



SUPERB Scholarship Program

2019 Summer Institute

August 5—8 **Morrilton, AR**

WELCOME!

Dear SUPERB Scholars,

Welcome to the 3rd Annual Summer Institute for the SUPERB (Students United in Preserving, Exploring, and Researching Biodiversity) Scholarship Program. We are so glad that you are a biodiversity scholar. This is the one year of the program that we have overlapping cohorts of students...the last year of Cohort 1 and the first year of Cohort 2. For the veterans, please make an effort to get to know the newbies and make them feel welcome. For the newbies, please take it all in. Also, push yourself outside your comfort zone and make some new friends. We look forward to getting to know you this weekend and over the next three years.

The SUPERB Scholarship Program is a federally funded scholarship program to support students in their development toward becoming professionals in biodiversity science. Through this scholarship program you will receive scholarship funding; you will be able to take specific, relevant coursework for maintaining natural history specimen collections and conducting research with natural history specimens; you will develop and implement original research that you will be able to present at scientific meetings; you will have a support network of faculty mentors to help guide your research; you will have programmatic support through our program manager, Molly Alexander-Steele; and you will receive professional development through seminars and this summer institute.

Our hope is that you will build a network of support and friends through this scholarship opportunity that will allow you to perform your very best in your undergraduate or graduate program, learn as much as you possibly can, and enjoy your experiences to the fullest. We want to see you develop as contributing scientists, and our goal is to provide what you need to help make that dream a reality.

Earth is facing a great number of stressors due to a tremendous human population and development activities. We are certainly entering the sixth mass extinction on this planet, and as scientists (that is, biologists, botanists, taxonomists, ecologists, evolutionary biologists, etc.), we need to be asking and answering the important questions related to biodiversity conservation. In fact, the theme of our summer institute this year is biodiversity crisis. We will be working on group projects to identify the problems and suggest some solutions to this critical global problem. We will also explore how information from natural history collections can help us deal with this challenge.

We want to assist you as you complete your education in the SUPERB Program to be the future of a diverse biodiversity science workforce, committed to making our planet a better place. All the while, we will be working with you to hone your professional development skills to make sure you are developing effectively into scientists.

We have an exciting week planned. Participate fully and enjoy!

On behalf of all the faculty advisors,

Travis D. Marsico, Ph.D.

Project Director, SUPERB Scholarship Program
Professor and Interim Chair, Department of Biological Sciences
Curator, Arkansas State University Herbarium (STAR)
Arkansas State University



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AGENDA

Monday, August 5

4:00 p.m.	Meeting registration	Outside of Show Barn Hall
5:00 p.m.	Welcoming words <i>Dr. Travis Marsico, A-State</i> <i>Cohort 1 student panel</i>	Show Barn Hall
5:30 p.m.	Dinner	Conference Dining Area
6:30 p.m.	Assessment Administration and Presentation <i>Dr. Jessica Crowe, SIUC</i> <i>Sheila Stowers, OBRE</i>	Show Barn Hall
7:30 p.m.	Case study group discussion <i>Dr. Lori Neuman-Lee, A-State</i>	Show Barn Hall
8:30 p.m.	Insect Light Trap	

Tuesday, August 6

6:15 a.m.	Optional bird banding activity	Meet outside the main entrance to WRI
7:30 a.m.	Breakfast	Conference Dining Area
8:30 a.m.	Morning hike <i>Group #1: Seven Hollows Trail</i> <i>Group #2: Cedar Falls Trail</i>	Petit Jean State Park
12:30 p.m.	Back to WRI, Lunch	Conference Dining Area
1:30 p.m.	Case study groups	Show Barn Hall
3:30 p.m.	Learning about the “near Delta Region” <i>Theo Witsell and Dr. Dustin Lynch, Arkansas Natural Heritage Commission</i>	Show Barn Hall
5:00 p.m.	Graduate Student Poster Session (#s 1—29)	The Governor’s Room
6:30 p.m.	Dinner	Conference Dining Area
7:30 p.m.	Case study groups	Show Barn Hall
9:30 p.m.	Optional bat netting activity	



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AGENDA, CONTINUED

Wednesday, August 7

6:15 a.m.	Optional bird banding activity	Meet outside the main entrance to WRI
7:30 a.m.	Breakfast	Conference Dining Area
8:30 a.m.	Morning hike <i>Group #1: Cedar Falls Trail</i> <i>Group #2: Seven Hollows Trail</i>	Petit Jean State Park
12:30 p.m.	Back to WRI, Lunch	Conference Dining Area
1:30 p.m.	Ethical Collecting Panel Discussion <i>Dr. Lori Neuman-Lee, A-State</i> <i>Dr. J. Richard Abbott, University of Arkansas Monticello</i> <i>Dr. Dustin Lynch, Arkansas Natural Heritage Commission</i> <i>Dr. Thomas Risch, A-State</i>	Show Barn Hall
3:00 p.m.	Case study groups	Show Barn Hall
5:00 p.m.	Undergraduate Student Poster Session (#s 30—51)	The Governor's Room
6:30 p.m.	Dinner	Conference Dining Area
6:30 p.m.	Co-PI meeting during dinner	Silo Dining Room
7:30 p.m.	Case study groups – cross-group presenting	Show Barn Hall
8:30 p.m.	Optional herping or bat netting activity	

Thursday, August 8

7:30 a.m.	Breakfast	Conference Dining Area
8:30 a.m.	Case study group presentations	Show Barn Hall
11 a.m.	Farewell – post surveys and poster winner announcement	



