

Joseph Robert Kasprzyk

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Education

M.S. in Civil Engineering, The Pennsylvania State University, 2009 (Expected)

B.S. in Civil Engineering, The Pennsylvania State University, 2007
Honors in Civil Engineering, The Schreyer Honors College

Research Interests

Civil Engineering Systems, Multiobjective Optimization, Evolutionary Algorithms, Environmental Modeling

Theses

Undergraduate Honors Thesis: Evaluation of an Adaptive Population Sizing Probabilistic Model-Building Genetic Algorithm for Large Groundwater Monitoring Network Design Problems. Patrick Reed, Advisor.

Experience

Research Assistant

Patrick Reed

Spring 2006–Present

The Pennsylvania State University

Evaluation of evolutionary multiobjective algorithms which use probabilistic model building and other advanced techniques to improve optimization of long-term groundwater monitoring and other environmental applications. Incorporation of the Tera-Grid framework and parallelization for computationally intensive problems.

Field Assistant

William Burgos

March 2007

PA DEP TMDL Project

Assisted with field work for total maximum daily load stream study in Cambria County, Pennsylvania with Penn State for the Department of Environmental Protection. Used an Acoustic Doppler Current Profiler at different locations in the watershed and collected water quality samples.

Engineering Intern

S&G Gas and Oil

Term Breaks 2005–2007

Butler, PA

Member of 2- to 3-man surveying crew on residential and small commercial land development projects. Researched title information at the Butler County Courthouse and prepared survey and construction drawings. Wrote stormwater management reports and ran small-scale stormwater modeling software.

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Publications

“Using Probabilistic Model Building to Improve Evolutionary Multiobjective Algorithms for Long Term Groundwater Monitoring Design,” with J. Kollat and P. Reed (2007). In Preparation.

Service

Vice President of Programs, American Society of Civil Engineers Student Chapter, Penn State University, 2007–2008

Senior Advisor, American Society of Civil Engineers Student Chapter, Penn State University, 2006–2007

Marshall, Chi Epsilon, Penn State University, 2007–2008

Vice President, Chi Epsilon, Penn State University, 2006–2007

Student-to-Student Mentoring Program, The Schreyer Honors College, Fall 2004–Fall 2006

Honors and Awards

First Place, Technical Paper/Presentation Competition, Mid-Atlantic Conference of the American Society of Civil Engineers, hosted by the University of Maryland, 2007

Member, Chi Epsilon Civil Engineering Honor Society

Top-Up Fellowship, 2007–2008

Arthur C. Miller Scholarship, 2006–2007

Bigony Engineering Scholarship, 2006–2007

Academic Excellence Scholarship, Schreyer Honors College, 2003–2007