



PROGRAM OVERVIEW

Friday September 22

- 4:00 PM Check-in begins-Lewis Hall Porch
Dinner on your own
- 7:00 PM Opening reception at the Pavilion
- 8:00 PM Opening seminar: *James Skelton, William and Mary*
- 9:00 PM Campfire Social at the Pavilion

Saturday September 23

- 7:30 AM Breakfast -Dining Hall
- 8:30 AM **Talks-Lewis**
- 10:00 AM Poster session with coffee at Wilbur Lab
- 12:00 PM Lunch-Dining Hall
- 1:00 PM Free time
- 4:00 PM **Talks-Lewis**
- 6:00 PM Dinner-Dining Hall
- 8:00 PM Plenary address: *Elizabeth Lacey, UNC Greensboro*
- 9:00 PM Mandatory Faculty Happy Hour
- 9:00 PM Campfire Social-Pavilion

Sunday September 24

- 7:30 AM Breakfast-Dining Hall
- 8:30 AM Emerging Leader Seminar: *Emme Bruns, University of Maryland*
- 9:30 AM **Talks - Session 3A**
- 10:30 AM Coffee break
- 10:45 AM **Talks - Session 3B**
- 11:45 AM Check out
- 12:00 PM Lunch (boxed), and Awards

*Thanks to University of Richmond student Abrielle Mecray (@saccharine_rabbit) for designing our amazing logo!

FULL PROGRAM

Friday September 22

- 4:00 PM Check-in begins
 Dinner on your own
- 7:00 PM Opening reception
- 8:00 PM Opening remarks: Janis Antonovics
- 8:15 PM Opening seminar: *James Skelton, William and Mary*
- 9:15 PM Campfire Social

Saturday September 23

- 7:30 AM Breakfast
- 8:30 AM **Talks: Helen Murphy, moderator**
 - 8:30-8:45: Sarah McPeck, University of Virginia, PhD student
Fly poison: a promising Southeastern model system for exploring the dynamics of natural selection on nectar production in pollination mutualisms
 - 8:45-9:00: Kayla Stoy, Georgia Institute of Technology, Postdoc
Selection for aggregative multicellularity in *Saccharomyces cerevisiae* favors the evolution of positive assortment
 - 9:00-9:15: Michelle McCauley, Emory University, PhD student
Two to tango? A coevolving parasite and increased mutation rate maintain outcrossing
 - 9:15-9:30: Isabella Roeske, Emory University, undergraduate
Leapfrogging pathogens: mosquitoes as culprits in amphibian decline
 - 9:30-9:35: Ansleigh Gunter, University of Richmond, undergraduate
Seasonal and clinal differences in fecundity and diapause in the invasive fruit fly, *Zaprionus indianus*
 - 9:35-9:40: Ishaan Dua, East Tennessee State University, undergraduate
Post-senescence reproductive resurrection in *Daphnia*: terminal investment or "rejuvenation"?
 - 9:40-9:45: Esther Okamoto, Agnes Scott College, undergraduate

Do environmental or maternal factors influence gut microbes?

9:45-9:50: Ashit Dutta, East Tennessee State University, masters

T ->C transitions disproportionately eliminate stop codons in *Drosophila* de novo ORFs

9:50-9:55: Abigail Bickle, UGA - Savannah River Ecology Lab, masters

Investigating the role of epigenetic aging in mediating the trade-off between development rate and lifespan

9:55-10:00: Jennifer Aplant, Clemson University, masters

Does temperature contribute to elevational divergence in floral morphology and pigmentation?

10:00 AM Poster session with coffee - see end of program for list of posters

12:00 PM Lunch

1:00 PM Free time

4:00 PM **Talks: Joshua Puzey, moderator**

4:00-4:15: Taylor Zallek, University of Pittsburgh, PhD student

Conferred evolutionary resistance to invasion: An empirical test of evolutionary invasional meltdowns using duckweed communities (*Lemna minor* & *Spirodela polyrhiza*) and invasive *Salvinia* spp.

