

David L. Silverstein

Professional Preparation

- May 1992 **University of Alabama** Tuscaloosa, Alabama
Bachelor of Science in Chemical Engineering, summa cum laude, University Honors Program
- December 1994 **Vanderbilt University** Nashville, Tennessee
Master of Science Chemical Engineering
- December 1998 **Vanderbilt University** Nashville, Tennessee
Doctor of Philosophy Chemical Engineering

Appointments

- July, 1999– Present **University of Kentucky**, College of Engineering, Paducah, Kentucky
Director, Paducah Engineering Extended Campus Programs
Professor of Chemical & Materials Engineering (2012-present)
PJC Engineering Professor (2008-2012)
Associate Professor of Chemical & Materials Engineering (2005- 2012)
Assistant Professor of Chemical & Materials Engineering (1999-2005)
- Current areas of research interest include: peer learning, auto-didactic learning, addressing student learning styles in educational software, conceptual learning and instruction, and faculty development as educators.
- September 1998- Consultant/ Contract Developer, Suite Spot Post Production Nashville,
June 1999 Tennessee
Developed prototype of automated custom video production device, including software design and implementation, hardware specification and integration, and deployment.
- January 1993- **Vanderbilt University** Nashville, Tennessee
December 1998 *Graduate Research Assistant*

Recent Publications

- Koretsky, M., Falconer, J., Brooks, B., Gilbuena, D., Silverstein, D., Smith, C., Miller, R., Miletic, M., “The AIChE Concept Warehouse: A Web-Based Tool to Promote Concept-Based Instruction”, *Advances in Engineering Education*, 4(1), **2014**
- Silverstein, D.L., M.A.S. Vigeant, “Results of the 2010 Survey on Teaching Kinetics and Reactor Design.”, *Chemical Engineering Education*, 46(1), **2012**
- Keith, J., Silverstein, D.L., Visco, D., Bullard, L., “Ideas to Consider for New Chemical Engineering Educators: Part 2 (Courses Offered Later in the Curriculum)”, *Chemical Engineering Education*, 44(4), **2010**.
- Silverstein, D.L., Osei-Prempeh, G., “Making a Chemical Process Control Course an Inductive and Deductive Learning Experience”, *Chemical Engineering Education*, 44(2), **2010**. **William H. Corcoran Award Winner**. Also appeared in CACHE News, No. 70, Summer **2010**.
- Bullard, L.; Visco, D.; Silverstein, D.L.; Keith, J., “Strategies for Creating and Sustaining a Departmental Culture”, *Proceedings of the 2010 Annual Meeting of the American Society for Engineering Education*, American Society for Engineering Education, June **2010**. **Joseph J. Martin Award Winner**
- Keith, J., Silverstein, D.L., Visco, D., “Ideas to Consider for New Chemical Engineering Educators, Part 1: Courses Offered Earlier in the Curriculum”, *Chemical Engineering Education*, 43(3), **2009**.
- Silverstein, D.L., “Using a Concurrently Collaborative Spreadsheet to Improve Teamwork and Chemical Engineering Problem Solving”, *Proceedings of the 2008 Annual Meeting of the American Society for Engineering Education*, American Society for Engineering Education, June **2008**.
- Silverstein, D.L., Briedis, D., Dahm, K., Zollars, R., “Introducing an Online Community for Chemical Engineering Educators”, *Proceedings of the 2006 Annual Meeting of the American Society for Engineering Education*, American Society for Engineering Education, June **2006**.

Dahm, K., Ramachandran, R., Silverstein, D.L., "Web-Based, Interactive Software for Engineering Economy Courses", *Proceedings of the 2004 Annual Meeting of the American Society for Engineering Education*, American Society for Engineering Education, June **2004**

Silverstein, D.L., "Who Wants to Be an Engineer?", *Proceedings of the 2003 Annual Meeting of the American Society for Engineering Education*, American Society for Engineering Education, June **2003**.

Other significant publications:

Silverstein, D.L., "Increasing Time Spent on Course Objectives when Using Computer Programming to Teach Numerical Methods", *Chemical Engineering Education*, 37(3), **2003**. **William H. Corcoran Award Winner**

"Studies in Air-Water Interfacial Area for Wet Unsaturated Porous Media Systems", *Langmuir*, **1997**, 13, 4758-4761. <http://pubs.acs.org/CHECKCCIP-979250563/subscribe/journals/langd5/13/i17/pdf/la9703104.pdf>

"Prediction of Air-Water Interfacial Area in Wet Unsaturated Porous Media", *Langmuir*, **2000**, 16, 829-834. <http://pubs.acs.org/subscribe/journals/langd5/16/i02/pdf/la9815751.pdf>

"Incorporating Low Hydraulic Conductivity in a Numerical Model for Predicting Air-Water Interfacial Area in Wet Unsaturated Particulate Porous Media", *Langmuir*, **2000**, 16, 835-838.

<http://pubs.acs.org/subscribe/journals/langd5/16/i02/pdf/la981576t.pdf>

"Prediction of Water Configuration in Wet Unsaturated Porous Media", *Langmuir*, **2000**, 16, 839-844.

<http://pubs.acs.org/subscribe/journals/langd5/16/i02/pdf/la981577l.pdf>

Synergistic Activities

- Research in application of heuristic optimization techniques to modeling of chemical engineering systems and fundamental interfacial phenomena.
- Active in the American Institute of Chemical Engineers (AIChE), serving on the Chemical Technology Operating Council and the Education & Accreditation Committee.
- Active in the American Society for Engineering Education (ASEE), formerly serving as secretary-treasurer and currently serving as webmaster for the Chemical Engineering division. Also serving on Publication Board advising *Chemical Engineering Education* and as a Section Editor for the journal.

Collaborators & Other Affiliations

- i. Donald Visco, University of Akron; Jason Keith, Mississippi State University; Kevin Dahm, Rowan University; Lisa Bullard, North Carolina State University; Milo Koretsky, Oregon State University; John Falconer, University of Colorado; Ron Miller, Colorado School of Mines; James Abulencia, Manhattan College; Margot Vigeant, Bucknell University; Philip Wankat, Purdue University
- ii. Tomlinson Fort, Vanderbilt University
- iii. None