

Publications and Presentations

Simulation

Jason Liu, Nathanael Van Vorst, Scott Mann, and Keith Hellman. A real-time network simulation infrastructure based on openvpn. *Journal of Systems and Software*, 82(3):473–485, 2009

Jason Liu, Scott Mann, Nathanael Van Vorst, and Keith Hellman. An open and scalable emulation infrastructure for large-scale real-time network simulations. In *INFOCOM*, pages 2476–2480. IEEE, 2007

Parallel Computing

Keith Hellman, David Bloomquist, and Roman Tankelevich. Parallel find for distributed and network filesystems, April 2008. Poster presentation at Colorado Celebration of Women in Computing Conference

Wireless Sensor Networks

Keith Hellman. Learning to live — a wireless sensor network protocol using reinforcement learning. Master's thesis, Colorado School of Mines, Golden, CO, 2006

Keith Hellman and Michael Colagrosso. Investigating a wireless sensor network optimal lifetime solution for linear topologies. *Journal of Interconnection Networks*, 7(1):91–99, March 2006

Keith Hellman and Michael Colagrosso. Increasing sensor network lifetime by identifying and leveraging nodes with excess energy in heterogeneous networks. In *Proceedings of the 8th International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 05)*, pages 542–546, Las Vegas, Nevada, 2005

Education

Julie Krause, Irene Polycarpou, and Keith Hellman. Exploring formal learning groups and their impact on recruitment of women in undergraduate cs. In *Proceedings of the 43rd ACM technical symposium on Computer Science Education, SIGCSE '12*, pages 179–184, New York, NY, USA, 2012. ACM

Cyndi Rader, Doug Hakkarinen, Barbara M. Moskal, and Keith Hellman. Exploring the appeal of socially relevant computing: are students interested in socially relevant problems? In *Proceedings of the 42nd ACM technical symposium on Computer science education, SIGCSE '11*, pages 423–428, New York, NY, USA, 2011. ACM

Keith Hellman. Wireless sensor networks and computer protocols, August 2008. Presentation for GK-12 Learning Partnerships and Bechtel K-5 Excellence Initiative

Keith Hellman. “Do you like brussel sprouts?” How to implement population surveys with embarrassing questions, September 2006. Presentation at Colorado Council of Teachers of Mathematics Convention

Keith Hellman. The craftman's questionable son, November 2005. Presentation at Colorado Science Convention

Catherine Skokan and Keith Hellman. Integrating engineering into mathematics and science classrooms, October 2005. Presentation at Next Steps Institute

Teaching Experience

Associate Teaching Professor (Lecturer)

August 2009 – Ongoing

Colorado School of Mines (Golden, Colorado)

- CSCI474 *Introduction to Cryptography* Spring 2015.
- CSCI Special Topics *Compiler Design* Spring 2014.
- CSCI Special Topics *Computer Simulation* Fall 2013, 2014.
- CSCI Special Topics *Linux Programming* Fall 2014.
- CSCI274 *Introduction to Linux*.
- CSCI262 *Data Structures*.
- CSCI261 *Introduction to Programming in C++* course coordinator.
- CSCI101 *Introduction to Computer Science* course development and instruction.
- Department undergraduate outreach committee.
- Academic Readmissions Committee.

Graduate Teaching Fellowship

June 2007 – Ongoing

Colorado School of Mines (Golden, Colorado)

- Two sections of *Introduction to Programming in C++* in the fall and spring, one section in the summer.
- Spring 2009 course coordinator.

Adjunct Instructor

August 2006 – May 2007

Colorado School of Mines (Golden, Colorado)

- Two sections of *Calculus I* and *II* in the fall and spring, respectively.

Middle-School Teaching Fellowship

August 2004 – May 2006

Colorado School of Mines (Golden, Colorado)

- Funded by a Colorado Department of Education Grant, principal investigators Dr. Skokan and Dr. Moskal.
- Visited 10–12 middle-school classrooms across the state on a biweekly basis, assisting in math and science instruction.
- Reviewed and prepared summer workshop curriculum for middle-school teachers.
- Taught summer workshops for middle-school teachers.

Education

Phd Candidate (part-time) Mathematics & Computer Science

August 2009–December 2014

Colorado School of Mines (Golden, Colorado)

Phd Candidate Mathematics & Computer Science

August 2007–August 2009

Colorado School of Mines (Golden, Colorado)

- Graduate Teaching Fellowship, CSCI261 (*Introduction to Programming in C++*).
- CSCI261 course coordinator spring 2009.

M.S. Mathematics & Computer Science

August 2004 – May 2006

Colorado School of Mines (Golden, Colorado)

- Thesis: *Learning to Live — A Wireless Sensor Network Protocol Using Reinforcement Learning*.
- Middle-School Teaching Fellowship (principal investigators Dr. Skokan and Dr. Moskal, CSM).

Graduate Student at Large

1995–1996

University of Illinois Circle Campus (Chicago, Illinois)

- Medical Imaging, Pattern Recognition

B.S. in Applied Mathematics

1990

The University of Chicago (Chicago, Illinois)

- Concentration in statistics
- Passed Society of Actuaries Exam 100

Interests

- **Social Dancing:** Many different forms including: swing, Argentine tango, Viennese waltz, and Contra. Taught East Coast Swing for seven years at Denver's *Mercury Cafe*.
- **Chess**