

PRISCILLA JUNE HILL

Dave C. Swalm School of Chemical Engineering
P. O. Box 9595
Mississippi State University
Mississippi State, MS 39762

Phone: 662-325-8249
Fax: 662-325-2482
e-mail: phill@che.msstate.edu

EDUCATION:

University of Massachusetts, Ph.D., Chemical Engineering, February 1996.

Thesis Title: Simulation of Solids Processes Accounting for Particle Size Distribution.

Thesis Advisor: Prof. K. M. Ng

Clemson University, M.S., Chemical Engineering, August 1984.

Thesis Title: Local Structure in Repulsive Soft-Sphere Mixtures – A Computer Simulation Study.

Thesis Advisor: Prof. J. M. Haile

Clemson University, B.S., Chemical Engineering, May 1982.

ACADEMIC EXPERIENCE:

Mississippi State University, Associate Professor, Chemical Engineering 8/07 – Present

Mississippi State University, Assistant Professor, Chemical Engineering 8/01 – 8/07

University of Minnesota Duluth, Assistant Professor, Chemical Engineering 9/00 – 6/01

University of Massachusetts, Visiting Asst. Professor, Chemical Engineering Spring 1996

INDUSTRIAL EXPERIENCE:

Mitsubishi Chemical Corporation, Japan.

Senior Consultant, Development and Engineering Research 11/96 – 6/00

- Initiated and coordinated development of a new solution crystallization laboratory. Responsibilities included selecting equipment, developing experimental procedures, training lab technicians, and developing parameter estimation software for data analysis.
- Developed process simulation programs for crystallization
- Provided technical support in crystallization technology for new and existing processes.
- Directed experiments at other plant sites as well as providing data analysis and simulation.

Idaho National Engineering Laboratory (INEL), EG&G Idaho, Inc.

Senior Engineer, Cost and Performance Engineering 8/87 - 8/90

Engineer, Cost Estimating 2/86 - 8/87

Engineer, Thermal and Process Analysis 8/84 - 2/86

Performed parametric cost estimating to provide budget costs for projects with minimal design information. Performed economic trade-off studies and estimated life cycle costs. Prepared planning, conceptual, and final design estimates for industrial construction. Assessed energy usage in industrial processes in the United States. Evaluated hazardous waste for shipping.

HONORS AND AWARDS

CAREER Award, National Science Foundation, 2005

PROFESSIONAL SOCIETY MEMBERSHIPS

American Association for the Advancement of Science (AAAS)
American Chemical Society (ACS)
American Institute of Chemical Engineers (AIChE)
American Society for Engineering Education (ASEE)

RECENT PUBLICATIONS:

Refereed Journal Articles

1. S. M. Reeves and P. J. Hill, "Mechanisms Influencing Crystal Breakage Experiments in Stirred Vessels", *Crystal Growth & Design*, **12**, 2748-2758 (2012), DOI: 10.1021/cg200896m.

RECENT PRESENTATIONS:

Conference: Research

1. P. J. Hill (speaker) and S. M. Reeves, "Aspect Ratios and Modeling in Fragmentation and Attrition", presented at the AIChE National Meeting in Minneapolis, October, 2011.

Peer Reviewed Conference: Education

2. Hill, P. J., Koshka, Y., Myers, O. J., Thibaudeau, G., and Henington, C. D., Poster: "Multifunctional Nanostructures for Integrated Electrical, Chemical, Mechanical and Biological Applications: an Interdisciplinary Certificate Program", 2012 National Science Foundation Engineering Education Awardees Conference in Arlington, VA, March, 2012.
3. P. J. Hill, "K-12 Demos for Outreach in Chemical Engineering", ASEE Southeastern Section Annual Conference, Mississippi State, MS, April 2012.
4. P. J. Hill, "NanoExposed! – Chemical Applications in Nanotechnology", ASEE Southeastern Section Annual Conference, Mississippi State, MS, April 2012.
5. P. J. Hill, "Process Intensification Modules in a Chemical Engineering Mass Transfer Course", ASEE Southeastern Section Annual Conference, Mississippi State, MS, April 2012.
6. Toghiani, R.K., Minerick, A., Walters, K. B., Hill, P. J., and Henington, C. D., Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum. *2012 ASEE Annual Conference & Exposition*.
7. Toghiani, R.K., Hill, P. J., and Henington, C. D., An Instructional Module on Hybrid Separations for Undergraduate Chemical Engineering Separations Courses. *2012 ASEE Annual Conference & Exposition*.
8. Hill, P. J., Koshka, Y., Myers, O. J., Thibaudeau, G., and Henington, C. D., NanoExposed! – An Introduction to Nanotechnology. *2012 ASEE Annual Conference & Exposition*.
9. P. J. Hill, PACT: A Course in Particle and Crystallization Technology. *2012 ASEE Annual Conference & Exposition*.

