

Daniel Knight, Ph.D.

Visiting Assistant Professor
Dan F. Smith Department of Chemical Engineering
College of Engineering
Lamar University

EDUCATION

Ph.D., M.S., Chemical and biomolecular engineering
Ohio State University, Columbus, OH
Advisors: Martin Feinberg and David Wood

B.S., chemical engineering, minor in chemistry
Purdue University, West Lafayette, IN

TEACHING EXPERIENCE

Spring 2017

- Professional Seminar – 2140 (three sections)
- Thermodynamics I – 2374
- Heat Transfer – 3320
- Process Analysis – 3340

Autumn 2016

- Thermodynamics I – 2374
- Momentum Transfer – 3311
- Mass Transfer – 4420
- Process Analysis – 3340

Summer 2016

- Thermodynamics I – 2374

Spring 2016

- Thermodynamics I – 2374
- Process Safety – 6301
- Heat Transfer – 3320
- Process Analysis – 3340

Autumn 2015

- Thermodynamics I – 2374 (two sections)

- Thermodynamics II – 3330
- Mass Transfer – 4420

Autumn 2010–2012: Analysis of chemical and biomolecular engineering problems

RESEARCH INTERESTS

- Chemical reaction network theory
- Implementation of this theory in a computer program, the CRNT, for ease of dissemination

PUBLICATIONS

- D. Knight, G. Shinar, M. Feinberg, Sharper Graph-Theoretical Conditions for the Stabilization of Complex Reaction Networks. *Math. BioSci.*, 2015, 262, 10-27
- G. Shinar, D. Knight, M. Feinberg, Stability and instability in isothermal CFSTRs with complex chemistry: some recent results. *AIChE J.* 2013,59 (9), 3403-3411
- W. Hu, D. Knight, B. Lowry, A. Varma, Selective oxidation of glycerol to dihydroxyacetone over PtBi/C catalyst: optimization of catalyst and reaction conditions. *Ind. Eng. Chem. Res.* 2010,49(21), pp.10876-10882

CONFERENCE TALKS

- D. Knight, G. Shinar, and M. Feinberg, Recent Advances in Chemical Reaction Network Theory: Sharper Graph-Theoretical Means for Determining Network Behavior, AIChE annual meeting, Atlanta, GA. 2014
- D. Knight, G. Shinar, and M. Feinberg, Analysis of Complex Biochemical Reaction Network Behavior: Recent Advances in Species-Reaction Graph Theory, AIChE annual meeting, San Francisco, CA. 2013
- D. Knight, H. Ji, and M. Feinberg, Recent Computational Tools for the Analysis of Complex Biochemical Reaction Networks, AIChE annual meeting, Pittsburgh, PA. 2012

- W. Hu, D. Knight, and A. Varma, Kinetics of Glycerol Selective Oxidation Over PtBi/C Catalyst, AIChE annual meeting, Nashville, TN. 2009
- W. Hu, D. Knight, and A. Varma, Selective Oxidation of Glycerol to High-Value Chemical Dihydroxyacetone Over PtBi/C Catalyst, AIChE annual meeting, Nashville, TN. 2009

ON-CAMPUS TALKS

- D. Knight, G. Shinar, and M. Feinberg, Analysis of Complex Biochemical Reaction Network Behavior: Recent Advances in Species-Reaction Graph Theory, 2nd annual Graduate Research Symposium. 2013
- D. Knight, H. Ji, and M. Feinberg, Recent Computational Tools for the Analysis of Complex Biochemical Reaction Networks, 1st annual Graduate Research Symposium. 2012

POSTERS

- W. Hu, D. Knight, A. Varma, Catalytic Oxidation of Glycerol to High-Value Chemicals, winning entry at Purdue Graduate Research Symposium 2009
- W. Hu, D. Knight, A. Varma, Catalytic Oxidation of Glycerol to High-Value Chemicals, Purdue University Chemical Engineering Graduate Colloquium 2009

OUTREACH

- Chemical hygiene committee representative: 2009-2015
- Denman research forum judge: 2012-2015
- Various recruiting/outreach events through CoE: 2010-2015
- Undergraduate research forum judge: 2013-2014
- Women in Engineering summer camps GROW, RACE, CHEER: 2011-2014
- Summer Research Opportunity Program volunteer: 2011
- Seminar for Top Engineering Prospects summer camp: 2006, 2007
- National chemistry week: 2006, 2007

AWARDS

- Graduate student award, American Institute of Chemists 2015
- Outstanding graduate award for academic achievement 2011-2014

- Best poster, Purdue Graduate Research Symposium 2009