Brittany Cuchta **Curriculum vitae**

CONTACT INFORMATION

Lecturer
Missouri University of Science and Technology
Department of Mathematics and Statistics
202 Rolla Building
400 W. 12th Street
Rolla, MO 65409-0020

304.542.6050
bwb65@mst.edu

QUALIFICATIONS AND INTERESTS

Problem solving, analytical thinking, logic, real analysis, biomathematics, mathematical applications, statistics, education and education reform

AVAILABILITY

- Available starting in August 2016
- Geographic location is flexible, but there is preference for the Bridgeport, WV area

EDUCATION

Missouri University of Science and Technology, Rolla, MO

M.S., Applied Mathematics, May 2014

Marshall University, Huntington, WV

B.S., Mathematics and Applied Mathematics (Double Major), May 2012

PROFESSIONAL EXPERIENCE

Missouri University of Science and Technology, Rolla, MO

Lecturer **July 2014 to present**

- Courses taught include algebra, trigonometry, differential equations, and statistics, all geared towards engineering students.
- Participated in both coordinated and non-coordinated courses.
- Responsible for writing lectures, writing and grading of exams and homework assignments.
- Worked closely with other instructors and professors to help design effective courses.

Graduate Teaching Assistant **Aug 2012 to May 2014**

- Participated in weekly seminar to learn effective teaching strategies.
- Focus on balance of coursework with teaching load.

Marshall University, Huntington, WV

Research Assistant **May 2009 to May 2010**
May 2011 to May 2012

- Learned analytic methods for applications to both biology and chemistry.
- Developed presentations for each project at the end of the year.
- Funded by the NASA Space Grant Consortium and the National Science Foundation Undergraduate Research in Mathematical Biology Program

RESEARCH EXPERIENCE

Missouri University of Science and Technology, Rolla, MO

The Complete Iterative Inversion Method May 2013 to Present

Supervisors: David Grow, Ph.D. and Matt Insall, Ph.D.

- Real analysis and measure theoretic application to physical chemistry field.
- Use of numerical verifications via MATLAB.
- Requires knowledge of both advanced mathematics and physics in order to fully develop theoretical background.

Exploring the Genetic Cause of Auxin Regulation in Arabidopsis — May 2014 to Aug 2014

Supervisor: Gayla Olbricht, Ph.D.

- Statistical techniques applied to epigenomics.
- Used RNASeq design and R data package to work with large data sets.
- Required the learning of new software (R), new statistical techniques (edgeR, bioconductor, voom).

Marshall University, Huntington, WV

Modelling Gravitropism in Pea Plants using MATLAB — May 2011 to May 2012

Supervisors: Marcia Harrison, Ph.D., and Scott Sarra, Ph.D.

- Selected from a pool of students after a one-semester course in mathematical biology.
- MATLAB-focused project.
- Used image-capturing software to collect images of pea plants undergoing gravitropic effects.
- Mathematical techniques employed to attempt to model the rate of curvature.
- Required knowledge of both mathematics and biology to both explain and describe the effects.

Ab Initio Study of Pre-Reactive OH Radicals — May 2009 to May 2010

Supervisor: Rudolf Burcl, Ph.D.

- Mathematical principles used to model chemical reactions in a physical chemistry field.
- Focused on using Linux-based system to perform calculations.
- Required knowledge of basic physical chemistry, computing, and programming in order to optimize written programs.

AWARDS

First Place in Undergraduate Presentations — April 2012

- Received for presentation on gravitropism project at West Virginia's STaR Symposium.

We Love Your Class — May 2013

- Chosen by the freshman engineering class among all professors and instructors at Missouri S&T.
- A total of 19 instructors were nominated.

GTA Teaching Excellence Award (Honorable Mention) — Dec 2013

- Chosen by the Department of Mathematics and Statistics for the previous academic year.
- A total of 5 students (2 honorable mentions) are chosen.

SKILLS

Technology:

- Skilled in Microsoft Office products and OpenOffice products.
- Experienced in image-editing software GIMP.
- Proficient in MATLAB, Mathematica, LaTeX; acquainted with SAS, R, UNIX systems, and C++.

Languages:

- Working knowledge of Spanish (reading, writing, and some speaking).

Other:

- Effective interpersonal skills.
- High level of organization.
- Well-practiced and developed writing skills.

MORE INFORMATION

References available upon request. Visit www.bcuchta.com for more information and auxiliary documents.