

Association of Southeastern Biologists

78th Annual Meeting



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**Renaissance Montgomery Hotel & Spa
at the Convention Center**

March 29 – April 1, 2017

Celebrating 79 Years of Science in the Southeast!

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Program Committee

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Christopher Brown, Georgia Gwinnett College
Riccardo Fiorillo, Georgia Gwinnett College
Howard S. Neufeld, Appalachian State University

The program committee wishes to thank Mark Suggs, *abi*GRAPHICS, for formatting the program. We also thank Chris Fleming for creating the Mobile App., Sunny Fleming and Ashley Morris, for maintaining the ASB webpage.

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Registration and Exhibit Hall Hours

Exhibit Hall B is the hub of our conference. Registration, along with 25 vendors and academic programs, are located in the hall. New this year is a **Cash Bar** open during our **PM Posters Sessions**, a **charging Station** and a **Lounge Area**. Of course all **coffee breaks** and the **Silent Auction** will be there as well. Come Enjoy the Hall with colleagues and friends!

	Registration	Exhibits Open
Wednesday	11:00 AM – 9:00 PM	9:00 PM – 10:30 PM
Thursday	7:00 AM – 5:30 PM	8:00 AM – 5:00 PM
Friday	7:00 AM – 12:00 PM	8:00 AM – 5:00 PM

Silent Auction

Organizers: Patricia Cox and the Fabulous Silent Auction Sisters: Kim Marie Tolson, Pat Parr, Eloise Carter, Bonnie Kelley, and Diane Nelson.

Established in 2006, it raises money to help defer travel costs for graduate student members presenting papers/posters at the Annual Meeting. Since 2006, ASB has granted more than \$35,000 to defer travel costs for graduate students, and the silent auction has added an additional \$11,000 to this effort.

Bring your donation to Silent Auction Area (Exhibit Hall before 10:00AM Thursday March 30).



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Exhibitors and Exhibit Hall Layout

Thank you to our wonderful Exhibitors for their support of ASB!

BOOTH 1 – Alabama State University

BOOTH 2 – Troy University (troy.edu) Dept. of Biology and Environmental Sciences has two masters degree programs (Environmental and Biological Sciences and Biomedical Sciences) both with thesis and non-thesis options.

BOOTH 3 – University of Georgia Press (www.ugapress.org) is the oldest and largest book publisher in the state. We currently publish 60-70 new books a year.

BOOTH 4 – Eagle Hill Publishers

BOOTH 5 – Association of Southeastern Biologists (sebiologists.org) Promoting biology through research and education for more than 75 years.

BOOTH 6 – University of Alabama Press (www.uapress.ua.edu) As the scholarly publishing arm of The University of Alabama, it serves as an agent in the advancement of learning and the dissemination of scholarship.

BOOTH 7 – Southern Appalachian Botanical Society (sabs.us) Southern Appalachian Botanical Society (SABS) is an organization that focuses on the botany of the entire eastern United States.

BOOTH 8 – Western Carolina University (<https://www.wcu.edu/>) Western Carolina University offers a M.S. degree in Biology focused on thesis based. Research areas of interest range from animal behavior to protein folding.

BOOTH 9 – James Madison University (<https://www.jmu.edu/biology/>) Department of Biology, graduate program recruiting

BOOTH 10 – University of Southern Mississippi (<https://www.usm.edu/graduate-school>) Graduate School at the University of Southern Mississippi, offering M.S. and Ph.D. degrees in Biology

BOOTH 11 – Middle Tennessee State University (www.mtsu.edu/graduate) The MTSU College of Graduate Studies gives students a vast array of academic offerings, with more than 100 programs of study from which to choose.

BOOTH 12 – Georgia Southern University (<http://cosm.georgiasouthern.edu/biology/>) The Dept. of Biology at Georgia Southern University is a student-centered, “full-service” department offering training from the molecular to the ecosystem level.

BOOTH 13 – Kennesaw State University (csm.kennesaw.edu/msib - Master of Science in Integrative Biology (MSIB)

BOOTH 14 – University of Tennessee Chattanooga (<http://www.utc.edu/biology-geology-environmental-science/>) The BGES Dept. offers undergraduate degrees in Biology, Geology, Env. Sci. and STEM Edu. and a M.S. degree in Environmental Science

BOOTH 15 – Carolina Biological Supply (www.carolina.com) is a worldwide leader in providing top-quality, innovative science and math materials for K-16 educators. The Carolina™ Science catalog is available free on request.

BOOTH 16 – National Association of Biology Teachers (<http://www.nabt.org>) NABT is the recognized “leader in life science education.” We support thousands of K-16 educators who want to interact with colleagues and grow professionally.

BOOTH 17 – Associated Microscope (www.associatedmicroscope.com) microscope sales, microscope, balance and spectrophotometer service

BOOTH 18 – Tri-Beta (tri-beta.org) National Undergraduate Honors Society for promotion of Undergraduate Research

BOOTH 19 – Vashaw Scientific, Inc. (www.vashaw.com) Vashaw Scientific, Inc. is a full service microscopy, imaging and material sample preparation provider servicing the Southeast since 1978.

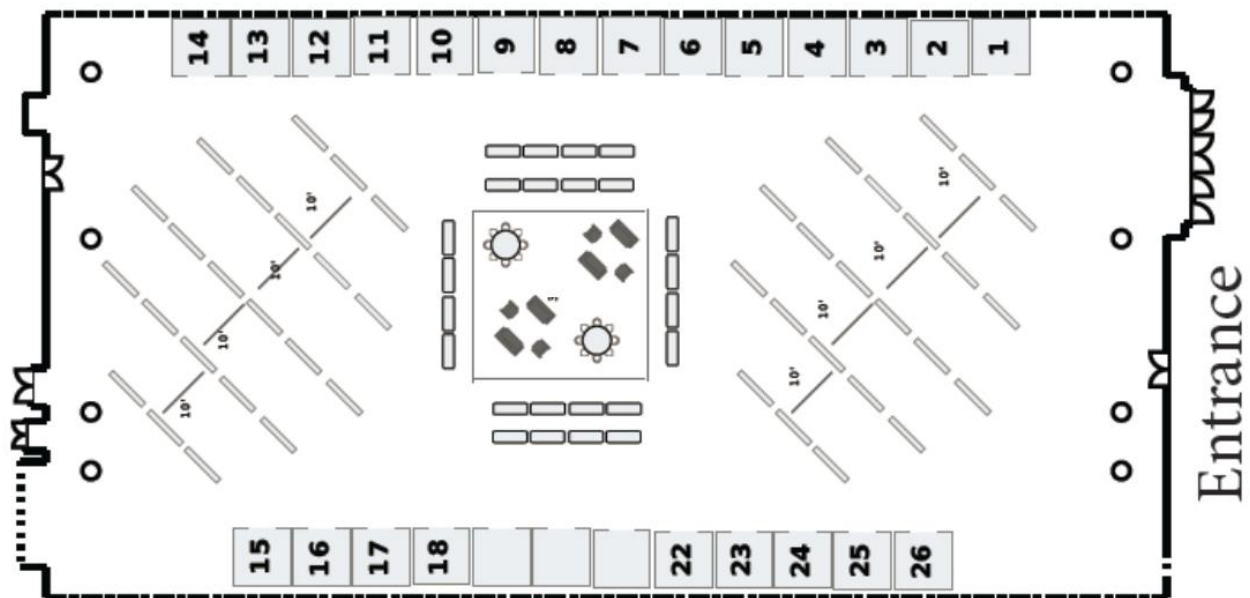
BOOTH 20 & 21 – Fine Designs (<https://finedesigns.com/>) Custom apparel printed on-site. Build your own ASB shirt at the conference!

BOOTH 22 – Forestry Suppliers, Inc. (www.forestry-suppliers.com) offers a complete selection of tools, gear and equipment for forestry, wildlife management, wildland firefighting, environmental and other outdoor markets since 1949.

BOOTH 24 – Medical Inc. (<http://medicalinc.org/>) is dedicated to quality preventative maintenance, service and repair of laboratory, life sciences and research equipment for Colleges & Universities

BOOTH 25 – Alabama Department of Environmental Management (adem.alabama.gov) The Alabama Department of Environmental Management (ADEM) administers all major federal environmental laws, and monitors environmental conditions, and recommends changes to regulations in Alabama.

BOOTH 26 – Martin Microscope (www.martinmicroscope.com) sells microscopes and digital microscopy systems for education, laboratory, and research.



Plenary Speaker Dr. Lafayette Fredrick

Fellow, and Lifetime Mentor Award, American Association for the Advancement of Science
Lifetime Achievement Award, NSF Education and Human Resources Directorate
Lifetime Achievement Award, Association of Southeastern Biologists
Meritorious Teaching Award, Association of Southeastern Biologists
Distinguished Alumni Merit Award, Tuskegee Institute

Impact of ASB on the Development of Minority Biologists from the Southeast

Wednesday, March 29th • 7:30 PM – 9:00 PM • Alabama AB

Dr. Frederick, was born in Dog Bog, Mississippi, and raised on cotton farms in SE Missouri. His early education was in a one-room schoolhouse, where his father taught. His experiences on the farm sparked his interest in nature and ultimately led to his enrollment in the Tuskegee Institute, where he studied agriculture and was introduced to Botany. Dr. Fredrick earned his B.S. degree in Biology in 1943 and then joined the Navy and was stationed in Pearl Harbor, HI. After WW2, he studied native plants at the University of Hawaii, and later earned an M.S. in Botany from the University of Rhode Island and a PhD in Plant Pathology and Botany from Washington State University. He held numerous post-doctoral positions: Cornell University, University of Illinois and University of Michigan and academic positions at Southern University, Atlanta University, Howard University, and Tuskegee University. In a time of racial segregation he worked tirelessly to introduce young African Americans to the field of science. He joined ASB in 1955 but was not allowed to attend the meeting until 1958 where he presented his first paper. He has attended almost every annual meeting since and has brought many students with him to present papers and posters. Dr. Fredrick has served ASB as President, Vice President, Executive Committee member, Local Arrangement Committee, and has also received the ASB Meritorious Teaching Award. When asked what he was most proud of in his work, Dr. Fredrick responded: "The opportunity I have had to be a mentor for many outstanding students that have had distinguished careers in their fields of endeavor as professional scientists, academic administrators, corporate executives, and educators; and to have assisted them in developing their talents, elevating their horizons, and in overcoming barriers." Dr. Fredrick has been and continues to be a model scientist and inspiration to us all.



Association of Southeastern Biologists

Meeting-At-A-Glance

Wednesday March 29th – Saturday April 1st 2017

Renaissance Montgomery Hotel & Spa at the Convention Center

Tuesday, March 28th

Time	Event	Location
8:00 AM – 5:00 PM	Exhibit Hall - Move in and set up	Exhibit Hall B
8:00 AM – 5:00 PM	ASB Logistics Room	Riverview Boardroom
8:00 AM – 5:00 PM	Registration Set Up	Exhibit Hall B
10:00 AM – 12:00 PM	ASB EC VIPs Pre-Convention Mtgs.	TBD
12:00 PM – 1:00 PM	ASB EC - Exhibit Hall lay out	Exhibit Hall B

Wednesday, March 29th

Time	Event	Location
8:00 AM – 5:00 AM	ASB Logistics Room	Riverview Boardroom
9:00 AM – 4:00 PM	Exhibitor Set-up	Exhibit Hall B
11:00 AM – 9:00 PM	Registration Open	Exhibit Hall B
11:00 AM – 2:00 PM	Exhibitor's Lunch Break (exhibitors only)	Exhibit Hall B
1:00 PM – 6:00 PM	ASB Executive Committee Meeting	Riverview 1
1:00 PM – 6:00 PM	SABS Executive Council Meeting	Riverview 2
7:30 PM – 9:00 PM	<p style="text-align: center;">Welcome and Plenary Speaker</p> <p style="text-align: center;">Welcome</p> <p style="text-align: center;">Dr. Karyn Scissum-Gunn, Interim Provost and Vice President of Academic Affairs, Alabama State University</p> <p style="text-align: center;">Dr. Steven Taylor, Dean College of Arts and Sciences, Troy University</p> <p style="text-align: center;">Plenary Speaker Introduction</p> <p style="text-align: center;">Dr. William Luther</p> <p style="text-align: center;">Professor of Biology, Director of the Integrative Bioscience PhD Program, Dean of Graduate Studies and Provost/Vice President for Academic Affairs, Distinguished Professor of Biology and Provost/Executive Vice President, Tuskegee University</p> <p style="text-align: center;">Plenary Speaker</p> <p style="text-align: center;">Dr. Lafayette Fredrick</p> <p style="text-align: center;">Fellow and Life Mentor Award Recipient, AAAS Lifetime Achievement Award, NSF Education and Human Resources Directorate Lifetime Achievement Award, ASB Tuskegee Institute Distinguished Alumni</p> <p style="text-align: center;"><i>Impact of ASB on the Development of Minority Biologists from the Southeast</i></p>	Alabama AB
9:00 PM – 10:30 PM	Plenary Welcoming Social	Exhibit Hall B

