

# Stephen E. Galloway

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## TEACHING EXPERIENCE

### **Slippery Rock University, Slippery Rock, PA**

August 2022 - Present

#### Mathematics Instructor

Calculus I (2 sections)	Spring 2023
Numerical Mathematics (1 section)	Spring 2023
Precalculus (2 sections)	Fall 2022
Quantitative Reasoning (2 sections)	Fall 2022

### **St. Andrews University, Laurinburg, NC**

August 2020 - May 2022

#### Assistant Professor of Mathematics

Calculus I (3 sections)	Fall 2020 - Spring 2021, Spring 2022
College Algebra (3 sections)	Fall 2021 - Spring 2022
Mathematics: The Science of Patterns (6 sections)	Fall 2020 - Spring 2022
Precalculus (4 sections)	Fall 2020 - Spring 2022

### **University of Tennessee, Knoxville, TN**

August 2014 - May 2020

#### Graduate Teaching Assistant / Associate

##### Lead Instructor

Basic Calculus (3 sections)	Spring 2016
Calculus I (4 sections)	Fall 2016 - Spring 2018
College Algebra (2 sections)	Fall 2015
Computer Literacy for Mathematics (1 section)	Spring 2020
Finite Mathematics (1 section)	Spring 2019

##### Recitation and Grading

Basic Calculus (1 section)	Fall 2014
Calculus I (2 sections)	Fall 2016, Fall 2017
Finite Mathematics (1 section)	Fall 2019

##### Computer Lab Instructor

Numerical Algorithms (2 sections)	Fall 2014 - Spring 2015
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##### Grader

Differential Equations (1 section)	Fall 2018
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### **Portersville Christian School, Portersville, PA**

August 2013 - June 2014

#### High School Teacher

Basic Algebra I-Part II (1 semester), Basic Algebra II, Basic Geometry,  
General and Honors (with Lab) Chemistry

## TEACHING EXPERIENCE, CONTINUED

### Butler County Community College, Butler, PA

February 2010 - July 2013

#### Adjunct Instructor

##### Credit Courses

- Business Mathematics (5 sections; 4 terms)
- College Algebra (1 section)
- Computer Information Systems (1 section)
- Introduction to Microcomputing (1 section)
- Microcomputing Applications (2 sections; 2 terms)
- Preparatory Mathematics (2 sections; 1 term)
- Preparatory Algebra (1 section)

##### Noncredit Courses

- SAT Preparation (1 section, 21 hours)
- Excel I (2 sections, 7 hours each; 2 terms)
- Excel II (2 sections, 7 hours each; 2 terms)

#### Tutor

814 Hours, 118 Students, 33 Courses, 7 Areas

- Business
- Chemistry
- Computers
- Electronics
- Mathematics
- Office Administration
- Physics

### Galloway Software, Grove City / Slippery Rock, PA

November 2009 - May 2013

#### Tutor (Self-employed)

97 Hours, High School and College: Computer Programming, Mathematics, Physics

## EDUCATION

### University of Tennessee, Knoxville, TN

August 2014 - August 2020

Doctor of Philosophy in Mathematics

August 2020

GPA: 3.98 / 4.00

Advisor: Dr. Steven M. Wise

Dissertation Topic: "Multimode Phase Field Crystal (PFC) Graphene Modeling"

Preliminary Exams:

- Computational / Numerical (PhD Pass)

- Stochastics (PhD Pass)

- Topology (Master's Pass)

Master of Science in Mathematics

August 2017

Masters' Project: "Phase Field Modeling in 2D and 3D with 2D Anisotropy"

## **EDUCATION, CONTINUED**

### **Slippery Rock University, Slippery Rock, PA**

August 2011 - May 2013

Bachelor of Science in Mathematics

GPA: 4.00 / 4.00

### **Grove City College, Grove City, PA**

September 1988 - May 1992

Bachelor of Science in Electrical Engineering (ABET Accredited)

GPA: 3.88 / 4.00; Summa cum Laude; Roger Clark Dawes Outstanding Engineer

## **RESEARCH EXPERIENCE**

### **Doctoral Research (UTK)**

January 2018 - July 2020

Multimode phase field crystal (PFC) model with vapor phase field.

Pseudo-spectral method with pseudo-spectral derivatives.

Linear operator / correlation function development in Fourier (frequency) space.

Triangular and honeycomb (graphene) geometry.

Phase free energy equilibrium diagrams and the lever rule.

Surface free energy.

Dual-layer graphene with copper substrate and vapor deposition.

Binary PFC model with vapor phase.

### **Statistics Team Project (UTK)**

October 2017 - November 2017

Hamiltonian (hybrid) Monte Carlo method: theory and simulations.

Written and graphical explanations of the HMC algorithm and leapfrog integration.

Simulations for 1D and 2D distributions with scatter plots, traces, and histograms.

### **Master's Project (UTK)**

January 2017 - May 2017

Phase field model with temperature field.

Isotropic and anisotropic dendritic crystal growth.

Temperature and phase field 2D and 3D simulations.

### **Statistics Two-Person Project (SRU)**

February 2013 - May 2013

Heuristic, combinatorial, and Monte Carlo analyses of playing card arrangements.

### **Electrical Engineering Team Project (GCC)**

September 1991 - May 1992

Autonomous robot tracking system using dual-frequency ultrasonics.

Responsibilities: Receiver circuitry and trigonometric positioning algorithm.

## GRANTS, AWARDS, AND HONORS

National Science Foundation (NSF) Research Grant Summer 2018 - Spring 2020  
Title: "Multimode Phase Field Crystal (PFC) Graphene Modeling"  
Summer Departmental Graduate Fellowship Summer 2019  
Chancellor's Fellowship from the University of Tennessee Fall 2014 - Spring 2018  
Department Book Awards for Outstanding Work in Mathematics  
from Slippery Rock University Fall 2012, Spring 2013  
Walter E. Page Science Scholarship from Grove City College 1989

## PROFESSIONAL EXPERIENCE

**Galloway Software, Grove City / Slippery Rock, PA** March 2001 - May 2013  
Tutor / Software Engineer / Computer Repair (Self-employed)

**Innovative Maintenance Systems, Butler, PA** January 2006 - February 2007  
Software Engineer

**Joy Mining Machinery, Franklin, PA** March 2002 - August 2005  
Software Engineer

**Billco Manufacturing, Inc., Zelienople, PA** April 1994 - March 2001  
Project Electrical Engineer / Software Engineer

## EXPERIENCE AND SKILLS

Four Years of Small Group Leadership  
One Year of Youth Group Co-leadership  
Blackboard, Canvas, D2L, Moodle, WebAssign, MathZone, MyMathLab,  
Respondus LockDown Browser, TurningPoint Clickers, Zoom  
MATLAB, Mathematica, Maple  
Visual Basic, C++Builder, Visual C++, Delphi, Perl, SQL, HTML, JavaScript

## PROFESSIONAL ORGANIZATIONS AND MEMBERSHIPS

Kappa Mu Epsilon Mathematics Honorary (KME)  
American Mathematical Society (AMS)  
Mathematical Association of America (MAA)  
Society for Industrial and Applied Mathematics (SIAM)  
National Council of Teachers of Mathematics (NCTM; former member)