RECENT PROFESSIONAL ACTIVITIES

Officer

American Institute of Chemical Engineers (AIChE), National
Director, Separations Division, AIChE (11/2005 – 11/2010)

American Society for Engineering Education (ASEE), Southeastern Section

President-Elect (4/2012 – 4/2013)

Chemical Engineering Division

Vice-Chair (4/2005 – 4/2006, 4/2011 – 4/2012)

Chair (4/2012 – 4/2013)

Session organizer

1. P. J. Hill (Moderator), Administration, ASEE Southeastern Section Annual Conference, Mississippi State, MS, April 2012.
2. E. Bilgili (Chair) and P. J. Hill (Vice-Chair), Particle Breakage and Comminution Processes, AIChE National Meeting in Pittsburgh, PA, October, 2012.

Journal Reviewer

Served as peer reviewer for:

AIChE Journal

Chemical Engineering and Processing: Process Intensification

Chemical Engineering Education

Chemical Engineering Research & Design

Chemical Engineering Science

Colloids and Surfaces A

Computers & Chemical Engineering

Crystal Growth & Design

Industrial & Engineering Chemistry Research

Powder Technology

TEACHING EXPERIENCE

Courses:

University of Massachusetts – Amherst

ChE 445 Chemical Process Design II (UG)

Spring 1996

University of Minnesota – Duluth

ChE 2111 Material and energy balances (UG)

Fall 2000, Spring 2001

ChE 4501 Chemical Engineering Design I (UG)

Fall 2000

ChE 4502 Chemical Engineering Design II (UG)

Spring 2001

Mississippi State University

ChE 3123 Chemical Engineering Thermodynamics II (UG)

Fall 2005, Fall 2006,
Fall 2008, Fall 2009,
Fall 2010, Fall 2011,
Fall 2012

ChE 3223 Mass Transfer Operations (UG)

Spring 2008, Spring
2010, Spring 2011

ChE 4133 Process design (UG)

Fall 2001, Spring 2002,
Fall 2002

ChE 4234 Plant design (UG)

Spring 2003, Spring
2004, Spring 2005,
Spring 2006

ChE 4990/6990 Special Topics (UG/G) Introduction to Particle and Crystallization Technology	Spring 2007, Spring 2009
ChE 4990/6990 Special Topics (UG) (Spring 2011), ChE 1001 NanoExposed! (co-taught with faculty from 3 other depts.)	Spring 2011, Fall 2011, Fall 2012
ChE 4990/6990 Special Topics (UG/G) Nanotechnology Applications in Chemical Engineering	Spring 2012
ChE 7000 DIS: Advanced Chemical Engineering Thermo (G)	Fall 2010
ChE 8011 Graduate Seminar (G)	Fall 2002, Fall 2010, Spring 2011
ChE 8113 Advanced Chemical Engineering Thermodynamics (G)	Fall 2003, Fall 2004, Fall 2006, Fall 2009, Fall 2011

Student Research supervision:

Former Ph.D. students:

Sheena M. Reeves, *Effects of Aging and Crystal Attributes on Particle Size Distributions in Breakage Experiments in Stirred Vessels*, 4/2011.

Devkant S. Gandhi, *Saturated Solution Effects on Crystal Breakage Experiments in Stirred Vessels*, 8/2011.

Former M.S. students:

Kumar Vedantham, *Effect of Operating Parameters on the Growth Rate of Solution Grown Crystals*, 8/2004.

Katrina R. Parker, *Effect of Breakage on Crystal Shape Distribution in a Stirred Vessel*, 5/2005.

OTHER CONFERENCES AND WORKSHOPS RECENTLY ATTENDED

“Making the Transition to Active Learning”, by Michael Prince, ASEE Faculty Development Workshop, Mississippi State University, 1 April 2012.