Thursday, March 30th

Time	Event	Location
7:00 AM – 5:30 PM	Registration Open	Exhibit Hall B
7:00 AM – 5:00 PM	PowerPoint Preview Check ASB Logistics Room	Montgomery 4 Riverview Boardroom
7:00 AM – 8:15 AM	ASB Past President's Breakfast Meeting	Riverview 2
7:00 AM – 5:00 PM	<p style="text-align: center;">ASB POSTER SESSIONS</p> <p>ASB Posters (1– 116, Sessions 1 & 2) set up 7:00 – 8:00 AM Presenters of odd-numbered posters (Poster Session 1) must be present 9:30 – 11:00 am. Presenters of even-numbered posters (Poster Session 2) must be present 3:15 – 4:45 pm ALL PULSE Posters (301-329) presented in PM Session</p>	Exhibit Hall B
8:00 AM – 5:00 PM	Exhibits Open	Exhibit Hall B
8:00 AM – 12:00 PM	<p style="text-align: center;">Workshop</p> <p>Improving Scientific Communication: Crafting Your Message Organizer: Bruce Kirchoff (UNC Greensboro) (workshop attendance limited to the first 12 attendees)</p>	Montgomery 6
8:15 AM – 9:30 AM	<p style="text-align: center;">ASB Paper Presentations</p> <p style="text-align: center;">Teaching and Learning Microbiology Entomology/Invertebrates/Parasitology Ecology: Aquatic Ecology: Conservation</p> <p style="text-align: center;">Symposium: Advancing Herbaria in the Age of Digitization Organizers: <i>Wendy Zomlefer (University of Georgia) and Richard Carter (Valdosta State University)</i></p>	Montgomery 7 Montgomery 1 Alabama C Alabama D Alabama E Alabama B
9:30 AM – 11:00 AM	<p>Break for Poster Session 1 and Coffee • No talks at this time Presenters of odd-numbered posters (1 - 116) must be present</p>	Exhibit Hall B
11:00 AM – 12:15 PM	<p style="text-align: center;">ASB Paper Presentations</p> <p style="text-align: center;">Teaching and Learning Microbiology Entomology/Invertebrates/Parasitology Ecology: Aquatic Ecology: Conservation</p> <p style="text-align: center;">Symposium: Advancing Herbaria in the Age of Digitization Organizers: <i>Wendy Zomlefer (University of Georgia) and Richard Carter (Valdosta State University)</i></p>	Montgomery 7 Montgomery 1 Alabama C Alabama D Alabama E Alabama B
12:15 PM – 2:00 PM	<p style="text-align: center;">Lunch (Individuals and Organizations)</p> <p>ASB Diversity Committee Lunch SHC SE Chapter Luncheon/Business Meeting</p>	Riverview 1 Riverview 4

Thursday, March 30th

1:00 PM – 4:00 PM	β β β Field Trip to Jasmine Gardens (βββ members only)	Meet in Hotel Lobby
2:00 PM – 5:00 PM	Workshop: HHMI Biointeractive Organizer: Brenda Royal	Montgomery 6
2:00 PM – 3:15 PM	ASB Paper Presentations Teaching and Learning Ecology: Ecosystems Entomology/Invertebrates/Parasitology Ecology: Aquatic Ecology: Conservation Symposium: 2nd Annual Southeastern Symposium on Zebrafish Development and Genetics Organizer: <i>Ted Zerucha (Appalachian State University)</i>	Montgomery 7 Alabama B Alabama C Alabama D Alabama E Montgomery 1
3:15 PM – 4:45 PM	Break for Poster Session 2 and Coffee • No talks at this time Presenters of ASB even-numbered posters (2- 116) must be present. ALL PULSE Poster presenters should be present.	Exhibit Hall B
4:45 PM – 5:45 PM	SABS/BSA Student Reception	The Exchange Outdoor Patio
5:00 PM	Poster Removal	
6:00 PM—11:00 PM	Thursday Night ASB Social <i>Live Music, Food, Drinks, Games</i>	Biscuit Stadium

Friday, March 31st

Time	Event	Location
7:00 AM – 12:00 PM	Registration Open	Hall B
7:00 AM – 8:15 AM	SABS/BSA Breakfast Meeting	Riverview 1
7:00 AM – 5:00 PM	PowerPoint Preview Check ASB Logistics Room	Montgomery 4 Riverview Boardroom
7:00 AM – 5:00 PM	ASB POSTER SESSIONS ASB Posters (117 – 248, Sessions 3 & 4) set up 7:00–8:00 AM Presenters of odd-numbered posters (Poster Session 3) must be present 9:30 – 11:00 am. Presenters of even-numbered posters (Poster Session 4) must be present 3:15 – 4:45 pm	Exhibit Hall B
8:00 AM – NOON	βββ POSTER SESSIONS β β β Poster set up 8:00 AM – 9:00 AM. Present Presenters must be present 9:30 AM – NOON	Exhibit Hall B
8:00 AM – 6:00 PM	β β β Officers & Judges Room	Riverview 8

Friday, March 31st

8:00 AM – NOON	Workshop: Improving Scientific Communication: Adding Enthusiasm to your Presentation Organizer: Bruce Kirchoff (UNC Greensboro) (workshop attendance limited to the first 15 attendees)	Montgomery 6
9:00 AM – 9:30 AM	β β β Joint Business Meeting (all delegates MUST attend)	Riverview 7
8:15 AM – 9:30 AM	ASB Paper Presentations Cell and Molecular Biology Evolution and Genetics Plant Biology/Ecology Ecology: Populations and Communities Symposium: Southeastern Regional PULSE Institutes: Inspiring department level transformation of life sciences undergraduate education Organizers: Judy Awong-Taylor and Chris Finelli Full list of organizers on page 12 (Closed Session-Please see PM schedule for a PULSE Workshop open to all Conferees) Symposium: Space and time in southeastern ecosystems: ESA SE Chapter new research symposium Organizers: Julie Tuttle (UNC Chapel Hill), Alan Wilson (Auburn University), and Matt Waters (Auburn University)	Montgomery 1 Montgomery 7 Alabama C Alabama D Alabama B Alabama E
9:30 AM – 11:00 AM	Break for Poster Session 3 and Coffee • No talks at this time ASB presenters of odd-numbered posters (117–248) must be present at this time.	Hall B
11:00 AM – 12:15 PM	ASB Paper Presentations Cell and Molecular Biology Evolution and Genetics Plant Biology/Ecology Ecology: Populations and Communities Symposium: Southeastern Regional PULSE Institutes: Inspiring department level transformation of life sciences undergraduate education Organizers: Judy Awong-Taylor and Chris Finelli Full list of organizers on page 12 (Closed Session – Please see PM schedule for a PULSE Workshop open to all Conferees) Symposium: Space and time in southeastern ecosystems: ESA SE Chapter new research symposium Organizers: Julie Tuttle (UNC Chapel Hill), Alan Wilson (Auburn University), and Matt Waters (Auburn University)	Montgomery 1 Montgomery 7 Alabama C Alabama D Alabama B Alabama E

Friday, March 31st

12:15 PM – 2:00 PM	Lunch (Individuals and Organizations) Education Committee's Lunch and Learn: Retention of At-Risk Students ESA Luncheon and Business Meeting	Riverview 4 Riverview 1
1:00 PM – 4:30 PM	βββ Paper Presentations District I — District II —	Riverview 5 Riverview 7
2:00 PM – 3:30 PM	Workshop: Southeastern Regional PULSE Institutes: Inspiring department level transformation of life sciences undergraduate education (Open to all conferees)	Alabama B
2:00 PM – 3:15 PM	ASB Paper Presentations Cell and Molecular Biology Plant Biology/Ecology Ecology: Populations and Communities Herpetology Symposium: Space and time in southeastern ecosystems: ESA SE Chapter new research symposium Organizers: Julie Tuttle (UNC Chapel Hill), Alan Wilson (Auburn University), and Matt Waters (Auburn University)	Montgomery 1 Alabama C Alabama D Montgomery 7 Alabama E
3:15 PM – 4:45 PM	Break for Poster Session 4 and Coffee • No talks at this time ASB Presenters of even-numbered posters (117–248) must be present at this time.	Exhibit Hall B
4:30 PM – 5:00 PM	β β β District Session Meetings District I – District II –	Riverview 5 Riverview 7
5:00 PM	Poster Removal	
5:00 PM – 6:00 PM	β β β Joint Session and Awards	Alabama C
5:00 PM – 6:00 PM	ASB Business Meeting (<i>All ASB members invited</i>)	Alabama D
6:30 PM – 9:00 PM	ASB Awards Banquet	Alabama AB


Saturday, April 1st

Time	Event	Location
7:30 AM – 8:30 AM	ASB Executive Committee Breakfast	Montgomery 5
8:00 AM – 2:00 PM	Workshop SERNEC Organizer: Zack Murrell (Appalachian State Univ.)	Riverview 1
8:30 AM – NOON	ASB Executive Committee Meeting	Montgomery 5

Hotel Parking - \$10 Daily Self-parking. Valet parking Available (\$17)

Internet Access - WiFi is complimentary in Hotel and Convention Center. In Hotel, simply follow the instructions found in your guest room. In the Convention Center, connect to `Reinncance_CONFERENCE`, your browser will open to a login page, the passcode is `ASB2017`

