

Christopher E. Miles

155 South 1400 East, JWB 233 Salt Lake City, UT 84112-0090
miles@math.utah.edu • +1(801)581-7653 • <http://chrismil.es>

- EDUCATION**
- University of Utah**, Salt Lake City, UT
Doctor of Philosophy (Ph.D.) in Mathematics *in progress, expected 2018*
Focus: Mathematical Biology
Advisor: Dr. James P. Keener
- Lafayette College**, Easton, PA
Bachelor of Science (B.S.) in Electrical & Computer Engineering *May 2013*
Bachelor of Science (B.S.) in Mathematics
Thesis: "Network Coding Theory & Matroid Representability"
summa cum laude
- PUBLICATIONS**
1. O. Osunbayo, **C.E. Miles**, B.J. Reddy, J.P. Keener, M.D. Vershinin, "Complex nearly immobile behavior of microtubule-associated cargos" *submitted*.
 2. **C.E. Miles**, J.P. Keener, "Jump locations of jump-diffusion processes with state dependent rates," *submitted*. [arXiv:1701.01920](https://arxiv.org/abs/1701.01920)
 3. **C.E. Miles**, J.P. Keener, "Bidirectionality from cargo thermal fluctuations in motor-mediated transport," *J. Theor. Biol.* 424:37-48, 2017
 4. **C.E. Miles**, I. Jouny, G. Gordon, "Exploring the connection between matroids and network coding theory," *47th Annual Conference on Information Sciences and Systems (CISS)*, 1(6):20-22, 2013
- PRESENTATIONS TALKS**
- Disentangling active from passive diffusion in observations of motor-mediated cargo* *July 2017*
Society of Mathematical Biology (SMB) Annual Conference, Salt Lake City, UT
- Polynomial Dynamical Systems: Math Bio Meets Algebraic Geometry* *March 2016*
Graduate Student Colloquium, University of Utah
- How the Zebra Got Its Stripes: Mathematical Pattern Formation* *Oct. 2015*
Undergraduate Mathematics Colloquium, University of Utah
- Some Integrals Are Impossible: A Foray into Differential Galois Theory* *Oct. 2014*
Graduate Student Colloquium, University of Utah
- The Use of Matroids in Network Design* *April 2013*
IEEE Region 2 Student Activities Conference, Morgantown, WV
runner-up for best undergraduate paper
- Sensitivity Analysis of Polynomial Dynamical Systems* *April 2013*
National Conference on Undergraduate Research (NCUR), La Crosse, WI
- Sensitivity Analysis Using Polynomial Dynamical Systems* *Nov. 2012*
8th Annual UNCG Regional Mathematics & Statistics Conference, Greensboro, NC
runner-up for best undergraduate paper
- POSTERS**
- Jump Locations of State-Dependent Jump-Diffusion* *May 2017*
SIAM Conference on Applications of Dynamical Systems, Snowbird, UT
- Bidirectional Motor Transport and Cargo Diffusion* *July 2016*
SIAM Conference on the Life Sciences, Boston, MA
graduate student poster award
- Sensitivity Analysis in Discrete Biological Models* *Nov. 2013*
NIMBioS Undergraduate Research Conference, Knoxville, TN
- A Novel Method for Sensitivity Analysis of Polynomial Dynamical Systems* *Jan. 2013*
MAA/AMS Joint Mathematics Meetings, San Diego, CA
- HONORS & GRANTS**
- NSF Research Training Group Grant (RTG) in mathematical biology *2013, 2016*
provided to stimulate interdisciplinary research in the field of mathematical biology (Utah)

Wesley S. Mitman Prize in Mathematics awarded to the graduate most outstanding in mathematics (Lafayette)	2013
Finley W. & Ethelwyne H. Smith Electronic Engineering Prize awarded to the electrical engineering graduate with the highest cumulative grade point average (Lafayette)	2013
Benjamin F. Barge Oratorical Prize awarded for writing and pronouncing during their thesis defense in the best manner (Lafayette)	2013

TEACHING

Full Instructor , Department of Mathematics, University of Utah	
Math 3140: Vector Calculus & Partial Differential Equations	Summer 2016
Math 1321: Accelerated Engineering Calculus II	Spring 2016
Math 2250: Differential Equations & Linear Algebra	Fall 2015
Math 1320: Engineering Calculus II	Spring 2015
Math 1310: Engineering Calculus I	Fall 2014
Lab Instructor , Department of Mathematics, University of Utah	
Math 1180: Probability & Statistics for Biologists (R programming)	Spring 2017
Math 1170: Calculus for Biologists (R programming)	Fall 2016

OTHER SERVICE & OUTREACH

Asst. organizer (webmaster) , <i>SMB Annual Conference</i> , Salt Lake City, Utah	July 2017
Presenter , <i>Pi Day</i> , Leonardo Museum, Salt Lake City, Utah	May 2016
Presenter , <i>Nerd Night</i> , College of Science, Univ. of Utah	April 2016
Co-chair , Graduate Student Advisory Committee, Dept. of Math., Univ. of Utah	2016-2017
Member , Retention, Promotion & Tenure Committee, Dept. of Math., Univ. of Utah	2015-2016
Science fair judge , The McGillis School, grades 6-8	2015
Workshop organizer , Science Day at the U, grades 10-12	2014