

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 EXPERIENCE

Dissertation Research, University of Georgia Department of Genetics August 2016-Present
Hyphal Network Formation in Neurospora crassa
Advisor: Jonathan Arnold
Skills Acquired: Culturing *N. crassa*, microfluidic design, microfluidic experiments, time-lapse microscopy, MATLAB, ImageJ, DIRT, Python

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 Acquired: Leaf tissue preparation for 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 Acquired: 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 January-May 2015
Department of Biological Sciences
*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 Acquired: greenhouse management, plant trait measurements

Research Intern, Johns Hopkins Department of Pathology & Oncology June-August 2012
Tissue Services
Optimizing immunohistochemistry protocols in human cancer tissues
Advisor: Alan Meeker
Skills Acquired: immunohistochemistry, microscopy

RESEARCH SUPPORT

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

Applied, Not Funded
GGSA Travel Award April 2018
Genetics T32 Training Grant March 2018
NSF Graduate Research Fellowship Program October 2017
ARCS Foundation Scholarship June 2017
GGSA Travel Award April 2017
Genetics T32 Training Grant March 2017

PRESENTATIONS

Collective Behavior in Filamentous Fungi January 2018
3-Minute Thesis Competition, UGA Department of Genetics

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

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

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

TEACHING & MENTORING EXPERIENCE

Mentor to Summer REU Student DeAndre Tomlinson May 2018-Present
University of Georgia, Department of Genetics

Mentor to Undergraduate Student Tatiana Lim-Tom January 2018-Present
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

Molecular Co-Representative, 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