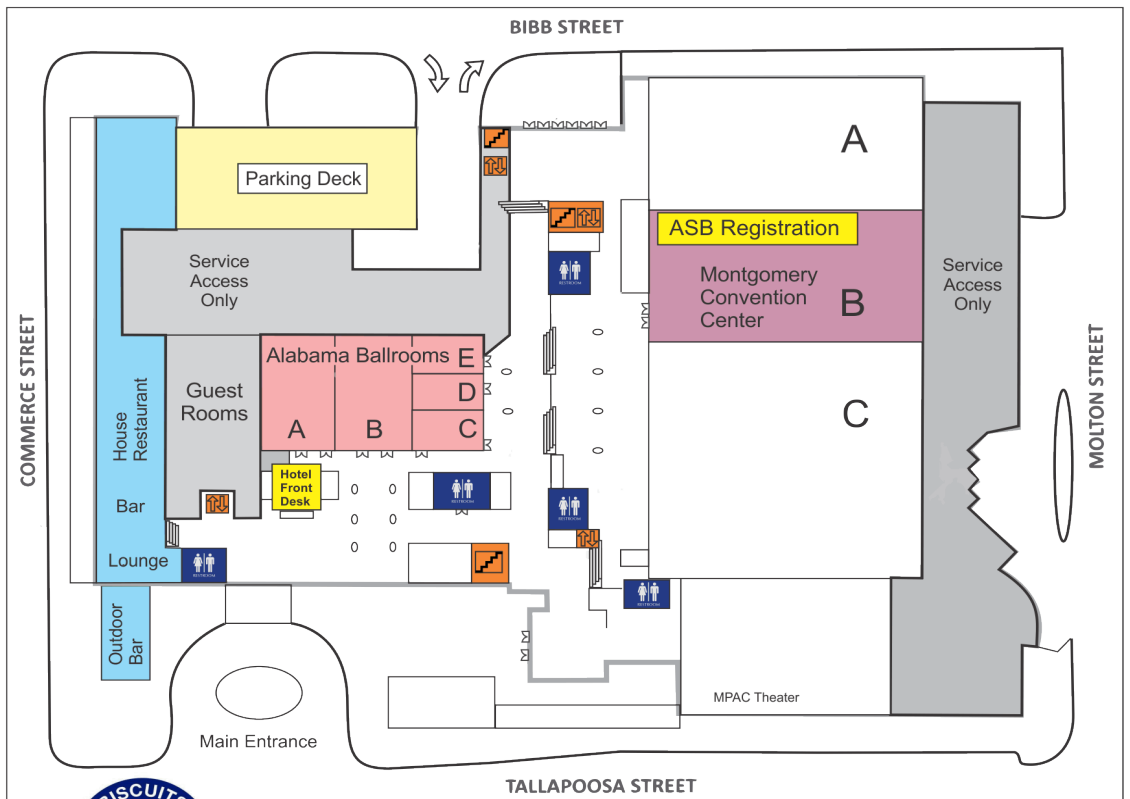


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Symposia

<p>THURSDAY 08:15 AM – 12:15 PM Alabama B</p>	<p>Advancing herbaria in the age of digitization Organizers: Wendy Zomlefer (University of Georgia) and Richard Carter (Valdosta State University) There is a great need for professional development opportunities for new and experienced curators. The Society of Herbarium Curators, has made great strides in ensuring that botanists have access to presentations about herbaria, especially on topics concerning proven strategies that can be replicated beyond one institution. Our symposium will provide new ideas for increasing the broader impact of herbaria, with focus on demonstrating the value of collections. We have assembled speakers from Botany 2016 and other venues that include curators and non-curators, students and early-career botanists. This panel of invited speakers, will share their successes and advice for proactively managing herbaria in this era of difficult internal and external support. Attendees will hear how natural history collections impact formal education, public outreach and service to the biological sciences. We hope to inspire others to expand their own leadership and opportunities to promote increased use of biodiversity collections in research and teaching. Promoting the value of biodiversity collections to administrators and other professionals, non-scientists, and the public at large ensures collections preservation into the future.</p>
<p>THURSDAY 2:00 PM – 3:15 PM Montgomery 1</p>	<p>2nd Annual Southeastern Symposium on Zebrafish Development and Genetics Organizer: <i>Ted Zerucha (Appalachian State University)</i> In the last 20-25 years zebrafish has emerged as a major model system to address questions related to Developmental, Cell and Molecular Biology and has also become a useful teaching tool in the classroom. This symposium is an opportunity for zebrafish scientists from the south east to meet, share ideas and form potential collaborations. The symposium also feature a poster session.</p>
<p>FRIDAY 08:15 AM – 3:15 PM Alabama E</p>	<p>Space and time in southeastern ecosystems: ESA SE Chapter new research symposium Organizers: Julie Tuttle (UNC Chapel Hill), Alan Wilson (Auburn University), Matt Waters (Auburn Univ.) The southeastern U.S. includes parts of 12 ecoregions (EPA Level III), encompassing high ecosystem diversity that reflects spatial variation in geology, topography, and climate. Disturbance patterns vary across the region as well – from periodic hurricanes that track inland from the coast; to natural and prescribed fire in forests of the coastal plain, piedmont, and inland plateau; to landslides, ice storms, and insect outbreaks in the mountains – and combine with changing land use, species invasions, and climate change to further influence ecosystem diversity and dynamics. This symposium features new research across space and time in southeastern ecosystems, highlighting the rich array of ecological questions and approaches generated by this complex region. Presentations will encompass a range of ecological systems and issues, including spatial patterns of biodiversity; mountain forest dynamics; long-term fire history; seed dispersal under climate warming; narratives of deforestation; land cover and stream quality; nutrient enrichment in freshwater systems; cross-scale effects in coastal systems; sea level rise and plant community disassembly; succession in metacommunities; herpetofaunal occupancy modeling; and more.</p>
<p>FRIDAY 08:15 AM – 12:15 PM Alabama B</p>	<p>Southeastern Regional PULSE Institutes: Inspiring department level transformation of life sciences undergraduate education Organizers Chris Finelli, University of North Carolina Wilmington; Karen Aguirre, Coastal Carolina University; Judy Awong-Taylor, Georgia Gwinnett College; Jung Choi, Georgia Institute of Technology; Ellen S. Goldey, Florida Atlantic University; Mary Smith, North Carolina A&T; and Chris Finelli (UNC Wilmington). The Partnership for Undergraduate Life Sciences Education (PULSE) is a national initiative developed by leaders at NSF, HHMI, and NIGMS designed to inspire whole departments to undertake the types of reforms called for in Vision and Change in Undergraduate Biology Education: A Call to Action. The second summer Southeast Regional PULSE (SERP) Institute was held in June, 2016 at Wofford College and was attended by a diverse set of institutions. Participants developed a plan of action to target improvements to their programs. The morning’s session is a poster discussion in which participants will share the progress, challenges, and insights from their work. As part of our IRB for this work, this session is by invitation only. Posters will also be presented during the general ASB Poster Sessions. ASB members are encouraged to stop by, learn what these institutions are doing, and discuss how PULSE and the SERP institutions can inspire their own departments to implement the recommendations of Vision & change.</p>

Workshops

<p>THURSDAY 8:00 AM – 12:00 PM Montgomery 6</p>	<p>Improving Scientific Communication: Crafting Your Message Organizer: Bruce Kirchoff</p> <p>We live in a post-truth era; a time where truth is not just relative but manufactured to serve political ends. How can we as scientists who believe that our knowledge has been hard-won and is closer to the truth than any other, convey this to others? We will use traditional storytelling techniques to address this question and improve our presentations. After a brief introduction participants will have the opportunity to work on their presentations, present an abbreviated version, and receive feedback. This is a hands-on workshop, so please bring your laptop and your presentation of your conference talk to the workshop. In addition to preparing your slides, think about what single image would convey the essence of what you want your audience to take away from your talk. (Attendance limited to the first 12 attendees)</p>
<p>THURSDAY 2:00 PM – 5:00 PM Montgomery 6</p>	<p>Howard Hughes Medical Institute (HHMI) Biointeractive Organizer: Brenda Royal</p> <p>HHMI Biointeractive is a storehouse of resources for biology educators at all levels. This workshop will provide biology educators with materials to teach the four Big Ideas of AP Biology: evolution, energy, information, and system interactions. Educators will also be introduced to the plethora of materials available through the HHMI Website that are free. Teachers will walk away with lessons in four major areas of biology that can be used the next day in class, including all materials necessary to make them engaging and content rich. A large number of students attending are transitioning from ideals of post-graduate programs to career decisions. The role of science educators cannot be overstated in preparing biologists of the future. This presentation is aimed at current educators, as well as those considering education, as a source of new ideas for the presentation of science to biology students at all levels</p>
<p>FRIDAY 8:00 AM – 12:00 PM Montgomery 6</p>	<p>Improving Scientific Communication: Adding Enthusiasm to your Presentation Organizer: Bruce Kirchoff</p> <p>Drawing Inspiration from The Alan Alda Center for Communicating Science, we will use playful techniques to add enthusiasm to our scientific presentations, which is the single easiest thing you can do to improve your presentations. Participants will come away from this workshop having laughed a lot and with increased confidence in their ability to connect with their audience. This hand-on workshop, does not require advance preparation. (Attendance limited to the first 15 attendees)</p>
<p>FRIDAY 2:00 PM – 3:30 PM Alabama B</p>	<p>Southeastern Regional PULSE Institutes: Inspiring department level transformation of life sciences undergraduate education Organizers: Chris Finelli, University of North Carolina Wilmington; Karen Aguirre, Coastal Carolina University; Judy Awong-Taylor, Georgia Gwinnett College; Jung Choi, Georgia Institute of Technology; Ellen S. Goldey, Florida Atlantic University; Mary Smith, North Carolina A&T</p> <p>The Partnership for Undergraduate Life Sciences Education (PULSE) has a strong regional presence in the Southeast. In this workshop, the Southeast Regional PULSE (SERP) leadership will share insights on how the SERP Summer Institutes of 2014 and 2016 have inspired teams of faculty and administrators from diverse intuitions to re-envision and change their department’s approach to undergraduate biology education. Workshop participants will engage with the topics that have emerged as foci for change among the majority of SERP teams: 1) incorporating CUREs (Course-based Undergraduate Research Experiences) into the curriculum and 2) strategies for developing students’ cognitive and metacognitive skills. Facilitators will share successes and strategies for overcoming barriers to reform based on the experiences of the diverse institutions that have participated in the SERP Summer Institutes.</p>
<p>SATURDAY 8:00 AM – 2:00 PM Riverview 1</p>	<p>Southeast Regional Network of Expertise and Collections (SERNEC) Organizer Zack Murrell (Appalachian State University)</p> <p>The SERNEC all-day workshop will have two goals. One goal is to provide a training session for students and faculty that want an overview of herbarium curation, examining current best practices from plant collecting to digitization and georeferencing. This will be appropriate for beginners or those seeking a primer on recent changes in best practices. A second goal is to provide an update on current opportunities to involve students and volunteers in transcription and georeferencing projects. This will be of particular interest to those that want to add museum informatics projects to their classrooms or to engage native plant, conservation and gardening groups in our regional herbarium efforts. Students, faculty and professional biologists are encouraged to attend. Coffee breaks and lunch will be provided.</p>

βββ Events

THURSDAY 1:00–5:00 PM	Field Trip to Jasmine Gardens (β β β members only) –Depart from Hotel Lobby
FRIDAY 8 AM – NOON	POSTER SESSIONS in Hall B Set up 8:00 AM – 9:00 AM. Presenters must be present 9:30 AM – NOON
8AM– 6:00 PM	Officers & Judges Room – Riverview 8
9 – 9:30 AM	Joint Business Meeting (all delegates MUST attend) – Riverview 8
1:30–4:30 PM	PAPER PRESENTATIONS: District I — Riverview 5 District II — Riverview 7
4:30–5:00 PM	District Session Meetings: District I — Riverview 5 District II — Riverview 7
5– 6:00 PM	Joint Session and Awards – Alabama C

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Oral Presentations

See the Presentation Abstracts published separately for complete authors listing with affiliations

Thursday AM, March 30th

Time	Advancing Herbaria in the Age of Digitization Moderators: Zomelefer and Carter Alabama B	Teaching and Learning Moderator: Pearl Fernandez Montgomery 7	Microbiology Moderator: Henry Spratt Montgomery 1	Entomology/ Invertebrates/ Parasitology Moderator: Lori Talley-Jordan Alabama C	Ecology: Aquatic Moderator: Jonathan Miller Alabama D	Ecology: Conservation Moderator: Andrew Coleman Alabama E
8:00 AM	[1] How to create opportunities in research, education, and outreach through the formation of an undergraduate Herbarium Army • Lena Struwe, Megan King	[11] The Use of Student Response Systems to Increase Student Engagement in Human Anatomy and Physiology Courses at Jacksonville State University • James Rayburn	[20] Detection and Characterization of Biosurfactants Produced by the <i>Kistimonas</i> Species • Emily Linton et al.	[30] Techniques to Examine Insect Haustellate Mouthparts • Alison M. Arling, et al.	[40] Overview of an aquatic micro-ecosystem at Blount Springs, Blount County, AL • David Johnson, David Frings	[50] Amphibian and reptile community responses to prescribed burning and thinning in Alabama's Bankhead National Forest • Iwo Gross, Yong Wang
8:15 AM	[2] Lessons learned in building educational networks that incorporate natural history collections • Anna Monfils	[12] Differing Appearance of Starch Granules In Waxy and Starchy Potatoes • Glenn Cohen, James Sanders	[21] Diversity of <i>Escherichia coli</i> found in sand of South Carolina beaches • Savannah Moritzky, et al.	[31] What the butterfly proboscis has been hiding • Charles E. Beard, Peter H. Adler, Konstantin G. Kornev	[41] Extremophile Association with Geologic Setting in Sulfur Springs at Blount Springs, Alabama • David Frings, David Johnson	[51] Ecology of Bald Eagles (<i>Haliaeetus leucocephalus</i>) in Alabama • Andrew Coleman
8:30 AM		[13] Non-majors Biology Students' Environmental Knowledge and Perceptions About Conservation after Participating in Invasive Pest Plant Removal Projects • Kim Sadler, et al.	[22] The Effects of Coastal Renourishment on the Presence of <i>Escherichia coli</i> • Jordan Lewis, et al.	[32] A survey of freshwater snails and their parasites in Alabama. • Lori Tolley-Jordan, et al.	[42] Oyster Restoration Utilizing Artificial Substrates: Implications for Mitigating Oyster Decline in the Chesapeake Bay • Jessie Mandirola, Patrice Ludwig	[52] Evaluating the Role of Fish as Surrogates for Amphibians in Ecological Risk Assessment • Scott Glaberman, et al.
8:45 AM			[23] A Novel Description of Microbial Population Diversity in the Intestinal Lymphatic Fluid Chyle • Timothy Odom, Rune Toms, MD, Michael Sandel	[33] Kinorhynch assemblages in the northern Gulf of Mexico continental shelf • Stephen Landers, et al.	[43] The Influence of Poultry Rearing Facilities on Streams and Stream Fish in the Upper Savannah River Basin • Jocelyn Stalker, et al.	[53] Development of a decision support tool for Birmingham Audubon's Urban Bird Habitat Initiative • Jonathan Pitchford, Andrew Coleman
9:00 AM	[3] ADBC and iDigBio: Advances in Herbarium Digitization • Gil Nelson	[14] Using HHMI Resources to Maximize Biology Instruction • Brenda Royal	[24] Determination of DNA Extraction Protocol Impacts on Detection of <i>Wolbachia</i> in Insects. • Laura D'Alessio, et al.	[34] Stayin' Alive: Evidence for Learning in Aphids • Edward B. Mondor, Jessica Durrence	[44] Effects on <i>Campostoma oligolepis</i> digestive morphology and gut microbiota composition across a gradient of urbanization • Hannah Grice, et al	[54] The Effect of Conventional versus Rotational Cattle Management on Pasture Soil Carbon and Bulk Density: Implications for Climate Change • Kelly Livernoche, Heather Griscom
9:15 AM	[4] Survival at a Small Regional University • Richard Carter	[15] Teaching Genetics in the Age of Personal Genomics • Steve Coggin				
9:30 AM – 11:00 AM	BREAK for Posters, Exhibitors, and Coffee ASB Poster Session 1 (P001–P115, odd numbered posters presented) • Exhibit Hall B					

