

John Cummings

Curriculum Vitae

CONTACT INFORMATION

Work: (706) 290-2668

Email: jcummings@berry.edu

EDUCATION

Ph.D Mathematics, December 2017,
University of Tennessee, Knoxville

Advisor: Dr. Steven Wise

Thesis title: Mathematical Modeling of Mixtures and Numerical Solution with Applications to Polymer Physics

M.S. Mathematics, December 2014, University of Tennessee, Knoxville

B.S. Mathematics, Spring 2011, Georgia Institute of Technology

EMPLOYMENT

August 2017-Present, Berry College
Visiting Assistant Professor of Mathematics

RESEARCH INTERESTS

Numerical methods for solving partial differential equations, multigrid methods, adaptive schemes, diffuse-interface models.

PUBLICATIONS

Cummings, J., Kumar, R., Wise, S. *Modeling solvent evaporation during thin film formation in phase separating polymer mixtures.* (In preparation)

AWARDS, SCHOLARSHIPS AND GRANTS

Higher Education Research Experiences (HERE)

Oak Ridge National Laboratory

June 2017 - August 2017

Program designed to provide research opportunities for graduate students

University of Tennessee Math Department Fellowship

University of Tennessee, Knoxville

May 2016 - August 2016

Summer fellowship for advanced University of Tennessee graduate students.

Department of Energy Office of Science Graduate Research Fellowship (SCGSR)

Oak Ridge National Laboratory

January 2015 - January 2016

Mentor: Dr. Rajeev Kumar

Highly competitive fellowship intended to provide graduate thesis research opportunities at DOE national laboratories.

Graduate Student Academic Achievement Award

University of Tennessee, Knoxville

May 2015

Award for Outstanding Academic Achievement.

Advanced Short-Term Research Opportunity (ASTRO)

Oak Ridge National Laboratory

May 2014 - August 2014

Highly selective short term research program for graduate students.

**TEACHING
EXPERIENCE**

Primary Instructor:

Precalculus Fall 2017, Fall 2016, Fall 2012

Applied Calculus Fall 2017

Mathematical Reasoning Spring 2016

Calculus I Fall 2014, Fall 2013

Calculus II Spring 2014, Summer 2012

Basic Calculus Summer 2013

Recitation Instructor:

Calculus III Spring 2017, Fall 2011

Numerical Algorithms Spring 2016

Basic Calculus Spring 2013, Spring 2012

**CONFERENCES
AND
WORKSHOPS**

SIAM Southeastern Atlantic Section, March 2017, Florida State University

Mathematical Modeling in Industry, July 2014, University of British Columbia

Mathematical Problems in Industry, June 2014, New Jersey Institute of Technology

Graduate Student Mathematical Modeling Camp, June 2014, Rensselaer Polytechnic Institute

**PROGRAMMING
AND
SOFTWARE
EXPERIENCE**

MATLAB - Finite difference methods and visualization of solutions.

FORTRAN - Finite difference and finite volume methods, usage of BSAM (Block Structured Adaptive Multigrid) libraries.

C++, C - Finite difference and finite element methods, usage of Deal.II finite element library.

LaTeX - Articles, posters, beamer presentations.

Python - Visualization of solutions and writing scripts.