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GUEST SPEAKERS

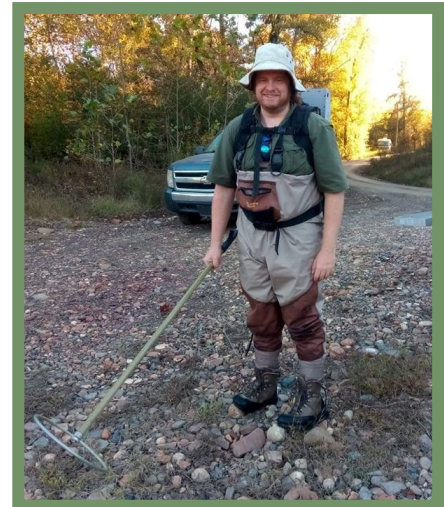


Theo Witsell
Ecologist and Chief of Research
Arkansas Natural Heritage Commission

Theo Witsell is the Ecologist and Chief of Research for the Arkansas Natural Heritage Commission and the Curator of the ANHC Herbarium. He has also worked as a contract botanist and ecologist for a number of government agencies and private organizations including the U.S. Forest Service, the National Park Service, the Department of Defense, the Tennessee Valley Authority, NatureServe, the U.S. Army Corps of Engineers, Missouri State Parks, and the Lady Bird Johnson Wildflower Center (University of Texas at Austin). He is co-founder of and Chief Ecologist for the Southeastern Grasslands Initiative, headquartered at the Center of Excellence for Field Biology (Austin Peay State University, Clarksville, TN) and serves as a regional reviewer for the Flora of North America Project. He is co-editor of the *Atlas of the Vascular Plants of Arkansas* and has authored or co-authored more than 30 scientific publications and book chapters. He is currently working on a number of research projects including county-wide biodiversity inventories of Benton and Washington counties (Arkansas), a study of the riverscours grasslands of the Clear Fork River (Big South Fork National Recreation Area, TN), a study of the importance of powerline rights-of-way to plant and insect biodiversity in the Cumberland Plateau (AL and TN), and the description of several undescribed plant species. Theo is a native Arkansan and holds a master's degree in botany from the University of Arkansas at Little Rock. His research interests include the ecology and conservation of rare plants and their habitats, restoration of degraded ecosystems, and anything to do with the grasslands of the Southeastern U.S. He is also an avid native plant gardener.

Dustin Lynch, Ph.D.
Aquatic Ecologist
Arkansas Natural Heritage Commission

Dustin Lynch is the aquatic ecologist for the Arkansas Natural Heritage Commission. He holds a PhD in biological sciences from the University of Arkansas, Fayetteville, and a master's degree in zoology from Oklahoma State University. Before starting his job at the Arkansas Natural Heritage Commission (ANHC), he worked as a post-doctoral research associate and collections manager at the Oklahoma State University Collection of Vertebrates, overseeing the renovation and re-curation of ~500,000 specimens in the museum's fish, reptile, and amphibian collections. Current research projects include conducting aquatic species inventories of the 75 ANHC Natural Areas, monitoring populations of federally endangered, threatened, and imperiled darters, gathering data on poorly known primary burrowing crayfish, and trapping insects for a statewide inventory of aquatic insect species. Past projects have included: studying the impact of drought on environmental flow relationships in Ozark Highland streams, quantifying the effects of flow alteration on stream communities, using mesocosm experiments to simulate the effects of drought disturbance on Ozark streams determining occupancy and detection probability in imperiled darters, and studying the effects of urbanization and impoundment on prairie fish assemblages in Oklahoma. His research interests include ichthyology, herpetology, astacology, stream ecology, phylogenetics, natural history collections and curatorial science.





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GUEST SPEAKERS, CONTINUED

J. Richard Abbott, Ph.D.
Assistant Professor of Biology, Curator of UAM Herbarium
University of Arkansas at Monticello

Even as a child, Richard was fascinated by plants, spending hours on his hands and knees in the yard, nose pressed to the clovers, sorrel, violet, grasses, dandelion, mosses, etc. As soon as he was old enough, he disappeared into the woods to explore a whole new world of plants: oaks, maples, hickories, mulberries, sedges, wild ginger, etc. Even though he could tell that they were different from each other, he didn't actually know what most of them were called, as he had never heard of botany, knew nothing of scientific names, and had only the barest grasp of common names, with no one to teach him until he joined the scouts, at which point he learned a few common names like poison ivy and Virginia creeper. Once he realized that some plants had names, he also realized that that must mean that all plants have names, if only he could find someone to teach them to him (ignorantly unaware of the existence of botanical field guides).



Before he took his first botany course, he got a job in a herbarium, a museum of dried plant specimens. Imagine his euphoria when all the plants he had seen as a child were lying there in front of him as specimens with names on them! His desire to see and study new plants has led him to botanize in 49 states coast to coast and 20 countries outside the US, including a term abroad in Europe and a year living in South America.

Richard was driven to eventually complete a master's degree and doctorate in botany at the University of Florida because he wanted to keep learning about plants. This desire to keep learning about plants also led him to St. Louis for several years, home of the Missouri Botanical Garden, and also to New York where he spent two years at the New York Botanical Garden. He now teaches botany at the University of Arkansas at Monticello.



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PARTICIPATING FACULTY



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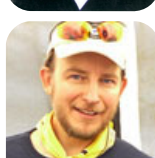
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