Thursday AM, March 30th

TIME	Advancing Herbaria in the Age of Digitization Moderators: Zomelefer and Carter Alabama B	Teaching and Learning Moderator: Pearl Fernandez Montgomery 7	Microbiology Moderator: Henry Spratt Montgomery 1	Entomology/ Invertebrates/ Parasitology Moderator: Lori Talley-Jordan Alabama C	Ecology: Aquatic Moderator: Jonathan Miller Alabama D	Ecology: Conservation Moderator: Andrew Coleman Alabama E
11:00 AM	[5] The Dynamic Herbarium: Add Some Zest to Your Presentations! • Wendy Zomlefer		[25] Fish gut micro biomes: action and reaction • Dijon Cousins, et al.	[35] Invasive Species Alter Parasite Communities in the Southeastern US • Matthew Heard	[45] Examining Behavior Syndromes in <i>Orconectes dorelli</i> Crayfish • W. Kody Muhic, John Niedzwiecki	[55] Profiling Bat Species Presence and Activity in Managed Longleaf Pine Landscapes • Maggie Aduddell Hunt, Thomas McElroy
11:15 AM	[6] A Multi-Year Project Demonstrates that Botany-naïve Undergraduates Are Critical Partners in Herbarium Digitization Efforts • Emily Gillespie	[16] SEA-PHAGES (Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science): Implementing a freshman undergraduate research course at a public comprehensive university • Victoria Frost, Kristi Westover	[26] Identification of a Toxin Producing Unknown Bacterial Species Isolated from an Urban Pond • Elizabeth Castiglione, Alfredo Leon	[36] The Effects of Background and Illumination on the Foraging Behavior of Naïve <i>Manduca sexta</i> Hawkmoths • William Kuenzinger, et al.	[46] 4-Methylcyclohexaneethanol Acute Toxicity to <i>Daphnia</i> and Its Effects on General Esterase and Glutathione S-Transferase Activity in Fathead Minnows • Jared Lewis, et al.	[56] Seed banking for Resiliency: Seed Collections for Coastal Restoration in the Eastern United States • Amanda Faucette, et al.
11:30 AM	[7] The Worldwide Engagement for Digitizing Biocollections (WeDigBio) event—A Global Stage for Your Herbarium • Austin Mast, et al.	[17] An alternative grading strategy to more accurately reflect student learning • Kevin Drace	[27] Degradation of aromatic dyes by bacteria isolated from soils previously exposed to aromatic compounds and by common lab bacterial cultures • E. Skye Webb, Henry Sprtt	[37] Climate Change and the Effect of Temperature on the Release of <i>Proterometra macrostoma</i> (Trematoda: Digenea) Cercariae from their Snail Intermediate Host, <i>Pleurocera semicarinata</i> (Gastropoda: Pleuroceridae). • Robin Hauschner, et al.	[47] The effects of a trophic cascade and trait-mediated interactions have on the survival rate of the Southern Oyster (<i>Crassostrea virginica</i>) • Krystin Estes, et al.	[57] Using dynamic occupancy models to investigate inter-annual shifts in seabird distributions in southern New England • Nicholas Flanders, et al.
11:45 AM	[8] CollectionsEducation.org: Connecting Students to Citizen Science and Curated Collections • Erica Kimmel, et al.	[18] Metacognition in college students: what is it and why should faculty care about it? • Chris Barton	[28] Bacterial contamination in the environment of neonatal and pediatric intensive care units • Henry Spratt, et al.	[38] Examination of the relative abundance, species richness and diversity of mosquitoes on the campus of Berea College during the mosquito season of 2016. • Jillian Kendall, et al.	[48] The impact of a reduced tree canopy cover on the composition of stream macroinvertebrate communities • Sandra Bojic, John Niedzwiecki	[58] Age Specific Patterns in Window Mortality in Avian Populations • Emma Rhodes, et al.
12:00 PM	[9] SERNEC: Current efforts in a large-scale collaborative biodiversity project • Zack Murrell, et al.	[19] A reflection of the efforts to transform the culture of learning into a more student-centered, student-engaging focus: I had a vision, I made changes, I assessed the outcomes, and now I am adapting accordingly • Valarie Burnett	[29] Evaluation of Antibacterial Activity of Microbial Isolates from Soil • Hakan Sahinoglu, et al.	[39] Convergent evolution of fluid uptake mechanisms in insects when feeding from porous substrates • Kristen Reiter, et al.	[49] Status of Federally Listed Mussels in the Upper Pea River Watershed • Jonathan Miller, Paul M. Stewart	[59] Habitat management affects spatial and temporal patterns of genetic diversity • Richard W. Orton, et al.
12:15 PM	[10] National Science Foundation Funding Opportunities for Improved Collections Security and Digitization • Roland Roberts					
12:30 PM 2:00 PM	Lunch					

Thursday PM, March 30th

Time	Teaching and Learning Moderator: Pearl Fernandez Montgomery 7	Zebrafish Symposium Moderator: Ted Zerucha Montgomery 1	Ecology: Ecosystem Moderator: James Wood Alabama B	Entomology/ Invertebrates/ Parasitology Moderator: Lori Talley-Jordan Alabama C	Ecology: Aquatic Moderator: Jonathan Miller Alabama D	Ecology: Conservation Moderator: Andrew Coleman Alabama E
2:00 PM	[60] What Contributes to a Successful Program to Recruit and Engage Math and Science Teachers? • Cynthia Aulbach, et al.	[64] Transcriptional regulation of the <i>Meis2</i> locus • Megan Tennant, et al.	[71] Elemental stoichiometry and response to land use of a wide-spread riverine macrophyte, <i>Podostemum ceratophyllum</i> Michx. • James Wood, et al.	[76] Fitness consequences of <i>Wolbachia</i> infection and sexual mode in a model egg parasitoid • James Russell et al.	[81] Development of a Hypothesis to Explain Geographic Differences in the Morphology of <i>Bellamyja japonica</i> (von Martens 1861) • Harold Taylor et al.	[86] Mass Dependent Metabolism in <i>Bellamyja japonica</i> (von Martens 1861) • Michael Elbrecht et al.
2:15 PM	[61] Using reflective writing as a tool for improving understanding • Jeffrey Thomas	[65] Modeling gut function with larval zebrafish and transgenic shrimp • Mary Kinkel	[72] The effects of differing soundscape on avian vocalization and behavior • Alexander Schindler, John Quinn	[77] Dynamics of a venomous spider introduction to the southeastern United States • J. Scott Harrison	[82] Assessment of Food Availability of the Larval Eastern Hellbender Salamander (<i>Cryptobranchus alleganiensis</i>) in NC and GA Streams • Sierra Kincaid, Shem Unger	[87] Resampling to assess variability of the Georgia Index of Biotic Integrity • William Ensign
2:30 PM	[62] Can You Use Help in Your Biology Laboratories? Teach Your Undergraduates to be a TA. • Irma Santoro	[66] The enteroendocrine morphology of the developing zebrafish intestine • Kitt Franse, Mary Kinkel	[73] Testing Holling's Textural-Discontinuity Hypothesis Along an Urban Gradient • Sara Gagné, et al.	[78] Spatial Patterns in Morphology of the Invasive Kudzu Bug, <i>Megacopta cribraria</i> • Riley Lovejoy, Jeffrey Lozier	[83] The effect of freshwater input and seagrass on sediment characteristics in St. Joseph and Apalachicola Bay, Florida • Erica Strobe, Troy Mutchler	[88] Mobile Bay Living Shoreline Suitability Model • Chris Boyd, Stephen Jones
2:45 PM	[63] International Service Learning for Biology and Health Science Majors • Pearl Fernandes	[67] The Role of Topoisomerase 2B in neural development in <i>Danio rerio</i> • Mary Skrabut, Bonny Millimaki	[74] Soil Respiration Change across Forest Harvest Openings • Deborah Vlach, et al.	[79] Metal deposits in the cuticle of cicada ovipositors • Matthew Lehnert, et al.	[84] Investigating the Role of Long Distance Dispersal in the Response of Stream Fishes to Urbanization • Andrea Davis, William Ensign	[89] The impact of human traffic on wildlife abundance on a recreational trail system in Southeastern TN • Katherine Hesler, Aaron Corbit
3:00 PM		[68] Developing Zebrafish Artificial Stream Microcosms to understand natural water resources • Matthew Beblowski, Vinoth Sittaramane	[75] Understanding the Past, Present, and Future of Land Conservation in South Carolina • Nicole Berson, et al.	[80] Antimicrobial properties in butterfly saliva • Valerie Kramer, et al.	[85] Developmental and interactive effects of arsenic and chromium to developing <i>Ambystoma maculatum</i> embryos: Toxicity, teratogenicity, and whole-body concentrations • Steven Gardner et al.	
3:15 PM		[69] Understanding Tumor Microenvironment Using Humanized Zebrafish Tumor Xenograft Model • Reid Loveless et al.				
3:30 PM		[70] Creating an Autistic Model in Zebra Fish Utilizing CRISPR/Cas9 Genome Editing • Paul Lascuna, Vinoth Sittaramane				
3:15 PM – 4:45 PM	BREAK for Posters, Exhibitors, and Coffee ASB Poster Session 2 (P002–P116, even numbered posters presented) and ALL PULSE posters (301—329) • Exhibit Hall B					

