Greta Pangborn

Education

Cornell University	Operations Research	BS 1994
Cornell University	Operations Research	MS 1998
Cornell University	Operations Research	PhD 2002

Appointments

Saint Michael's College, Computer Science Department, Colchester, VT, July 2003–present, Assistant Professor.
Saint Michael's College, Computer Science Department, Colchester, VT, September 2002–June 2003, Visiting Assistant Professor.
Wellesley College, Mathematics Department, Wellesley, MA, August 2000–June 2001, Visiting Instructor.

Publications (Note—mathematical publication convention lists authors alphabetically.)

1. A. Dean, J. Ellis-Monaghan, S. Hamilton*, G. Pangborn, "Unit Rectangle Visibility Graphs", submitted.
2. J. Ellis-Monaghan, P. Gutwin, J. Lewis*, G. Pangborn, Force-directed floorplanning with flexible blocks, Congressus Numerantium 178 (2006) 147-159.
3. J. Ellis-Monaghan, P. Gutwin, J. Lewis*, and G. Pangborn, Principles and Preliminary Results for Force-directed Floorplanning with Malleable Blocks, Congressus Numerantium, 175, pp. 81-96, 2005.
4. M. Battig and G. Pangborn, Pilot Studies Introducing Collaborative and Distance Learning Paradigms in a Residential Environment. Information Systems Education Journal, 3 (13), 2005. http://isedj.org//3/13. ISSN 1545-679X. (Also appears in The Proceedings of ISECON 2004: ISSN: 1542-7382.)
5. G. Pangborn, Operations Research and the Information Systems Curriculum. Information Systems Education Journal, 3 (13), 2005. http://isedj.org//3/15. ISSN 1545-679X. (Also appears in The Proceedings of ISECON 2004: ISSN: 1542-7382.)

** Undergraduate student.*

Grants Supporting Undergraduate Research and Pedagogy

- Co-Authored with Dr. Jo Ellis-Monaghan and Sarah Hamilton – Mentored student grant from the NASA-National Space Grant College and Fellowship Program for Summer 2006 through Spring 2007
- Co-Authored with Dr. Jo Ellis-Monaghan - EPSCoR Grant for Summer 2006 - Graph Theoretical Approaches to Netlist Layout
- Co-Authored with Dr. Jo Ellis-Monaghan (PI) - Cadence Design Systems undergraduate research support for netlist project in Spring 2006
- Co-Authored with Dr. Jo Ellis-Monaghan – SMC Faculty Development Committee Grant for Fall 2005 - Mentored Student Support for Netlist Layout Tools
- Co-Authored with Dr. Jo Ellis-Monaghan (PI) - EPSCoR Grant for Summer 2005 - Graph Theoretical Techniques for Netlist Layout
- Co-Authored with Dr. Jo Ellis-Monaghan – SMC Faculty Development Committee Grant for Fall

2004 - Mentored Student Support for Netlist Layout Tools
- DIMACS Reconnect Conference, Integrating Information from Sequence and Evolution: An Introduction to Computational Biology, August 2004, Sponsored by the National Science Foundation
- SMC Educational Technology Committee Grant, Spring 2003, Support for the development of a blended traditional/distance learning e-Commerce course

Undergraduate Research and Independent Study Projects

- Sarah Hamilton, Properties of Unit Rectangle Visibility Graphs, with Dr. Jo Ellis-Monaghan, Summer 2006 – Spring 2007.
- Laura Beaudin, Applications of the Potts Model Partition Function and the Tutte Polynomial, with Dr. Jo Ellis-Monaghan, Summer 2006 – Spring 2007.
- Dave Miller, Determining the Minimum Number of Tile Types Needed to Form DNA Nanostructures, with Dr. Jo Ellis-Monaghan, Summer 2006 – Spring 2007.
- Katie Berry, A Closer Look at some NP-Complete Problems, Spring 2007.
- Christopher Jennings, Spring Embedded Graph Drawing for Netlist Layout, with Dr. Jo Ellis-Monaghan, Summer 2006-Fall 2006.
- Sarah Walker, Determination of Strand Numbers for DNA Nanoconstructs, with Dr. Jo Ellis-Monaghan and Dr. Doug Green, Spring 2006.
- Sarah Walker, Algorithms for Constructing Phylogenetic Trees, Spring 2006.
- Jamey Lewis, Spring Embedded Graph Drawing for Netlist Layout, with Dr. Jo Ellis-Monaghan, Spring 2004 – Summer 2006.
- Michele Fretta, Modeling the Genetics of Language Trees, Spring 2005.
- Diana Coulter, Predicting the Outcomes of Tennis Matches, Spring 2005.
- Jeremy Danyow, Network Simulation development, Spring 2004.

Software Projects

- Spring Embedder software for computer chip layout (J. Ellis-Monaghan, P. Gutwin, J. Lewis, and G. Pangborn. “Force-directed floorplanning with flexible blocks”, Cadence Design Systems Technical Report, 2006.)
- Project to compare the effectiveness of various linear programming algorithms for column generation. The Airline Crew Scheduling Problem: Dual Simplex, Volume, and Volume/SPRINT Solutions IBM Research Technical Report, with Jane Snowdon and Ranga Anbil.
- Reviewer for COIN/BCP open-source solver for integer programming.

Presentations

- Rectangle Visibility Graphs, UVM-SMC Joint Combinatorics Seminar, July, 2007.
- A Force-Directed Graph Drawing Approach for Computer Chip Layout, SIAM Minisymposium on Geometric Representation of Graphs at the Meeting of the American Mathematical Society, San Antonio, Texas, January, 2006.
- Operations Research and the Information Systems Curriculum, Information Systems Education Conference, Newport, Rhode Island, November, 2004.
- Pilot Studies Introducing Collaborative and Distance Learning Paradigms in a Residential Environment, Information Systems Education Conference, Newport, Rhode Island, November, 2004.