4:15-4:30: Samuel Hulse, University of Maryland College Park, Postdoc

A theoretical model for the shape of evolutionary tradeoffs

4:30-4:45: Robert Driver, Duke University, Postdoc

Evolution and functional characterization of olfactory receptors in birds

4:45-5:00: Ethan Shealy, UGA - Savannah River Ecology Lab, PhD student

DNA methylome analysis enables age prediction and reveals sex-specific aging trajectories in a squamate with dimorphic lifespan

5:00-5:15: Jennifer Gresham, Emory University, Postdoc

Variation in self-compatibility among genotypes and across ontogeny in a self-fertilizing vertebrate

5:15-5:30: Antoine Perrier, University of Virginia, Postdoc

Reproductive cues and phenology adapt to vernalization gradient across the range of a monocarpic herb

5:30-5:45: Miranda McKibben, University of Georgia, PhD Student

Phylogeography in a yeast with local thermal adaptation

5:45-6:00: Kim Hoang, Emory University, Postdoc

- Immune-priming by symbiont drives pathogen virulence evolution
- 6:00 PM Dinner
- 8:00 PM Plenary address: *Elizabeth Lacey, UNC Greensboro*
 “Birth of The Cool”
- 9:00 PM Campfire Social
- *Faculty happy hour chat to plan for next year will be held immediately after the plenary address

Sunday September 24

- 7:30 AM Breakfast
- 8:30 AM Emerging Leader Seminar: *Emme Bruns, University of Maryland*
 “Resist and persist: Ecological and evolutionary perspectives on disease dynamics in natural plant populations”
- 9:30 AM **Talks: Mandy Gibson, moderator**
- 9:30-9:45: Emily Harmon, UNC Chapel Hill, PhD Student
 Hatchling tadpoles produce pre-emptive phenotypes through anticipatory plasticity
- 9:45-10:00: Caroline Amoroso, University of Virginia, Postdoc
 Variation in parasite avoidance behavior of *C. elegans*
- 10:00-10:15: Samuel Slowinski, University of Maryland, Postdoc
 Costs of parasite resistance decrease with host age
- 10:15-10:30: Daniel Nondorf, University of Virginia, PhD student
 Patterns of differential gene expression and tissue specificity of expression in the eastern fence lizard
- 10:30 AM Coffee break (judges meet to decide awards)
- 10:45 AM **Talks:**
- 10:45-11:00: Arianna Kuhn, Virginia Museum of Natural History
 Historical climate change structures contemporary patterns of diversity in widespread insular snakes
- 11:00-11:15: Drew Schield, University of Virginia
 Genetic coupling of sexual signal loci promotes reproductive isolation

11:15-11:30: Janis Antonovics, University of Virginia

Thirty five years of anther-smut disease at Mountain Lake: the ups and downs of a long term study.

11:30-11:45: Lev Yampolsky, East Tennessee State University

First glance at a single-cell atlas of *Daphnia* provides insights about transcriptomics of aging

11:45 AM Check out

12:00 PM Lunch (boxed), and Awards

Posters:

Poster	Name	Title
2	Katie Barlow	Impact of nectar microbes on the reproduction of Common Milkweed (<i>Asclepias syriaca</i>)
3	Samantha Bock	Interplay of thermal and endocrine signals at the transcriptomic level reveals functional hierarchy underlying thermosensitive sex determination
4	Ashlyn Crain	Offspring Fitness does not Decline with Parental Age in a Wild Population of Anole Lizards
5	Olivia Cunningham	Pollinia germination and hybridization in milkweed
6	Harmony Dalglish	The role of clonal reproduction in common milkweed (<i>Asclepias syriaca</i>) population dynamics
7	Kathryn Davis	Foraging ecology in an omnivorous terrestrial turtle using stable isotope analysis
8	Melissa DeBiasse	The impacts of biotic and abiotic stressors on sponge bioerosion
9	Madison Doceti	An Investigation of the Innate Immune System in European <i>Daphnia Pulex</i>
10	Ishaan Dua	Post-senescence reproductive resurrection in <i>Daphnia</i> : terminal investment or "rejuvenation"?