Friday AM, March 31st

Time	Cell and Molecular Moderator: Glenn Cohen Montgomery 1	Plant Biology/Ecology Moderator: Chris Randle Alabama C	Populations and Communities Moderator: Chris Adams Alabama D	Evolution and Genetics Moderator: John Schenk Montgomery 7	New Research Across Space and Time Moderator: Julia Tuttle Alabama E
8:15 AM	[90] Differential Venom Gland Gene Expression Between <i>Centruroides vittatus</i> Size Classes • Rafael Perez, et al.	[98] Filling the need for flexible, practical, right-sized, updatable floras for field use and publication in the Southeastern United States • Alan Weakley, Michael Lee	[108] Rarity, Richness, and Randomness: Assessing the Relationship Between Biodiversity and Rarity at Environmentally-Bound Sites • Annalee Tutterow, Kevin Smith	[118] Developing Genetic Markers in Vetiver (<i>Chrysopogon zizanioides</i>) • Christine Bowen, Matt Estep	[127] The long-term impacts of fire on material inputs and primary producer responses in Long Pond, FL, USA: Evidence from the sediment record. • Matthew Waters, et al.
8:30 AM	[91] Highly Invasive Breast Cancer Cell Lines Show a Greater Sensitivity to MAPK Inhibitors by Decreasing Proliferation and Invasion • Mehdi Chaib, Beth Conway	[99] How many species of native vascular plants are there in the Southeastern United States? • Alan Weakley, Derick Poindexter	[109] Host Selection in the Rare Southeastern Parasitic Plant, <i>Cuscuta harperi</i> • Brandy Rogers, Joel McNeal	[119] Genetic Diversity and Population Structure in the Clonal <i>Trillium recurvatum</i> • Catherine Major, Jennifer Mandel	[128] Spatio-temporal variations in climate-growth relationships of longleaf pines (<i>Pinus palustris</i>) in Ocala National Forest, Florida • Diane M. Styers, et al.
8:45 AM	[92] Implementing a DNA barcoding pipeline to prevent the introduction of invasive species into the Port of Savannah • Lauren Whitehurst, et al.	[100] Best practices in lumping and splitting • Alan Weakley, Derick Poindexter	[110] Comparative Evaluation Of Wildlife Habitat In A 25-Year-Old Restored Bottomland Hardwood Forest In Response To Three Silvicultural Treatments • Marshall Hart, Joydeep Bhattachjee	[120] The diversity of populations and genetic structure of the rare endemic <i>Geum radiatum</i> • Nikolai M. Hay, et al.	[129] Classification of dry coniferous forests and woodlands of the southern Appalachian Mountains • Thomas Wentworth, et al.
9:00 AM	[93] Modeling the Mixed-lineage leukemia (MLL1) multi-protein complex in <i>Saccharomyces cerevisiae</i> • Marian Baker, Renée J. Chosed	[101] Floristic and Ecological Inventory of Native Grasslands of the Springfield Plateau, Northwest Arkansas: A Baseline for Restoration • Theo Witsell	[111] Differences in Seed Dispersal Metrics Between Rare and Common Trilliums is Related to Disperser Preference for Common Species • Chelsea Miller, Charles Kwit	[121] An exploratory study comparing the bacterial community in the guts of wild and lab-raised <i>Anopheles quadrimaculatus</i> • Eleanor Moen, Jonas King	[130] Changes in tree species distributions in Great Smoky Mountains National Park reveal legacies of disturbance • Julie Tuttle, Peter White
9:15 AM	[94] Effect of Metal Salts on the Pore Size of Diatoms for Various Applications • D. Vital, et al.	[102] The Distribution, Reproductive Viability and Nutrient Status of an Endemic Population of Large-Flowered Skullcap Mint (<i>Scutellaria montana</i> L.) in Marshall Forest, Rome GA. • Susan Monteleone	[112] Genotype, Vegetation structure, and Interspecific Interactions Predict Distribution and Abundance of <i>Solidago</i> Specialist Aphids in the Genus <i>Uroleucon</i> • Austin Thomas, et al.	[122] Small RNA sequencing identifies miRNA roles in ovule and fiber development • Fulaing Xie, Baohong Zhang	[131] Directional pollen and seed dispersal in a warming Southeast • Charles Kwit
9:30 AM – 11:00 AM	BREAK for Posters, Exhibitors, and Coffee ASB Poster Session 1 (P001–P115, odd numbered posters presented) • Exhibit Hall B				
11:00 AM	[95] The Wnt-signaling gene <i>off-track 2</i> is required for normal sensory neuron function in <i>Drosophila</i> larvae • Paul Freeman, Andrew Bellemer	[103] Vascular flora and plant communities of riverscours habitats in Little River Canyon National Preserve, Cherokee and DeKalb Counties, Alabama. • Zach Irick, Dwayne Estes,	[113] The Presence of a Non-native Alters Pollinator Activity of a Native Plant Species on Nantucket Island, Massachusetts • Adam Ramsey, et al.	[123] Dynamics of Retrotransposons in Grass Evolution • Andrew Murray, et al.	[132] Herpetofauna Occupancy of Tidal Swamps • Sidney Godfrey, Jamie Duberstein

Friday AM, March 31st

Time	Cell and Molecular Moderator: Glenn Cohen Montgomery 1	Plant Biology/Ecology Moderator: Chris Randle Alabama C	Populations and Communities Moderator: Chris Adams Alabama D	Evolution and Genetics Moderator: John Schenk Montgomery 7	New Research Across Space and Time Moderator: Julia Tuttle Alabama E
11:15 AM	[96] Banding Patterns in Human Hair • Glenn Cohen, Abena Adaboh	[104] Mechanisms driving the asymmetrical distribution of <i>Polystichum acrostichoides</i> (Christmas fern) on north/south ridges in a southern Appalachian woodland • David Nielsen, et al.	[114] Resource allocation drives variable mechanisms of survival after sand deposition • Joseph Brown, Julie Zinnert, Donald Young	[124] Patterns of selection acting on transcribed and anonymous microsatellites in latitudinal populations of common sunflower (<i>Helianthus annuus</i> L.) • Chathurani Ranathunge, et al.	[133] The potential for physiological and behavioral responses to minimize the risk of extinction under climate change • Eric Riddell, et al.
11:30 AM	[97] Effects of stress on astrocytes and hormonal protection • Bridget Smith, Kathleen Hughes	[105] Phylogenetic and Geographic Distribution of Nickel Hyperaccumulation in Neotropical <i>Psychotria</i> (Rubiaceae) • Grace McCartha, et al.	[115] Population Distribution of Three Common Caribbean Sea Urchin Species in Belize • Richard Settele, et al.	[125] Ecological and evolutionary influences on body size and shape in the Galápagos marine iguana (<i>Amblyrhynchus cristatus</i>) • Ylenia Chiari, et al.	[134] Relationships between land cover/land use, nutrient concentrations, and turbidity of headwater streams in the South Carolina Piedmont • Greg Lewis, et al.
11:45 AM		[106] Examining the Clonal Development of Yellow Toadflax <i>Linaria vulgaris</i> in Response to 2,4-D Exposure • Alexander Allmon, Hussein Mohamed	[116] Creating a microcosm to examine salinity tolerance of <i>Escherichia coli</i> in beach sand • Leigha Stahl, et al.	[126] Determining the Role of Ecology in the Diversification of Peninsular North American <i>Paronychia</i> (Caryophyllaceae) • John Schenk, et al.	[135] Nutrients modify the effects of predation in simple aquatic communities • Clifton Ruehl, Aaron Thomas
12:00 PM		[107] Chloroplast DNA phylogenetics of the North American <i>Castanea</i> • Matthew Perkins, et al.	[117] Macrolichens of Kentucky's Land of 10,000 Outcrops on Cumberland Mountain in Harlan County, Kentucky • Allen Risk		[136] Large effects of consumer offense on ecosystem structure and function: Implications for water resource management • Alan Wilson, et al.
12:15 PM – 2:00 PM	Lunch				

Friday PM, March 31st

Time	Cell and Molecular Moderator: Glenn Cohen Montgomery 1	Plant Biology/Ecology Moderator: Chris Randle Alabama C	Populations and Communities Moderator: Chris Adams Alabama D	Herpetology Moderator: David Beamer Montgomery 7	New Research Across Space and Time Moderator: Julia Tuttle Alabama E
2:00 PM	[137] Adipose-Derived Mesenchymal Stem Cells and Porcine Acellular Muscle Matrix Scaffolds for Skeletal Muscle Tissue Engineering and Regenerative Medicine • Carolina Pham, et al.	[141] A morphological analysis of <i>Rhododendron minus</i> (Ericaceae) in the Carolinas • Charles Horn			[156] Succession in metacommunities: diversity-age relationships across trophic levels in pond ecosystems • Jennifer Howeth
2:15 PM	[138] Examining the effect of convallatoxin, a cardiac glycoside, on the growth of colorectal cancer cells • Sarah Anderson, Chris Barton	[142] Hallmark Features of Stem Anatomy in the Family Lamiaceae • Catherine Garner, et al.	[147] Results of a multi-year benthic meiofauna community survey of the northern Gulf of Mexico • Jamil Ghazal, et al.	[151] Ecological Limits to Local Species Richness in Dusky Salamanders (genus <i>Desmognathus</i>) • Carlos Camp, et al.	[157] Patterns of disassembly as coastal bottomland forest collapses with relative sea level rise • Loretta Battaglia, Julie Denslow
2:30 PM	[139] Investigating the anti-proliferative effects of the sesquiterpene Beta-Caryophyllene on HCT116 cells • Diana Neculcea, Chris Barton	[143] The origin and evolution of <i>Buchnera</i> L. (Orobanchaceae) in the Americas • Soheila Bayat, et al.	[148] A Reconnaissance of Mammalian Species Found in Oak Mountain State Park in Shelby County, Alabama • Lauren Muncher, David Frings	[152] Burrow Location, Daily Activity, and Temperature Patterns of the Gopher Tortoises, <i>Gopherus polyphemus</i> , on Cumberland Island, Georgia • Alexandria Gagne, et al.	[158] Ecosystem state change in a coastal system: mechanisms and consequences • Julie Zinnert
2:45 PM	[140] Insight Into the Chemotaxis of <i>Caenorhabditis elegans</i> Toward Pathogenic <i>Bacillus Thuringiensis</i> Strain 4A4 Using Chemosensory Deficient Nematodes • Stacey Crockett, Robert Grammer	[144] Reintroducing the Green Violet • Harvey Ballard	[149] Seed germination and seedling survivorship of <i>Gentiana flavida</i> (Gentianaceae), an endangered species of Kentucky meadows and open woodlands. • Christopher Adams, et al.	[153] What's In A Name? Geographic Variability In Folk Knowledge Shapes Human Interactions With Eastern Hellbenders • Walter Smith, Ashlee Taylor	[159] Big picture conservation: Linking biodiversity, culture and conservation in the Mobile River basin • William Finch, John Adornato
3:00 PM		[145] Phytoextraction of Lead from Firing Range Soil by Kudzu • Megan Preston, et al.	[150] Blackwater Ecological Preserve: Longleaf Pine Inventory • Isaiah Amos, et al.	[154] Substrate selection of the bonaire whiptail lizard (<i>Cnemidophorus murinus</i>) • Julia Vineyard, Dave Unger	[160] Panel Discussion
3:15 PM		[146] Sorting out history and recognizing the true <i>Habranthus concolor</i> (Amaryllidaceae) • Raymond O. Flagg, Gerald L. Smith		[155] Towards rectifying limitations on species delineation in dusky salamanders (<i>Desmognathus</i> : Plethodontidae): An ecoregion-drainage sampling grid reveals additional cryptic lineages • David Beamer	[161] Panel Discussion
3:15 PM – 4:45 PM	BREAK for Posters, Exhibitors, and Coffee ASB Poster Session 3 (P118–P248, even numbered posters presented) • Exhibit Hall B				

