

Beth Skubak Wolf

Lecturer IV
Department of Mathematics
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EMPLOYMENT

- Lecturer III-IV, University of Michigan, 2019–present
- Lecturer I, University of Michigan, 2016–2019
- Assistant Professor of Mathematics, Saint Mary’s College (Indiana), 2014–2016
- Teaching Assistant/Research Assistant, University of Wisconsin - Madison, 2009–2014

EDUCATION

- Ph.D. Mathematics, May 2014, University of Wisconsin - Madison
 - *Thesis title:* Computational Methods for Parametric Sensitivities of Stochastic Chemical Reaction Networks
 - *Minor:* Computer science
- M.A. Mathematics, May 2011, University of Wisconsin - Madison
- B.S. Mathematics, May 2009, Bucknell University

PROFESSIONAL WORK & SERVICE ACTIVITIES

- Math 105 (Data, Functions, and Graphs) or Math 115 (Calculus I) Course Coordinator, most semesters 2019–present
- Co-lead, Math 115 Foundational Course Initiative (FCI) Project, co-sponsored with U-M’s Center for Research on Learning and Teaching (CRLT), 2020–present
- Co-editor, *Newsletter* of the Michigan Section of the MAA, Fall 2017–present
- Organizer, summer Professional Development Program, 2017–present
- Transfer Credit Evaluation Committee, 2019–present
- Member, MAA Committee on the Trevor Evans Award, July 2018–July 2022;
Chair, July 2021–July 2022

PROFESSIONAL SOCIETIES

- MAA, member nationally and on Executive Committee of the Michigan Section
- Project NExT (Gold ‘14)

GRANTS, HONORS, & FELLOWSHIPS

- New Initiatives/New Instruction (NINI) grant funding for work on Math 115 FCI project, Summer 2021-22
- SISTAR Grant for Undergraduate Research, Saint Mary's College, 2015
- New Faculty Scholar and Lilly Grant, Saint Mary's College, 2014–16
- Project NEXt Fellow, 2014–2015
- Elizabeth S. Hirschfelder Scholarship, University of Wisconsin - Madison, 2013
- Math Department TA Teaching Award, University of Wisconsin - Madison, 2011
- National Science Foundation GRFP Honorable Mention, 2010
- Barry M. Goldwater Scholar, 2007–2009
- Pi Mu Epsilon Society Prize, Bucknell University, 2009
- Phi Beta Kappa member, Committee member, Bucknell University, 2008

OUTREACH

- Wolverine Pathways, program providing extracurricular math content to middle and high school students in Eastern Michigan, Fall 2016
- Wayne and Washtenaw Counties Math Teachers' Circle, 2016–2017
- Reviewer, various undergraduate journals
- Judge for undergraduate talks, posters at MathFest, JMM
- Mega Math Meet competition for WI middle schoolers, Head Organizer, 2010–2014

PAPERS

- Elizabeth Skubak Wolf and David F. Anderson, *Hybrid Pathwise Sensitivity Methods for Discrete Stochastic Models of Chemical Reaction Systems*, Journal of Chemical Physics, Vol. 142, No. 3, 034103, 2015.
- Elizabeth Skubak Wolf and David F. Anderson, *A finite difference method for estimating second order parameter sensitivities of discrete stochastic chemical reaction networks*, Journal of Chemical Physics, Vol. 137, No. 22, 224112, 2012.
- Pamela Gorkin and Elizabeth Skubak, *Polynomials, ellipses, and matrices: two questions, one answer*, American Mathematical Monthly 118, June-July 2011.

SELECTED TALKS

- *Supporting Students Underrepresented in Mathematics: More Inclusive Instruction and More Equitable Assessment*, Enriching Scholarship conference, virtual, May 2021
- *Ellipses, Polynomials, and a Most Marvelous Theorem*, Math Club Talk, University of Michigan, March 2017
- *Analyzing the Effect of Delay in Discrete Stochastic Models and an Application to Mumps Epidemics*, with student B. Kozemzak, Saint Mary's College, April 2016
- *Computing Sensitivities in Discrete Stochastic Reaction Networks with Delay*, AMS Special Session on Stochastic Effects in Models for Mathematical Biology and Ecology, JMM, January 2016
- *Building Better Biological Models*, Albion College, October, 2015
- *Computational Methods for Parameter Sensitivities of Stochastic Chemical Reaction Networks*, Applied Math Seminar, University of Notre Dame, October 2015
- *Fostering Critical Thinking in a Liberal Arts Mathematics Course through Graph Theory*, MathFest, Washington, D.C., August 2015
- *Stochastic Models: How to Use Mathematics and Random Numbers to Study Biological Systems*, Science Colloquium, Saint Mary's College, November 2014
- *Biological Systems Can Be Random: How to Deal*, MAA Indiana Section Meeting, October 2014
- *Sensitivities for a Discrete, Stochastic Biochemical Model*, Midwest Women in Mathematics Symposium, University of Notre Dame, April 2014
- *Derivative estimation for discrete time Markov chains (series)*, Probability Graduate Student Seminar, University of Wisconsin – Madison, February–March 2014
- *Parameter Sensitivities for Discrete Stochastic Models in Continuous Time*, AMS Session on Probability and Stochastic Dynamical Systems, JMM, January 2014
- *Polynomials and Ellipses: Two Questions, One Answer*, MAA Michigan Section Meeting, Lake Superior State University, May 2013
- *A Coupled Finite Difference Method for Efficient Computation of Parameter Sensitivities of Discrete Stochastic Biochemical Reaction Networks*, Special Session on Probabilistic and Multiscale Modeling Approaches in Cell and Systems Biology, AMS Central Section Meeting, Iowa State University, April 2013
- *Polynomials, Ellipses, & Matrices: Two Questions, One Answer*, invited talk, MAA North Central Section meeting, University of Minnesota – Duluth, October 2012

COURSES TAUGHT

University of Michigan:

- Math 105: Data, Functions, and Graphs
- Math 115: Calculus I, including course coordination
- Math 186: Honors Calculus II
- Math 310: Chance and Choice (IBL probability course)
- Math 425: Introduction to Probability (standard undergraduate course)
- Math 525: Probability Theory (introductory graduate course)

Saint Mary's College:

- Liberal Arts Mathematics (graph theory course)
- Patterns in Mathematics for Elementary Teachers
- Differential Equations II
- Probability
- Numerical Analysis
- Mathematical Modeling
- Data Structures (computer science course, in Java)

University of Wisconsin – Madison:

- Intermediate Algebra (Summer Collegiate Experience program for incoming students)
- Problem Solving in Algebra, Probability, & Statistics for Elementary Teachers
- Calculus I & II (TA)
- Linear Algebra (TA)