Oxygen Carriers in recyclability, physical strength and toxicity-tolerance for Coal-Direct Chemical Looping Combustion Systems”

Gauri Nabar  
**Dissertation:** “Encapsulation of nanoparticles and polymers within block copolymer micelles prepared by the emulsion and solvent evaporation method”

Kyoung-Joo Jenny Park  
**Dissertation:** “Multi-Parameter Fluorescent Analysis and Quantitative Magnetophoresis Study as Two Different Technologies to Detect and Characterize Cells and Its Various Applications as Biomarkers”
Matthew Souva and Jessica Winter and Barbara Wyslouzil
**Dissertation:** “High Throughput Block Copolymer Nanoparticle Assembly Methods”

Dongzhu Wu and Winston Ho
**Dissertation:** “Substrate Design and Membrane Stability of Multilayer Composite Membrane for CO$_2$ Separation”

Dikai Xu and Liang-Shih Fan
**Dissertation:** “Chemical Looping Partial Oxidation Process for Syngas Production”
CBE Graduate Program Seminar Series 2017

Autumn 2017:

1/12 Christina Payne, Assistant Professor, Chemical and Materials Engineering, University of Kentucky, “Understanding the Protein-Carbohydrate Recognition Mechanisms of Multimodular Enzymes”

1/19 Marjan Rafat, Postdoctoral Scholar, Stanford Imaging Radiobiology Laboratory, Stanford University, “Deconstructing the Tumor and Tissue Microenvironment”

1/26 Mehmet Orman, Post-Doctoral Research Fellow, Memorial Sloan Kettering Cancer Center, Zuckerman Research Center, “Characterizing the Physiology of Persister Cells”

2/9 Aditya Bhan, Associate Professor, Chemical Engineering and Materials Science, University of Minnesota, “Be Practical: Mechanistic Studies of Industrially Relevant Catalytic Systems”

2/16 Shaoyi Jiang, Boeing-Roundhill Professor of Chemical Engineering, University of Washington, “Molecular Understanding, Design and Development of Ultra Low Fouling Zwitterionic Materials”

2/21 Eduardo Reátegui, Research Fellow in Surgery, Massachusetts General Hospital, “Microfluidic liquid biopsy: seeking particles large and small in cancer patient blood”

2/23 Richard Grenville, Director of Mixing Technology, Philadelphia Mixing Solutions, Ltd., Adjunct Professor Rowan University and University of Delaware, “Characterizing Impeller Performance in Stirred Tanks with Examples of Process Results”

3/2 Charles Haynes, Professor and Canada Research Chair, Michael Smith Laboratories, Chemical and Biological Engineering, The University of British Columbia, “Engineering Tools and Platforms to Advance Precision Medicine”

3/7 Samanvaya Srivastava, Postdoctoral Scholar, Institute for Molecular Engineering, The University of Chicago, “Complexation Driven Self-Assembly of Block Copolyelectrolytes”

3/23 Huimin Zhao, Steven L. Miller Chair, Departments of Chemical and Biomolecular Engineering, Chemistry, Biochemistry and Bioengineering, Biosystems Design Theme Leader, Carl R. Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign, “Synthetic Biology: A New Engine for the Third Wave of Biotechnology”

3/30 Eric W. Kaler, Lowrie Lecture I, President, University of Minnesota, “Polymerization in Organized

4/6  **Andrew Zydney**, Distinguished Professor of Chemical Engineering, Department of Chemical Engineering, Pennsylvania State University, “Purification of DNA for Gene Therapy and Vaccines – New Opportunities for Membrane Technology”

4/13  **Richard Vaia**, Air Force Research Laboratory Materials and Manufacturing, Wright-Patterson Air Force Base

4/20  **Ramanan Krishnamoorti**, Interim Vice Chancellor for Research and Technology, Professor of Chemical & Biomolecular Engineering, University of Houston

**Autumn 2017:**

8/24  **Julie Kornfield**, Professor, Chemical Engineering, California Institute of Technology, “Megasupramolecules”

9/7  **Sonia Kreidenweis**, Associate Dean for Research, College of Engineering, University Distinguished Professor, Atmospheric Science, Colorado State University, “Biomass Burning Aerosol: Emissions, Evolution, and Atmospheric Impacts”

9/14  **Peter Pintauro**, H. Eugene McBrayer Professor of Chemical Engineering, Chemical and Biomolecular Engineering, Vanderbilt University, “Particle/Polymer Nanofiber Mat Electrodes for Hydrogen/Air Fuel Cells”

9/19  **Belinda Hurley**, Associate Professor, Research and Education, OSU Libraries

9/28  **Venkat Venkatasubramanian**, Samuel Ruben-Peter G. Viele Professor of Engineering, Co-Director of Center for the Management of Systemic Risk, Chemical Engineering, Columbia University, “How Much Income Inequality is Fair? Surprising insights from Statistical Thermodynamics and Game Theory”

10/5  **Anna Balazs**, Distinguished Professor, Chemical Engineering Department, John A. Swanson Chair of Engineering, University of Pittsburgh, “Designing Bio-Inspired, Adaptive Gels with Controllable 3D Structures”

10/10  **Tim Watson**, Director of Graduation Services, Ohio State Graduate School
10/26  **Graduate Research Initiative Program: Abhilasha Dehankar,** “Dynamic Control of Gold Nanoparticle-Conjugated DNA Origami Templates”; **Frank Kong,** “Thermodynamic Simulations and Techno-Economic Analysis on the Utilization of CO₂ and a Novel Modularization Strategy for Chemical Looping Based Gtl Processes”

11/9  **Alexander Katz,** Associate Professor of Chemical and Biomolecular Engineering, College of Chemistry, University of California – Berkeley, “Understanding How Environment Affects Catalysis on Surfaces”

11/16  **Levi Thompson,** Richard E. Balzhiser Collegiate Professor of Chemical Engineering; Professor, Mechanical Engineering, Director, Hydrogen Energy Technology Laboratory, The University of Michigan, Principal Investigator, Michigan Louis Stokes Alliance for Minority Participation, “Turning Base Metals into Precious Metals: Nanostructured Early Transition Metal Carbides and Nitrides”

11/30  **Jindal Shah,** Assistant Professor, School of Chemical Engineering, Oklahoma State University, “Prediction Thermophysical Properties and Understanding Biodegradability of Ionic Liquids from Molecular Simulations”
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