βββ Oral Presentations

Friday PM, March 31st

Time	District I- Riverview 5	District II - Riverview 7
1:00 PM	VOC interference limits host detection of the parasitic plant <i>Cuscuta gronovii</i> • Audrey Hoffman, Tau Eta, Catawba College	A survey of freshwater snails and their parasites in Wheeler National Wildlife Park, Alabama • Tara Burke, Lori Tolley-Jordan, Jessica Wooten, Mu Phi, Jacksonville State University
1:15 PM	A molecular and microscopic investigation of arbuscular mycorrhizae in quillworts (Isoetes: Isoetaceae) • Viridiana Mandujano, Karina Noyola-Alonso, F. Jay Bolin, Tau Eta, Catawba College	Life History Variation of Sooty Elimia between an Open and Closed Canopy Reach • Jacob Dawson, Terry Richardson, Beta Zeta, University of North Alabama
1:30 PM	The effect of Zinc (Zn²⁺) on Uterine Smooth Muscle Cell (UTSMC) proliferation • Yuting Bai, Sigma Lambda, Wesleyan College	Comparing the habitat use of parasitized and non-parasitized <i>Elimia godwini</i> (Gastropoda: Pleuroceridae) in a spring-fed stream, Alabama • Anna Bowden, Lori Tolley-Jordan, Mu Phi, Jacksonville State University
1:45 PM	Analysis of FOXA1 and ERα Expression in Cervical Cancer • Amanda Perez, Wanda Schroeder, Sigma Lambda, Wesleyan College	Antibiotic Resistance: Plamid Transfer Among Bacterial Species • Breanna Littrell, Beta Zeta, University of North Alabama
2:00 PM	Wild Brew: Isolation and Genetic Identification of Wild Yeast Strains from Rowan County, North Carolina • Enrique Garcia, Taylor Parker, Lee Brackman, Andy Maben, Carmony Hartwig, Tau Eta, Catawba College	Expansion on the Nematode Scent Detection Test: Evaluating <i>C. elegans</i> Attraction to Non-Small Cell Lung Cancer • Brian Song, Robert Grammer, Mu Theta, Belmont University
2:15 PM	Citrus Extracts as Natural Larvicides Against <i>Culex</i> Mosquitoes • Taylor Parker, Carmony Hartwig, Richard Macri, Jay Bolin, Tau Eta, Catawba College	Examining potential environmental and genetic factors associated with chronic kidney disease of unknown etiology in rural farmers of Sri Lanka • Patel Harsh, Elisha Okyere, Joseph Mester, Kristi Haik, David Thompson, Mu Iota, Northern Kentucky University
2:30 PM	Shoulder That Load and Walk: Investigating Foraging Dynamics in Neotropical Leafcutter Ants • Daniel Brown, Kaitlin Pepper, Kaitlin Ramspeck, and Mark Davis, Psi Rho, University of North Georgia	The Function of Topoisomerase 2 Beta in Early Neurological Development of <i>Danio rerio</i> • Aaron Anderson, Bonny Millimaki, Kappa Delta Alpha, Lipscomb University
2:45 PM	Genetic Response of <i>Shigella flexneri</i> 2a Strain ATCC 29903 Grown in LB broth at different pH • Kelly Delgado, Stephanie Unkles, Alan Valdiviezo, Kingsley Dunkley, Tau Delta Kappa, Abraham Baldwin Agric. College	Structural Features of Human Hair • Abena Adaboh, Trevan Anderson, Brandon Rivers, Mu Epsilon, Troy University
3:00 PM	Foraging choices of American Beaver: Effect of tree species, diameter, and distance from water • Joel D. Schlaudt, Katherine J. Shumaker, Audrey C. Hoffman, Joseph P. Poston, Tau Eta, Catawba College	Anti-proliferative effects of epigallocatechin-gallate and enoxacin on cervical cancer-derived cells in culture • Anna Margaret McDonnell, Christopher Barton, Mu Theta, Belmont University
3:15 PM	Expression of the Polyhydroxybutyrate Depolymerase Gene of <i>Streptomyces</i> sp. 5A in <i>Streptomyces lividans</i> TK24 • Charles E. Booth, Nu Upsilon, Bridgewater College	The seasonal prevalence of female sex cells in gonads of male largemouth bass (<i>Micropterus salmoides</i>) from the Chattahoochee River system • Amy Adams, Mu Omicron, Columbus State University
3:30 PM	Phytoextraction of Lead from Firing Range Soil by Kudzu • Megan Preston, Kenneth Slaton, Gina Kurtulis-Tartar, Beta Chi Nu, Dalton State College	A comparison of age and the prevalence of intersex within Largemouth Bass (<i>Micropterus salmoides</i>) in the Columbus, Georgia area of the Chattahoochee River • Jeremy Belt, Mu Omicron, Columbus State Univ.
3:45 PM	Factors affecting anuran presence in Brevard County, Florida • Sebastian Martinez, Sigma Psi, Florida Institute of Technology	Altruism in Colonies of the Yeast <i>Saccharomyces cerevisiae</i> and the Effects of Nutritional Parameters on Colony Growth and Cell Viability • Michael Rohly, Mu Omicron, Columbus State University
4:00 PM	Effects of light and temperature on the toxicity of Florida Red Tide • Erika Neave, Sigma Psi, Florida Institute of Technology	The Effects of Fertilizer on Decomposition of Native and Invasive Exotic Plant Species in a Temperate Deciduous Forest • Gary Noel, Darlene Panvini, Mu Theta, Belmont University
4:15 PM	Inorganic Pyrophosphatase modulates paralysis in an Alzheimer's disease model • Jasmin Pimentel, Sigma Psi, Florida Institute of Technology	Characterization of the substrate specificity of <i>Citrus paradisi</i> glucosyltransferase mutant D344P • Nathan Spaulding, Pi Delta, East Tennessee State University

Posters

March 30th • ASB Posters P001–P116*

Odd # Posters presented (9:30–11:00 AM)/ Even # Posters presented (3:15–4:45 PM)

*All PULSE posters (P301–P329) presented in PM Session

March 31st • Posters P017–P248*

Odd # Posters (9:30–11:00 AM)/ Even # Posters presented (3:15–4:45 PM)

* All $\beta\beta\beta$ Posters – presented Friday 9:30 AM – Noon

Thursday, March 30th • ASB Posters P001–P116

ANIMAL BIOLOGY

- P001 Seasonal Changes in Maturation of Adult *Cotylaspis insignis* (Trematoda: Aspidogastriidae) Recovered from the Fat Mucket, *Lampsilis radiata luteola* (Bivalvia: Unionidae). • Hsuan Peng et al.
- P002 Variation in nickel concentrations among populations of the high-Ni insect *Melanotrachus boydi* (Hemiptera: Miridae) • Jiyeong Choi et al.
- P003 Investigating the antimicrobial benefits of *Sanguinaria canadensis* on *Aphaenogaster* ants infected with *Beauveria bassiana* • Samantha Kisare, Chloe Lash
- P004 Microbial Interactions and Chemical Components within *Myrmecochory* • Chloe Lash, Charles Kwit
- P005 Sippers and Blotters: Proboscis Morphology Can Help Determine Feeding Habits of Temperate Moths • Peter VanZandt et al.
- P006 Time of Death: Using Insects to Develop a Postmortem Interval Estimate • Taylor Burns
- P007 Does infection with trematodes affect snail shell strength? • Christopher G. Brown et al.
- P008 At the water's edge; Is parasite prevalence in snails higher at the edge of a stream? • Riccardo Fiorillo et al.
- P009 A topographical relationship between pollen grains and lepidopteran proboscises • Brandon Davis et al.
- P010 Parasite community structure of Redbreast sunfish, *Lepomis auritus*, in an urban watershed • Maggie Watkins, Riccardo Fiorillo
- P011 Regional distribution of pollen on lepidopteran proboscises • Daytona Hedrick et al.
- P012 Central Appalachian Surface Mines: Paradise Lost or an Overlooked Hotspot for Green Salamanders? • Michael Hinkle et al.
- P013 Temperature preference of larvae of two cryptic, parapatrically distributed salamander species (*Eurycea wilderae* and *Eurycea cirrigera*) in a zone of sympatry • Jenine Brideau, Carlos Camp
- P014 An Ethogram for the Central Bearded Dragon, *Pogona vitticeps* • Alexander Will et al.
- P015 A test of the functional significance of red ventral color in fossorial snakes (*Storeria*) • Shannon Merritt, Barry Stephenson
- P016 Using video manipulation and video playback to study the influence of color on communication in geckos • Nathan Katlein et al.
- P017 Reproductive Ecology of a Freshwater Turtle Community at Reelfoot Lake, Tennessee • Thomas Wilson et al.
- P018 Flight initiation distance in green and brown anoles • Benjamin Harden, E. Natasha Vanderhoff
- P019 Egg and Hatchling Size from Two Populations of *Gopherus polyphemus* in Southeastern Georgia: Effects of Habitat Quality • John Levengood, David Rostal
- P020 Assessment of land development in the Range of *Pseudemys alabamensis* (Alabama red-bellied turtle) • Nickolas Moreno et al.
- P021 Clutch and Sex Effects on Growth Rates in Gopher tortoise, *Gopherus polyphemus*, Hatchlings • Matthew Carey et al.
- P022 Testing the importance of tail color to prey attraction in caudal-luring copperheads (*Agkistrodon contortrix*) • Cristina Mursuli et al.

Thursday, March 30th • ASB Posters P001–P116

P023 Abundance of earthworms under nitrogen-fixing and non-nitrogen-fixing plants • Natalia Furr et al.

ECOLOGY

P024 Shrub expansion leads to biotic and abiotic changes in coastal grassland ecosystems • Lauren Wood et al.

P025 Effect of nest proximity on individual level behaviors during competitive interactions between *Aphaenogaster carolinensis* and *Nylanderia faisonensis* • Jacson Moody, Timothy Menzel

P026 Isolating the distinct nest site preferences of two regularly co-occurring ant species, *Aphaenogaster carolinensis* and *Nylanderia faisonensis* • Erin Clifford et al.

P027 Barnacle colonization on *Spartina alterniflora* in Georgia salt marshes • Heather Joesting et al.

P028 Classification of the Piedmont "prairie" community complex • Alexandria Szakacs et al.

P029 The relationships between breeding bird assemblages, vegetation structure and arthropod assemblages at the Lillian E. Smith Center, Rabun County, Georgia. • Marissa Akin et al.

P030 Patterns of fruiting phenology and seed predation in native and invasive plants • Sri Chitluri et al.

P031 Plant/Grasshopper Food Webs in Prairies and Longleaf Pine Savannas Using DNA Barcoding • John Barone et al.

P032 Foraging ecology of a southeastern bird community • Rachel Mowbray

P033 Does forest diversity drive predation rates? • Anna Nordseth

P034 Species-specific mechanisms contributing to the mesophication of upland oak stands • Emily Babl, Heather Alexander

P035 Resilience of gallberry (*Ilex glabra*) to prescribed fire in longleaf pine (*Pinus palustris*) forests. • Jaybus Price et al.

P036 Temporal And Age Distributions Of White-Tailed Deer, *Odocoileus virginianus*, Killed in Motor Vehicle Collisions On Bulloch County Roadways • Mackenzie Payne, Edward B. Mondor

P037 Testing the Potential Allelopathic Effects of the Non-Native Garlic Mustard (*Alliaria petiolata*) on Saprotrophic Fungi • Michelle Henson, Jonathan Horton

P038 Keeping pace or losing ground: Quantifying barrier island response to sea level rise • Ben Nettleton, Julie Zinnert

P039 Prescribed fire effects on growing conditions and recruitment of upland oak and competing species • Joshua Byers, Heather Alexander

P040 Exurban development and shrubland birds: opportunity or catastrophe? • Neil Gilbert et al.

P041 The physico-chemical relationship between an open and closed canopy reach of a first-order stream, containing *Elimia paupercula* • Leah Hilpertshouser, Terry Richardson

P042 Eco-hydrologic impacts of invasive evergreen shrub species in a headwater catchment area • Isaac T. Hayes et al.

P043 Tree-ring analysis of longleaf pines (*Pinus palustris*) in Ocala National Forest, Florida • Morgan L. Douglas et al.

P044 Where Does the Elusive American Ginseng Grow Best? Experimental Field Trials • Brooke Thompson et al.

P045 Prescribed fire and canopy gap disturbance impacts on upland oak regeneration • Brian Izbicki, Heather Alexander

P047 Species-specific leaf litter traits influencing forest bed flammability • William Webb, Heather Alexander

P048 Understanding how land use patterns affect spatial distribution of ticks and tick-borne diseases. • Connor Wise et al.

P049 Effects of estradiol and progesterone on nerve activity of *Procambarus clarkii* • Lauren Johnson et al.

P050 Natural Selection on Growth and Locomotor Development in Eastern Cottontail Rabbits • Bert Crawford et al.

P051 Germination of *Amaranthus caudatus* as influenced by increasing salinity • Karla Rangel Silva et al.

Thursday, March 30th • ASB Posters P001–P116

PLANT BIOLOGY

- P053 DNA Barcoding of *Quercus margaretta* from TN to Validate Morphological Identification and to Determine Efficacy of Different Barcoding Regions to Determine *Quercus* Species Resolution • Emma Bilbrey, Michael Schiebout
- P054 EPIC Markers for Understanding Evolutionary Diversification in *Platanthera* section *Limnorchis* (Orchidaceae) • Eranga Wettewa et al.
- P055 Phylogenetic Relationships of the Genera of Achariaceae Based on Analyses of Morphological and DNA Data • Corey Pagart, Mac Alford
- P056 Phylogenetic Relationships and Character Evolution in the Closest Relatives of Willows (*Salix*) and Cottonwoods (*Populus*), Salicaceae • John Diffey, Mac Alford
- P057 Combing out evolutionary histories in the *Phlox glabberima*/*P. carolina* species complex • Jordan Bennett, Gerald Bresowar
- P058 On the Evolution and Phylogeography of the Southeastern Species of the Genus *Dalea* L. (Fabaceae) Using a Phylogenetic Approach • Joshua Fuller et al.
- P059 A preliminary examination of the plant genus *Corymbium* • Darrell Brandon
- P060 A Distributional and Taxonomic Study of *Lathyrus* (Fabaceae) in Alabama. • Eric Minton, Michael Woods
- P061 The genus *Medicago* (Fabaceae) in Alabama. • Julia Orcutt, Michael Woods
- P062 DNA barcoding of *Quercus falcata*, *Quercus palustris*, *Quercus rubra* and their hybrids using *rbcl* and *matK* genes • Mckinzie Johnson, Timothy Trott

DEVELOPMENTAL BIOLOGY

- P063 Larval zebrafish as an in vivo model to study gut motility disorders • R Krizek et al.
- P064 Larval zebrafish growth can be supported using brine shrimp as a supplement from the first meal • D Tart et al.
- P065 Larval zebrafish rearing methods for small laboratories • A Norton et al.
- P066 Developing a high-throughput social interaction behavior assay with Zebrafish Larvae • Mary Gregory, Vinoth Sittaramane
- P067 The Effects of Deazaflavin induced TDP2 inhibition with etoposide treatment in MDA-MB-231 cell culture • Sara Windham, Bonny Millimaki
- P068 The effect of Top2B inhibition with Hu331 on expression of *dcc* in *Danio rerio* • Melanie Couch et al.
- P070 Zebrafish Tumor Xenograft Model in Identifying Anti-Cancer Activity of Quinone-Based Complex • Paul Lascuna, Vinoth Sittaramane
- P071 Preliminary comparison of L-cysteine, N-acetyl-L-cysteine, and apple peel protective effects on acrylamide toxicity in embryos of *Xenopus laevis* • Kristen T. Carlisle, James Rayburn
- P072 The Potential protective effects of L-cysteine on the developmental effects of acetaminophen, caffeine, and sea salt using Frog Embryo teratogenesis Assay- FETAX • ALAA QRAREYA et al.

