

Maureen M. Morton

CONTACT

INFORMATION mortonmaureen@yahoo.com

EDUCATION

Michigan State University, East Lansing, MI

Ph.D., Applied Mathematics, June 2010

- Dissertation Title: Integral Deferred Correction Methods for Scientific Computing
- Dissertation Advisor: Andrew J. Christlieb

University of Kansas, Lawrence, KS

B.A., Mathematics/Slavic Languages & Literatures, May 2003

Middlebury College, Middlebury, VT

Intensive Russian Language School, Summer 2001

RESEARCH

INTERESTS

Numerical Analysis, Scientific Computing, Numerical Methods for Multiscale Differential Equations, Reliability Analysis, Modeling & Computation for Fuel Cells

TEACHING

Stark State College, North Canton, OH

Timken Early College High School Mathematics Instructor 2016 - 2019

Adjunct Mathematics Instructor 2013 - 2019
(*Calculus I, Statistics, Math for Technology, Trigonometry, College Algebra, Precalculus*)

Mathematics Tutor 2013 - 2017
(*Developmental & College Level*)

Kids' College Instructor Summer 2014
(*designed & taught the Matchless Measures workshop*)

Malone University, Canton, OH

Science & Mathematics Adjunct Instructor Spring 2019
(*Precalculus*)

Malone Management Studies Adjunct Instructor 2014 - 2015
(*Survey of Business Algebra*)

Kent State University, Kent, OH

Recitation Instructor 2010 - 2011
(*Intermediate Russian II, Elementary Russian I, Elementary Russian II*)

Michigan State University, East Lansing, MI

Mathematics Graduate Instructor 2004 - 2010
(*College Algebra, Survey of Calculus I, Survey of Calculus II*)

Tutor, Math Learning Center 2004 - 2010
(*Calculus I, Calculus II, Calculus III, Differential Equations, Real Analysis*)

Michigan State University Teaching Assistant Programs, East Lansing, MI

Facilitator at International Teaching Assistant (ITA) Orientation August 2009

- Co-facilitated small group of new ITAs in discussions of cultural educational differences and practice teaching sessions

Mad Science of Greater Kansas City, Lenexa, KS

Mad Scientist 2003

- Presented educational and entertaining after-school science workshops for elementary-aged children

PROFESSIONAL
EXPERIENCE

N&R Engineering, Parma Heights, OH

Senior Research Engineer April 2019 - Present

- Perform probabilistic structural analysis, risk analysis, and reliability analysis for air and space applications
- Develop software and new methodologies for analyses

Stark State College, North Canton, OH

Returning Student Advisor 2016 - 2019

- Advise returning students in registration for classes, planning schedules to meet major and prerequisite requirements (various majors), change of major forms

POWERcorps, an AmeriCorps program of Family & Community Services and Portage County Board of DD, Ravenna, OH

Recreational Coordinator for Individuals with Developmental Disabilities 2011 - 2012

- Planned and implemented recreational, social, and educational activities for adult and teen consumers in groups of 6 - 40

Dept. of Mathematics, Michigan State University, East Lansing, MI

Graduate Research Assistant 2007-2010

- Conducted original research to improve numerical methods for scientific computing with applications such as biology, optics, plasma physics fusion energy

Institute for Pure and Applied Mathematics, UCLA, Los Angeles, CA

Visiting Mathematics Scholar 2009

- Long program on Quantum and Kinetic Transport: Analysis, Computations, and New Applications

Depts. of Horticulture and Crops & Soil Sciences, Michigan State University, East Lansing, MI

Research Assistant 2005

- Initiated and established protocol for mathematical modeling (focused on seed priming in cover crops) for Prof. Sieglinde Snapp's laboratory

Organic and Sustainable Agriculture Lab, Depts. of Horticulture and Agronomy, Iowa State University, Ames, IA

Research Assistant

2000, 2004

- Supervised assistant in preparing research reports for publication
- Collected and analyzed insect and plant data
- Served as a liaison between the university and farmers

PUBLICATIONS *A high order time splitting method based on Integral Deferred Correction for semi-Lagrangian Vlasov simulations.* A. Christlieb, W. Guo, M. Morton, and J.-M. Qiu. *J. Comp. Phys.*, v 267, pp 7-27, 2014

Semi-implicit Integral Deferred Correction constructed with additive Runge-Kutta methods. A. Christlieb, M. Morton, B. Ong, and J.-M. Qiu. *Commun. Math. Sci.*, v 9(3), pp 879-902, 2011

Seed priming of winter annual cover crops improves germination and emergence. S. Snapp, R. Price, and M. Morton. *Agronomy Journal*, v 100, pp 1506-1510, 2008

Analysis of biological interaction networks for drug discovery. A. Baker, M. Jung, C. Lee, I. Maslova, M. Morton, J. Wang. CRSC Technical Report: CRSC-TR06-23, pp 119-157. Industrial Mathematical & Statistical Modeling Workshop for Graduate Students, Center for Research in Scientific Computation, Raleigh, NC, 2006

INVITED TALKS *Integral Deferred Correction methods for multi-scale and nonlinear problems.* Case Western Reserve University: Applied Mathematics Seminar, Cleveland, OH, April 2019

High order split Integral Deferred Correction methods for Vlasov equations. SIAM Annual Meeting, Pittsburgh, PA, July 2010

Integral Deferred Correction methods for multi-scale problems. Colorado School of Mines: Mathematical and Computer Sciences Colloquium, Golden, CO, October 2009

CONTRIBUTED TALKS *Humor in the mathematics classroom.* Stark State Faculty & Staff Retreat, Perrysville, OH, 2016

Higher order split Integral Deferred Correction methods for partial differential equations. AMS Joint Mathematics Meetings, San Francisco, CA, 2010

Arbitrary order semi-implicit methods and extension to asymptotic preserving framework. Institute for Pure and Applied Mathematics: Culminating Workshop, Lake Arrowhead, CA, 2009

Efficient higher order semi-implicit time integration with Integral Deferred Correction and additive Runge-Kutta. SIAM Conference on Computational Science and Engineering, Miami, FL, 2009

AWARDS Dissertation Completion Fellowship, Michigan State University, Summer 2010

Housing Stipend, Institute for Pure and Applied Mathematics, UCLA, Spring 2009

Travel Grant, Industrial Mathematical & Statistical Modeling Workshop for Graduate Students, Center for Research in Scientific Computation, Raleigh, NC, Summer 2006

Travel Grant, Graduate Summer School in Mathematical Biology, Park City Mathematics Institute, Park City, UT, Summer 2005

First Place, Nonheritage Fourth Year Russian Language Essay Contest, American Association of Teachers of Slavic and East European Languages (AATSEEL), 2003

National Merit Scholar, with scholarship, at University of Kansas, 1999 - 2003

SERVICE

Mu Alpha Theta Honor Society at Stark State College, North Canton, OH

Assistant to math club & honor society advisor with Timken Early College High School student members 2017, 2018

Student Support Services & Interfaith, Stark State College, North Canton, OH

Co-Coordinator of Your Story, Your Community, Your College, a community-building program for students, faculty, and staff 2014 - 2019

Mathematical Reviews, American Mathematical Society, Ann Arbor, MI

Reviewer: summarize current, published Mathematics papers 2015 - 2016

We Are IT, Stark State College, North Canton, OH

Presenter for Mathematics breakout session for local high schoolers March 2015

Robinson Memorial Hospital, Kent Medical Arts Building, Kent, OH

Volunteer Information Desk Receptionist, >180 service hours 2011 - 2012