- 11 **Ashit Dutta** T ->C transitions disproportionately eliminate stop codons in *Drosophila* de novo ORFs

- 12 **Tyler Gandee** Demystifying the black box of sequencing: incorporating Minion sequencing of chloroplast genomes in the classroom

- 13 **Isabelle Grovenstein** Digitizing the Agnes Scott Herbarium

- 14 **Ansleigh Gunter** Seasonal and Clinal Differences in Fecundity and Diapause in the invasive fruit fly, *Zaprionus indianus*

- 15 **Guanting He** Exploring the Patterns of Rapid Evolution in *Zaprionus Indianus*: Divergent Seasonal Change, Parallel annual Shift, and Spatial Genetic Variation

- 16 **Juliana Jiranek** Selection for defenses against infectious disease across an environment gradient

- 17 **Thomas Jones** The effect of environmental factors on the community structure of the freshwater zooplankton of Belle Isle's rock pools

- 18 **Aom Juneau** Toxicity of Pesticides Thiamethoxam and Sulfoxaflor on *Bombus impatiens*

- 19 **Jennifer Kovacs** Using Science Sprints to teach research skills: How is biodiversity affected by urban development?

- 20 **Nicholas Kurdziel** Characterizing the putative southern hybridization zone of *P. virginia* and *P. hoffmani*

- 21 **Adianna Lockwood-Shabat** Natural variation in resistance of *Caenorhabditis elegans* to the parasite *Serratia marcescens*

- 22 **Alfredo López-Caamal** Chloroplast genomics of *Campanula americana*: Insights into cytonuclear incompatibilities

- 23 **Graham McLaughlin** Investigating the molecular basis of gametic isolation using laboratory-adapted populations of *Drosophila melanogaster*

- 24 **Paxton Mills** Genotyping Analysis of Wavyleaf Basketgrass (*Oplismenus undulatifolius*) to Reconstruct Invasion History

- 25 **Christina Mulroy** Competition among prions within host cells

- 26 **Esther Okamoto** Do environmental or maternal factors influence gut microbes?
- 27 **Catherine Pearson** Mimicking caloric restriction by hacking metabolism: locomotory aging rate decline
- 28 **Tara Pelletier** Macrogenetic approaches for understanding broad-scale phylogeographic patterns
- 29 **Michelle Pogrebetskaya** Examining the phenotypic effects of a selective haplotype in the *Zaprionus indianus*
- 30 **Robert Porter** Maternally derived variation in the early termination of dormancy in *Daphnia pulex*
- 31 **Abbey Ramirez** Evaluating genetic structure of agricultural pests as a driver of variation in biological control
- 32 **Katherine Riddle** Is population level divergence in *Phacelia dubia* petal color associated with habitat type?
- 33 **Vanessa Rollins** Developing metabarcoding techniques to characterize rock pool zooplankton communities
- 34 **Emma Saurette** The Impact of Caloric Restriction on Recombination and Reproduction
- 35 **Emily Scott** Sources of pollen protection? An investigation into a potential tradeoff between floral structure and pollen-collecting hair across Campanulaceae.
- 36 **Taylor Sherer** Thermal ecology of southeastern *Hexastylis arifolia* flowers
- 37 **Emily Simmons** Multigenerational mathematical model reproduces novel offspring phenotypes in hybrid *Mimulus*
- 38 **Christopher Smaga** The influence of incubation temperature on offspring traits varies across northern and southern populations of the American alligator (*Alligator mississippiensis*)
- 39 **Meredith Smith** Intraspecific variation for aging rate in *Daphnia magna*
- 40 **Rylee Strother** Characterizing secondary contact zones between incompatible lineages of *Campanula americana*

- 41 **Yitang Sun** Fish oil supplementation modifies the genetic potential for blood lipids
- 42 **Sarah Talley** Parasite infection induces dispersal of *Caenorhabditis elegans*
- 43 **Camille
Walsh-Antzak** The effect of parasitoid wasps on inter- and intraspecific competition of *Zaprionus indianus*
- 44 **Huifang Xu** Multi-trait analysis of GWAS identifies 52 novel genomic loci associated with circulating polyunsaturated fatty acids
- 45 **Hita Yalla** The genetic basis of plastic adherence and biofilm formation in yeast
- 46 **Melinda Yang** Increasing accessibility to molecular biology and evolutionary concepts in an introductory biology classroom using a collaborative Course-based Undergraduate Research Experience through the Genomics Education Partnership