CELL AND MOLECULAR BIOLOGY

- P073 The Potential Neuroprotective Effect of *Hexastylis Arifolia* Root Extract • Shannon Gilstrap et al.
- P074 Establishing Conditions for the Pigmentation of Dopamine Neurons • Jeremy H. Bui et al.
- P075 Finding a Role for Atg27 in the targeting of Pmc1 to the vacuolar membrane • Aakash Nawaz, Veronica Segarra
- P076 Optimizing Genomic DNA Extraction for a PCR-Based Screen of Myosin Genes in *Sabal yapa* • Ashley Garcia
- P077 Circulating cell-free DNA in plasma versus serum of patients with Leukemic Cutaneous T-Cell Lymphoma • Celine Kong et al.
- P078 African Americans with Pancreatic Ductal Adenocarcinoma Exhibit Gender Differences in Kaiso Expression. • Angana Mukherjee, Jacqueline Jones
- P079 Foxi3 Ablation Retards Bone Derived Prostate Cancer Cell Growth • Will Byrd, Angana Mukherjee
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Thursday, March 30th • ASB Posters P001–P116

P080 Identification of Translation Regulators that Control Sensory Neuron Function in *Drosophila melanogaster* larvae • Katherine Hoffman et al.

P082 The Effects of HIV-TAT And Morphine on M17 Neuroblastoma Cells • Felicia Peoples, John Shacka

P083 Investigation of the Cytotoxicity of Soursop Pulp Extract on Hep-G2 Cells • Justin Buck, Patricia Koplak

P084 The Pattern of *Wolbachia* Infection in Insect Populations Native to Savannah, GA • Cicely Curtis et al.

P085 DIO2 Expression in Myoblast Cell Lines Under Inflammatory Conditions • Benton Hurt, William Thierfelder

EVOLUTION

P087 The Structural Evolution of Butterfly Egg Mimicry within the Passionflowers (*Passiflora* L.) • Long, Shawn Krosnick

P088 *Wolbachia* infection frequency and evolution among mosquito (Culicidae) species • Rebekah Williams, James Russell

P089 Developing a system to study the compilospecies concept • Alyssa Phillips, Matt Estep

P090 Description and Geography of a Unique Population of the Stonecat (*Noturus flavus*) • Alex Haddad, Rob Hopkins

P091 A Comparison of Two Contact Calls Produced By Hatchling Chinese Blue-breasted Quail (*Coturnix chinensis*). • Edward Mills

P092 Phylogenetic relationships of 13 species in Emberizidae (Aves, Passeriformes) based on complete mitochondrial genome • Fangqing Liu et al.

P093 The architecture of genomic cohesion among locally adapted *Helianthus annuus* (Common Sunflower) populations • Michael Kartje, Mark Welch

P094 *Liatris* (Asteraceae): A Model System for the Study of Niche Evolution • Anthony Melton et al.

GENETICS

P096 Are College Students' Involvement in Extreme Sports Correlated With Their Genotype? • Erica Giron et al.

P097 An Experimental Strategy for Identification of Novel Myosin genes in *Sabal Palms* • Kassandra Fernandez, Selwyn Williams

P098 Development of SSR markers for *Chresta* (Asteraceae, Vernoniaeae) using genomic data • Carolina Siniscalchi, Jennifer Mandel

P099 Relationship between *Wolbachia* infection frequency and mitochondrial variation in introduced populations of the brown widow spider. • Emily Knight, J. Scott Harrison

P100 Mapping and annotation of lncRNA transcripts expressed in rat muscle tissue using a Tuxedo Tools pipeline • Emily Herron et al.

P101 Comparison of Efficacy of DNA from Feathers and Liver Tissue for the Molecular Sexing of Hawk Species • Miranda Garrett, Joanna Katsanos

P102 Evaluating Mutagenetic Effects of Yellow Dye #5 on Eukaryotic Cells • Ines Bibiano Baltazar, Irma Santoro

P103 Development of microsatellite markers for diversity studies within the genus *Dicentra*. • Lindsay Shields, Matt Estep

P104 *Nyctiellus lepidus* population structure in the Grand Bahamas Bank • Samantha Johnson, David Reed

P105 Barcoding Metro Atlanta Birds • Dustin Root et al.

P106 Where we Spent Our Winter Break: Historical Biogeography of Insular White-footed Mice ("Peromyscus leucopus") in Eastern North America • George Argyros et al.

P107 Determining the Genetic Relatedness of Various *Rosa* Plant Species by DNA Barcoding • Paige Koetter et al.

MICROBIOLOGY

P108 Use of *Methylobacterium* as a Possible Protection against Pathogenic Infection in Red Clover, *Trifolium pretense*. • Ashley Turner, Dr. John Davis

Thursday, March 30th • ASB Posters P001–P116

- P109 **Culturing the Unculturable: Observing the Growth of Marine Bacteria Using Natural Sea Water Media** • Jessica Dobbs, Eric Warrick
- P110 **Relationships between poultry farms and suspended bacteria in streams of the South Carolina Piedmont** • Cullen Carter et al.
- P111 **Characterization of a Novel Antibiotic-Producing Pigmented Marine Bacterial Isolate** • Caitlyn Johnson et al.
- P112 **Classifying Coastal Bacterial Colonies Isolated from Sarasota Bay, Florida with Antimicrobial Activity** • Michael Grandalski, Eric Warrick
- P113 **The immunoproteasome may not be responsible for increased MHCI presentation in the presence of TNF- α** • Dotson Kirsten et al.
- P114 **MultiWalled Carbon Nanotube Effects on Soil Microbes and Plant Growth** • Kadiatou Keita et al.
- P115 **Antibiotic Resistance of *Vibrio Vulnificus* on the Alabama-Florida State Line** • Sierra Fischer, Brian Burnes
- P116 **Yeasts isolated from environmental samples collected in Middle and West Tennessee** • Logan Campbell, Kevin Pitz
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Friday, March 31st • ASB Posters P117–P248

ANIMAL BIOLOGY

- P117 **Analysis of local mosquito populations for the *Wolbachia* endosymbiont** • Katie Anne Fopiano et al.
- P118 **Ant Biodiversity in Switchgrass Fields and Other Land Cover Types in the U.S.** • Kane Lawhorn et al.
- P119 **Elemental defense of seeds by a nickel hyperaccumulator against a generalist seed herbivore.** • Katherine Mincey, Robert Boyd
- P120 **Current status of *Cylindera cursitans* (LeConte) (Coleoptera: Carabidae) in Alabama** • Brian Holt, Stephen Krotzer
- P121 **A new state record for *Gonatista grisea* (Fabricius) (Mantodea: Liturgusidea) and a brief review of its distribution in the United States** • Brian Holt, William Lilly
- P122 **Variation in Areola Size in Introduced Populations of *Orconectes virilis* in Southern Canada and Northern United States** • Jennifer M. Weber, Brian S. Helms
- P123 **Effects of the Neonicotinoid Imidacloprid on the Electroretinogram (ERG) of Hymenopteran Insects** • Anika Tabassum et al.
- P124 **Revision of *Gymnoscirtetes* (Orthoptera: Acrididae): A grasshopper genus endemic to the Southeastern United States** • JoVonn Hill
- P125 **The Influence of Epigenetics in Caste Polyphenism in Female Honeybees (*Apis mellifera*)** • Shuntele Burns
- P126 **The Effects of Arginine Vasotocin and Female Body Condition on Maternal Care Behavior in a Viviparous Snake, *Sistrurus miliarius*** • Donna-Jael Paredes et al.
- P127 **Phylogeographic structure and speciation in a tiny vertebrate species: Seepage salamanders (*Desmognathus aeneus*)** • Henri Vega-Bernal et al.
- P128 **The Effect of Conspecific Presence During Feeding Events on Free Cortisol Levels and Feeding Performance in Juvenile *Alligator mississippiensis*** • James Kerfoot, Jr. et al.
- P129 **A comparison of habitat use among six species of aquatic snakes occurring in the Reelfoot Lake area of northwest Tennessee** • Erik Velazquez, Tom Blanchard
- P130 **The effect of prey elevation on caudal luring in neonate pigmy rattlesnakes (*Sistrurus miliarius*)** • Alexis Korotas et al.
- P131 **The Growth and Movement of *Gopherus polyphemus*** • John Floyd et al.
- P132 **Visible Implant Elastomer (VIE) study in *Anolis carolinensis*, as a viable mark-recapture technique** • Danyelle Keenan, Shem Unger
- P133 **A New Species of "Desmognathus" identified within Northern Dusky species complex** • Alan M. Babineau et al.
- P134 **Effects of Human Disruption of Previous Contact Between Two Parapatric Salamander Species, *Eurycea cirrigera* and *Eurycea wilderae*** • Keelan Passmore et al.
- P136 **Genetic Exchange between Two Species of Two-lined Salamander (*Eurycea bislineata* Species Complex) at their Parapatric Boundary in Northeastern Georgia** • Daniel Whitson et al.
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ECOLOGY

- P135 Impacts of Alligator Weed (*Alternanthera philoxeroides*) on Southern Toad (*Bufo terrestris*) Development and Algal Growth in Aquatic Systems • Kayla Janes, Christopher Beals
- P137 Investigation of the identity, bioaccumulate in aquatic biota, and toxicity bioassay of polychlorinated biphenyl (PCB) congeners in the Coosa River and its Rome tributaries in Floyd County, GA. • Christopher Elsey et al.
- P138 The relationship between black spot disease (BSD) intensity and food intake in *Gambusia affinis* • Mary Catherine Depmsey, Megan Gibbons
- P139 Age and growth of Central Stonerollers (*Campostoma oligolepis*) across a range of urbanization • Hannah Grice et al.
- P140 Thermal Tolerances of the Exotic *Daphnia lumholtzi* and Native *Daphnia* from an Alabama Estuary • Melissa Pompilius, Robert Fischer
- P141 Estimating portable antenna capture probabilities of PIT-tagged fish in a small stream • William Commins et al.
- P142 A novel, extremophile annelid in a sulfur spring in Blount County, AL • Antonio Bradley, David Johnson
- P143 Identifying *Daphnia* Species by Morphological Traits and DNA Barcoding • Cara Vielhauer et al.
- P144 Molecular analysis of the prokaryotic flora of sulfur springs in Blount County, AL • Jon North et al.
- P145 Characterization of an Unusual Population of *Isoetes* (Lycopodiophyta), a Potential New Species • Shannon Walker
- P146 The eukaryotic micro- and macrobiota of a sulfur spring in Blount County, AL • Mariel McConville, David Johnson
- P147 Fecundity and Mortality in *Bellamyia japonica*, An Invasive Freshwater Snail • Richard Mahon et al.
- P148 Plankton Entrainment by Water Intakes: A Case Study and Limnological Influences • Jacob Bartell, John Hains
- P149 The Effects of Magnesium and Interstitial Space on Restoration Efforts Towards the Eastern Oyster, *Crassostrea virginica* • Matthew Elder
- P150 Fish assemblage response to mitigation of a channelized stream reach in Tennessee • Mark Schorr, Jeannie Cuervo
- P151 Population density and morphology of (Echinometra lucunter) Echinodermata: Echinoidea color morphotypes from different habitats along reefs in the southern Caribbean • Stanton Belford
- P152 The Negative Effects of Gibberellic Acid (GA3) on Freshwater Daphnids' Mortality and Reproduction • Marcus Ramos-Pearson, Scott Weir
- P153 Cold tolerance in introduced apple snails along a latitudinal gradient • Marissa Granberry, Clifton Ruehl
- P154 Analysis of Bacterial Communities in the Sediments of Northern Gulf of Mexico and Effects of Corexit® 9500A • Priya Bhattacharya et al.
- P155 A Survey of Large-Size Mammal Diversity and Abundance in the Temperature Forests Located in Rural, Suburban, and Urban Parks in Northern Georgia using Multiple Types of Lures and Trail Cameras • Carol Smith, Mark Schlueter
- P156 Microclimate Gradients and Their Relationships to Terrestrial and Subterranean Biodiversity along the High Knob Landform, Virginia • Layton Gardner et al.
- P157 Multi-year Comparative Analysis of Maple Species for Syrup Production • Jacob Peters et al.
- P159 Seasonal Abundance and Habitat Selection of Chiropterans at Felsenthal National Wildlife Refuge in Southeast Arkansas • Tyler Porter, Kim Marie Tolson
- P160 The Important of Abundance to Local Extinction Caused by a Disturbance in Freshwater Communities • Ryan Almeida, Kevin Smith
- P161 Chemotypic diversity of ginsenosides in American Ginseng (*Panax quinquefolius* L.) in Western North Carolina • Jessica Burroughs et al.
- P162 Assessing Reproductive Potential in a Federally Listed Species: Differential Pollen Viability Staining of *Spiraea virginiana* • James Wise, Matt Estep
- P163 Determining Potential Effects of Vertebrates on Rare Plant Communities using Trail Camera Technology • Byron Burrell, Matt Estep
- P164 Post Restoration Decline of Outplants in a Threatened Hawaiian Dry Forest Ecosystem • Evan Moore et al.
- P165 Re-establishment of a Piedmont prairie by disking and seeding • Elizabeth Barker, David Vandermast
- P166 Effects of Reforested Riparian Zones in an Agricultural Matrix on Bat Communities • Matthew Harris et al.

