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EDUCATION

Ph.D. Computer Science, University of Illinois at Urbana-Champaign, 2005
B.S. Physics, University of Kentucky, 1998

PROFESSIONAL EXPERIENCE

2007-present	Computational Scientist, National Center for Computational Sciences, Oak Ridge National Laboratory
2005-2007	Postdoctoral Research Associate, Computer Science and Mathematics Division, Oak Ridge National Laboratory
2004-2005	Research Assistant, Computational Science and Engineering, University of Illinois at Urbana-Champaign
2003-2004	Graduate K-12 Fellow, NCSA, University of Illinois at Urbana-Champaign, and Hinsdale Central High School, Hinsdale, Illinois
2002-2003	Research Assistant, Computational Chemistry and Biology, NCSA, University of Illinois at Urbana-Champaign
2001-2002	Teaching Assistant, Department of Computer Science, University of Illinois at Urbana-Champaign
2001	Summer Intern, Computational Mathematics and Algorithms, Sandia National Laboratories, Albuquerque, New Mexico
1999-2001	Research Assistant, Computational Science and Engineering, University of Illinois at Urbana-Champaign

HONORS AND AWARDS

Outstanding Graduate Student Service Award, Department of Computer Science, University of Illinois at Urbana-Champaign, 4 years, 2000-2004
GK-12 Fellowship, University of Illinois at Urbana-Champaign, 2003-2004
SURGE Fellowship, College of Engineering, University of Illinois at Urbana-Champaign, 1998-2003
Member, Phi Beta Kappa, 1997-present
Member, Sigma Pi Sigma (Physics Honor Society), 1996-present
National Merit Scholarship, University of Kentucky, 1993-1997

CURRENT RESEARCH INTERESTS

Optimization, ill-posed problems, load balancing, high-performance computing, computational science and engineering

SELECTED PUBLICATIONS

Hartman-Baker, R., I. Busch, M. Hilliard, R. Middleton, and M. Schultze. "Solution of Mixed-Integer Programming Problems on the XT5," *Proceedings of CUG 2009*, Atlanta, 2009.

Fann, G.I., R.J. Harrison, G. Beylkin, J. Jia, R. Hartman-Baker, W.A. Shelton, and S. Sugiki. 2007. MADNESS applied to density functional theory in chemistry and nuclear physics. *Journal of Physics: Conference Series, SciDAC 2007* 78: 012018.

Hartman-Baker, R. J. *The Diffusion Equation Method for Global Optimization and Its Application to Magnetotelluric Geoprospecting,* Ph.D. dissertation, Department of Computer Science, University of Illinois at Urbana-Champaign, Technical Report UIUCDCS-R-2005-2578, August 2005.

Dynamic Load Balancing in MADNESS. Poster presentation, ORNL Celebration of Women in Science, March 2007.

Parallelization of the Diffusion Equation Method for Global Optimization. Contributed presentation, SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, California, February 2006.

The Diffusion Equation Method for Global Optimization. Poster presentation, SIAM Conference on Optimization, Stockholm, Sweden, May 2005.

A Finite-Difference Approach to the Diffusion Equation Method. Poster presentation, SIAM Annual Meeting, Portland, Oregon, July 2004.

SYNERGISTIC ACTIVITIES

Chair, Signage Committee, SC09, Portland, OR, 2009
Co-Chair, Signage Committee, SC08, Austin, TX, 2008
Member, Planning Committee for Evaluation of NSF GK-12 Program, March 2007
Instructor, "Crash Course on Supercomputing," ORNL, June 2006, 2007, and 2008
Referee, SIAM Journal on Optimization, April 2006
Reviewer, DoE ECPI Grant Panel Review, March 2006
Mentor, Association for Women in Mathematics, 2006-present
Invited panelist, Student Days, SC04, Pittsburgh, Pennsylvania, November 2004
Engineering and Physical Sciences Area Block Grant Committee, Campuswide Fellowship Board, University of Illinois at Urbana-Champaign, 2004
Instructor, NCSA/MSI/JEF Research Experience for High School and Undergraduate Students Cluster Computing Workshop, Arlington, VA, June 14-18, 2004