

Kelly I. Dickson

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EDUCATION ◇ North Carolina State University, Raleigh, NC

- Ph.D. in Applied Mathematics, GPA 4.0, expected August 2008
Thesis advisor: C.T. Kelley
Thesis title: *Condition Estimates for Numerical Continuation with Applications to Atomic and Molecular Fluids*
- M.S. in Applied Mathematics, GPA 4.0, December 2005
- ◇ **James Madison University**, Harrisonburg, VA
 - B.S. in Mathematics (Computational and Applied Mathematics concentration), May 2003

RESEARCH INTERESTS Numerical continuation and bifurcation analysis, numerical linear algebra and nonlinear equations, matrix theory, continuation applied to particle fluids

- AWARDS ◇ Lowell S. Winton Scholarship
Awarded annually to a Ph.D. student displaying academic, research, and service related excellence
North Carolina State University, April 2008
- ◇ Second place cash award for Society for Industrial and Applied Mathematics (SIAM) “Math Matters”
article submission, April 2007
- ◇ Nomination for SIAM Service Award as NCSU Student Chapter President, April 2007
- ◇ SIAM Student Travel Award
Conference on Computational Science and Engineering, January 2007
- ◇ Outstanding undergraduate research in mathematics award
James Madison University, April 2003
- ◇ Second place in undergraduate talks for summer research
MAA Regional Meeting (DC, MD, VA), April 2002

PUBLICATIONS K.I. Dickson, C.T. Kelley, I.C.F. Ipsen, and I.G. Kevrekidis, *Condition Estimates for Pseudo-Arclength Continuation*, SIAM J. Numer. Anal. Vol 45, No.1, pp. 263-276, January 2008 (electronically January 2007)

K.I. Dickson, C.T. Kelley, B.M. Pettitt, A.G. Salinger, and J.J. Howard, *Distributions of Atoms in Fluids Using LOCA*, Technical Report SAND 2006-6564P, Sandia National Laboratories, October 2006

K.I. Dickson, A.G. Salinger, B.M. Pettitt, M. Marucho, and C.T. Kelley, *Continuation for Atomic and Molecular Fluids Using LOCA*, SAND 2007-7977, Sandia National Laboratories, December 2007

K.I. Dickson and T.M. Selee, *Eigenvectors of Arrowhead Matrices via the Adjugate*, submitted to Involve J. Math., November 2007

PROGRAMMING C++, FORTRAN, MATLAB, MAPLE, TRILINOS

EXPERIENCE

- WORK ◇ **Graduate Research Assistant**, North Carolina State University, 2004 - present
Advisor: C.T. Kelley
- ◇ **Technical Staff Intern**, Sandia National Laboratory - New Mexico, summer 2006, 2007
Advisor: Andrew Salinger
- ◇ **Teaching Assistant**, North Carolina State University, 2003 - 2004
- ◇ **Undergraduate Research Assistant**, Oak Ridge National Laboratory as part of REU
at University of Tennessee - Knoxville, summer 2002
Advisor: Jack Wells

- ◇ **Undergraduate Research Assistant**, James Madison University, summer 2001
Advisors: Paul Warne and Debra Polignone Warne

TALKS

- ◇ Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, April 2008, minisymposium
- ◇ Mathematics and Statistics Department Colloquium, James Madison University, Harrisonburg, VA, October 2007, invited
- ◇ Differential Equations Seminar, University of Maryland - Baltimore County, Baltimore, MD, October 2007, invited
- ◇ SIAM Meeting on Computational Science and Engineering, Costa Mesa, CA, February 2007, organized and spoke in minisymposium
- ◇ SIAM Annual Meeting, Boston, MA, July 2006, spoke as the NCSU SIAM Student Chapter representative in a special session, travel funds provided by SIAM
- ◇ Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, April 2006, minisymposium
- ◇ MAA Regional Meeting (DC, MD, VA), April 2002, contributed
- ◇ Nebraska Conference for Undergraduate Women in Mathematics, University of Nebraska - Lincoln, February 2002, contributed
- ◇ MAA/AMS Joint Mathematics Meeting, San Diego, January 2002, special undergraduate session, poster session

SERVICE

- ◇ NCSU SIAM Student Chapter President, 2006-present
- ◇ NCSU Mathematics Graduate Student Association board member, 2006-present