

EMILY KRACH

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EDUCATION

University of Georgia, Athens, GA August 2016-Present
PhD Candidate, Department of Genetics
Advisor: Jonathan Arnold

University of Maryland, College Park, MD August 2012-May 2016
B.S. Cell Biology & Molecular Genetics
Minor in Sustainability Studies
University Honors Program

RESEARCH SUPPORT

Graduate Student Travel Award (\$600) October 2018
University of Georgia Graduate School

ARCS Foundation Scholarship (\$24,000) August 2018
ARCS Atlanta Chapter

Innovative and Interdisciplinary Research Grant (\$2,500) May 2017
University of Georgia Graduate School

PEER-REVIEWED PUBLICATIONS

Caranica C., Hwei-Cheong J., Qiu X., **Krach E.**, Deng Z., Mao L., Schuttler H.B., Arnold J. *What is phase in cellular clocks?* (SUBMITTED)

PRESENTATIONS

Poster

Characterization of Conidiophore Architecture in *Neurospora crassa* October 2018
Neurospora Meeting, Pacific Grove, CA

Hyphal Network Formation in *Neurospora crassa* July 2017
Mycological Society of America Meeting, Athens, GA

Examining Novel Intergenic Transcripts Containing Repetitive Elements Dysregulated in Psychiatric Disease August 2015
Johns Hopkins Stanley Division of Developmental Neurovirology, Baltimore, MD

Using RT-PCR to Examine Transcriptional Variants Associated with Schizophrenia and Bipolar Disorder August 2014
Johns Hopkins Stanley Division of Developmental Neurovirology, Baltimore, MD

Other

Collective Behavior in Filamentous Fungi

January 2018

3-Minute Thesis Competition, UGA Department of Genetics, Athens, GA

TEACHING & MENTORING EXPERIENCE

Mentor to Undergraduate Student Tatiana Lim-Tom

January 2018-Present

University of Georgia, Department of Genetics

Mentor to Summer REU Student DeAndre Tomlinson

May-July 2018

University of Georgia, Department of Genetics

Mentor to CURO Honors Student Brooke Hull

January 2017-May 2018

University of Georgia, Department of Genetics

Graduate Teaching Assistant, Genetics

January-June 2017

University of Georgia, Department of Genetics

Undergraduate Teaching Assistant, University Honors 100

January 2014-December 2015

University of Maryland, Honors College

OUTREACH

Vice President, Mycology Graduate Student Organization

May 2018-Present

University of Georgia, Fungal Group

Co-President, Genetics Graduate Student Association

April 2017-April 2018

University of Georgia, Department of Genetics

Junior Division Science Fair Judge

March 2017, 2018

Georgia Science & Engineering Fair

PRIOR RESEARCH EXPERIENCE

Research Intern, Smithsonian National Museum of Natural History

September-December 2015

*The role of time since colonization in novel habitats and its effects on the evolution of plant mating systems and the reproductive ecology of *Mimulus guttatus**

Advisor: Liz Zimmer/ Jason Berg

Skills: DNA extraction, primer multiplexing, PCR

Stanley Summer Scholar, Johns Hopkins Stanley Division of Developmental Neurovirology

Summers 2013, 2014, 2015

*-Differential expression of RNA repetitive elements in *Toxoplasma gondii* infected mouse tissues (2015)*

-Splice isoforms associated with schizophrenia, bipolar disorder, and major depressive brains (2014)

-Intergenic transcripts containing repeat elements dysregulated in psychiatric disorders (2013)

Advisor: Robert Yolken/ Miranda Darby

Skills: Mouse tissue cutting, RNA extraction, primer design, RT-PCR, touchdown PCR, qPCR, RACE, gel electrophoresis, gel extraction, gel purification, plasmid cloning, plasmid miniprep, Southern blotting, sequencing analysis

**Undergraduate Research Assistant, University of Maryland
Department of Biological Sciences**

January-May 2015

*The role of time since colonization in novel habitats and its effects on the evolution of plant mating systems and the reproductive ecology of *Mimulus guttatus**

Advisor: Michele Dudash/ Jason Berg

Skills: Greenhouse management, *Mimulus* phenotyping

**Research Intern, Johns Hopkins Department of Pathology & Oncology
Tissue Services**

June-August 2012

Optimizing immunohistochemistry protocols in human cancer tissues

Advisor: Alan Meeker

Skills: Immunohistochemistry, microscopy