HANNAH CORREIA

331 Funchess Hall, Auburn University, Alabama 36849
Office: 322 Funchess Hall • Cell: (334) 498-1515 • Email: hec0003@auburn.edu

SUMMARY

- Highly-motivated, consistently achieving academic excellence through conduct and performance.
- Effective communicator with ability to lead, reach consensus, and establish and reach goals.
- Independent thinker developing new solutions to enhance scientific research and enrich career growth.

EDUCATION

Ph.D., Biology, Auburn University, Auburn, AL, 2018
Advisor: F. Stephen Dobson

M.S., Statistics, Auburn University, Auburn, AL, 2016
Thesis: "Rank-Based Estimation for Generalized Additive Models"
Advisor: Asheber Abebe

B.A., Biology and Mathematics, Huntingdon College, Montgomery, AL, 2011

ACADEMIC AWARDS

National Science Foundation Graduate Research Fellowship recipient, 2015-2018

PUBLICATIONS AND PRESENTATIONS

"Improved Statistical Methods for Modeling Population Variability of Groundfish in the Northern Pacific Ocean," Correia, Hannah. COSAM Interdisciplinary Colloquium, Auburn University, February 2, 2016. Oral Presentation.

"Darwin Meets Graph Theory on a Strange Planet: Counting Full *n*-ary Trees with Labeled Leafs," Barnett, Johnathan; Correia, Hannah; Johnson, Peter; Laughlin, Michael; Wilson, Kathryn. *Alabama Journal of Mathematics*, Vol. 35, Spring/Fall 2010 Issue.

CONFERENCES AND WORKSHOPS

2016 Ecological Society of America Annual Meeting – August 7-12, 2016 in Ft. Lauderdale, Florida

2016 Joint Statistical Meetings – July 30-August 4, 2016 in Chicago, Illinois

Fifth Annual Masamu Advanced Study Institute (MASI) and Workshops in Mathematical Sciences - November 21-29, 2015 in Windhoek, Namibia as part of the 2015 Southern Africa Mathematical Sciences Association (SAMSA) Conference

Fourth Annual Masamu Advanced Study Institute (MASI) and Workshops in Mathematical Sciences - November 22-30, 2014 in Victoria Falls, Zimbabwe as part of the 2014 Southern Africa Mathematical Sciences Association (SAMSA) Conference

SAMSI 2014-15: ECOL: Opening Workshop - August 18-22, 2014 at the North Carolina Biotechnology Center as part of the SAMSI Program on Mathematical and Statistical Ecology

EXPERIENCE

National Science Foundation Graduate Research Fellow, Auburn University, AL, May 2015-May 2018

- Improving and applying complex statistical techniques to fisheries data to explain interactions and quantify trends in fish population dynamics in the northern Pacific Ocean.
- Created robust and efficient estimation technique for generalized additive models (GAMs) and implemented on fisheries data.
- Motivated a new cross-listed research seminar at Auburn University through the fellow's collaborative dialogue that was offered in the fall semester for joint research between mathematicians, statisticians, and biologists. The seminar has been successful and supported by COSAM administration, leading to plans for the course to be offered regularly.

Graduate Teaching Assistant, Auburn University, Auburn, AL, August 2013 – May 2015

- Lead and supported two Ecology labs, teaching students the application of scientific method, experimental design, and statistical methods to answer ecological questions.
- Graded for three mathematics courses, each over 90 students, while maintaining a full course load and 4.0 graduate GPA.

National Science Foundation Research Experience for Undergraduates, Auburn University, AL, June-July 2010

- One of seven undergraduates chosen after application process to conduct research in areas of algebra and discrete mathematics under the supervision of Drs. Overtoun Jenda and Peter Johnson.
- Worked with Drs. Overtoun Jenda and Peter Johnson to actively gain knowledge and insight for furthering research topics; gained knowledge of research process, publication, and presentation methods
- Obtained good working knowledge of Sage, an open-source mathematical software alternative to Maple & MatLab.
- Identified and constructed a formula/ result for a graph theory problem on biological phylogenies within a subgroup of four; summarized speedily in writing the team's ideas; worked with co-operation of group to produce a presentation and PowerPoint to summarize the team's ideas, which was presented to an audience comprising of mathematics professors and graduate students at Auburn University.
- Research work taken to conclusion with a proof created during mathematics capstone project the following fall semester.

SOFTWARE SKILLS

- R – Free Software Environment for Statistical Computing and Graphics
- SAS – Business Analytics and Business Intelligence Software
- Sage – Open Source Mathematics Software