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- P167 Waterfowl Diversity on Former Surface Mines in the Virginia Coalfields • Kyle Hill, Walter Smith
- P168 Viability and germination of *Buckleya distichophylla* (Santalaceae) seeds from Virginia • Conley McMullen, Ryan Huish
- P169 A Review of Red-cockaded Woodpecker Management Strategies and Factors Affecting their Population Growth • Emily Brown, Paige Ferguson
- P170 Partial root harvest of *Panax quinquefolius* L. (American ginseng): a non-destructive method for harvesting root tissues for ginsenoside analysis. • Ian Sabo et al.
- P171 A comparison of bat activity at an urban and a rural pond in northwest Tennessee • Brittany Woodard et al.
- P172 Identifying Evolutionarily Significant Units in *Spiraea virginiana* along the New and Cheoah Rivers in North Carolina • Logan Clark et al.
- P173 Conservation Genetics of the Shale Barren Leatherflowers (*Clematis*) • Tara Loughery et al.
- P174 The Search for a Missing Mouse in Eastern Alabama • Duston Duffie et al.
- P175 A study of Autumn Olive (*Elaeagnus umbellata*) and some mechanisms involved in its invasion of an Appalachian forest understory • Emily Riffe, Howard Neufeld
- P176 Dendrochronology and ecophysiology of Fraser firs (*Abies fraseri*) along an elevational gradient in the Southern Appalachians • Rachel Jordan et al.
- P177 A Multi-Year Examination of Seasonal Body Size Changes in Bumblebees and Carpenter Bees During the Growing Season (March-September) • Emanuel Harbin, Mark Schlueter
- P178 Comparison of Spider Species from Adjacent Mesic and Xeric Habitats in Pike County, Alabama • Chelsea Smith et al.
- P179 Inbreeding Depression in the Introduced Spider *Latrodectus geometricus* • Maggie Howard, J. Scott Harrison
- P180 Bee abundance across forest canopy types in timber harvest areas • Hannah Mullally, Charles Kwit
- P181 Reproductive Effort and Output in Two Species of *Sarracenia* (Pitcher Plant) and Their Hybrids • Lila Uzzell et al.
- P182 Evolutionary Biogeography of the White-Browed Laughingthrush in China's Sichuan Basin • Janine Antalffy et al.
- P183 Mating when alone: reproduction of the Titan Acorn Barnacle *Megabalanus coccopoma* in its introduced range • Isabel Moran, J. Scott Harrison
- P184 Is the winter abundance of Red-headed Woodpeckers related to acorn production in a bottomland hardwood forest in northwest Tennessee? • Bailey C. Kelso, H. Dawn Wilkins
- P185 Assessing deer abundance in Kennesaw Mountain National Battlefield using motion detection cameras • Melissa Martin et al.
- P186 Baseline Population Survey of *Gopherus polyphemus* for Management Purposes • Noel Cawley
- P187 Interactions between captive *Ateles fusciceps rufiventris* and the reproductive implications of these behaviors • Madison Browne et al.
- P188 An investigation into population structure and gene flow in North American *Castanea* Mill. (Fagaceae) • Jesse C. Harris et al.
- P189 Introgression in co-occurring *Baptisia arachnifera* and *Baptisia lecontei* assessed by Sequence-Related Amplified Polymorphism (SRAP) markers • Kayla Hankins et al.

PLANT BIOLOGY

- P190 Current Status of the Herbarium of the Alabama Natural Heritage Section (ALNHS) • Wayne Barger, Chris Taylor
- P191 The Preliminary Flora of Chewacla State Park, Lee County, AL • Chris Taylor, Wayne Barger
- P192 Rare Vascular Plants of Geneva County, Alabama • Cameron Byrd
- P193 The vascular flora of Autauga County, Alabama • Matthew Parker
- P194 Improvements to the Georgia Southern University Herbarium through the NSF Collections in Support of Biological Research Grant • Jessica Devitt, John Schenk
- P195 Preliminary Checklist of the Vascular Flora of Keith Hills Golf Club, Harnett County, North Carolina • Stacie Williams, J. Christopher Havran
- P196 Results of a Vascular Floristic Survey of the Mebane Wetland Restoration Site in Carroll County, TN • Luke Little, Michael Schiebout
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- P197 Defining Plant Communities and the Vascular Flora of Sampson's Landing, Robeson County, North Carolina • Robbie Juel, Lisa Kelly
- P198 The Vascular Flora of The Big Soddy Creek Gorge, Hamilton and Sequatchie Counties, TN. • Zach Irick, Joey Shaw
- P199 Patterns of Anthocyanin Pigment Formation during Fall Leaf Senescence for Tree Species in the Southern Appalachians • Ariel Waldroop et al.
- P200 Modified CTAB Extraction of *Hydratica petiolaris* using PVP/PEG • Amanda Wilkinson, Matt Estep
- P201 Using Vulnerability Curves to Determine Whether Tissue Water Relations Differ Among Fraser Fir Christmas Trees Growing at Different Elevations • Jessica Stevens, Howard Neufeld
- P202 Nuclear magnetic resonance reveals significant metabolite difference between wild type and cultivated watermelon roots • Taaliah Campbell, Mihail Kantor
- P203 Do American lobsters spill lactate across their gill epithelium during periods of increased metabolic demand? • Shannon Barter et al.
- P204 Verifying the integration of gene construct in transgenic *Catharanthus roseus* hairy root lines for the production of pharmaceuticals • Monika Chojnacka et al.

ANATOMY AND PHYSIOLOGY

- P205 Visual contact with a male limits parthenogenesis in female Egyptian Pygmy Mantids (*Miomantis paykullii*). • Matthew Ryan, Jeffery Thomas
- P206 Examining the Role of Blood Vessels in Neural Progenitor Cell Migration • Jessica Garcia et al.
- P207 The Effects of Cigarette Smoke and Electric Cigarette Vapor on Prenatal *Drosophila melanogaster* • Amanda Trotter et al.
- P208 The Effect of Progesterone on the Endogenous Production of Nitric Oxide & Tumor Necrosis Factor in RAW 264.7 Cells • Christopher Brandon, Bagie George
- P209 Effects of aromatherapy using essential oils on circulating cortisol levels • Rebecca Brasswell et al.
- P210 Electrical Stimulation of Gustatory Cortex Causes the Activation of Motor Neurons in Conscious Rats • Sara Greco et al.
- P211 Cardiac Dynamics in the American Lobster Under Varying Conditions of Metabolic Demand • Sara Celec, Darwin Jorgensen
- P212 Frequency of Aerial Respiration by Juvenile Pterygoplichthys disjunctivus (Loricariidae) in Hypoxic Conditions • Anna Thornton et al.

CELL AND MOLECULAR BIOLOGY

- P213 Neuroprotective Effects of Nicotine and Neuromelanin in Dopamine Neurons • LUIS ORTIZ et al.
- P214 Histone-Mediated cytochrome C release from Mitochondria: a process conserved across Eukarya? • Roger Sauterer et al.
- P215 The *Drosophila* translational regulator Pumilio controls nociceptive neuron sensitivity. • Rebeccah Stewart et al.
- P216 Evidence Supports Claims the Histone H3 is Present in Mitochondria of Diverse Species • Mary Katherine Zanin et al.
- P217 The Roles of G β q and PLC in Regulating Mechanosensory and Thermosensory Behavior in *Drosophila melanogaster* • Josh Herman, Andrew Bellemer
- P218 Identification and validation of *Saccharomyces cerevisiae* genes required for growth in an environment lacking sulfur • Liz Dreggors, Amy Wiles
- P219 Biochemical characterization of alpha-synuclein protein aggregates in *Saccharomyces cerevisiae* • Laura Bloodworth et al.
- P220 Modulation of Hsp70-Mediated cytoprotection by Resveratrol and Staurosporine in Colon Cancer Cells • Sanjay Kumar et al.
- P221 An estimate of the mitochondrial DNA mutation rate in Rett-syndrome-model mice carrying the *MECP2* gene • Mary-Catherine Mitchell, David Johnson
- P222 Interactions of Butyric Acid (BA) with Aryl Hydrocarbon Receptor (AHR) Active Microbiota Metabolites • Andrew Asante et al.
- P223 The Effects of E-cigarette Exposure on Cell Viability and Gene Expression • C.M. Hale et al.
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Friday, March 31st • ASB Posters P117–P248

MICROBIOLOGY

- P224 Analysis of local population of *Wolbachia* strains • Emily Flingos et al.
- P225 A Study of *E. coli* in Lake Martin, Alabama • Artchandra Marks, Brian Burnes
- P226 The use of bacteriophage in preventing bacterial infection of *Caenorhabditis elegans* by *Bacillus thuringiensis kurstaki* • Katherine Cochran et al.
- P227 Exploring The Potential Of Trehalose As Anti-Radiation Agent on Tetrahymena • Payton Barnwell et al.
- P228 JAK2 may be the pathway responsible for immunoproteasome activation in the presence of TNF- α • Mason Forchetti et al.
- P229 The Potential Role of Niche Occupancy on the Production of Toxigenic Exoproteins by Virulent *Aeromonas hydrophila* • Priscilla Barger et al.
- P230 Potential impacts of pollution on the fish gastrointestinal micro biome metabolic capabilities • Katherine Azzolino et al.
- P231 Detection of nitrogen fixers that associate with *Oenothera* dune plants on Georgia barrier islands • Jasmine Ferguson et al.

MYCOLOGY AND LICHENOLOGY

- P232 Contribution of decomposer fungi to the litter decomposition of two grass species, *Schizachyrium scoparium* and *Schizachyrium tenerum*. • Matthew Lodato et al.
- P233 Antimicrobial properties and preliminary microbial ecology of leaf beetle fecal cases • Diana Wong et al.
- P234 Macrolichen Inventory of the Eagle Lake Watershed • Kendall McDonald, Allen Risk

TEACHING AND LEARNING

- P235 The making of a university insect collection • Lauren Sanker et al.
- P236 Utilizing Pulmonate snails as subjects in semester-long behavioral experiments to generate testable hypotheses • Amy Wethington
- P237 Bio-Bridge: A Research and Study Skills Bridge Program for Transfer Students • Allison Claybrook et al.
- P238 Effects of Sleep Deprivation on Biomarkers of Obesity - Sleep Quality, Perceived Stress, and Depression and Anxiety Scores among College students • Francisca Freire
- P239 Formal involvement of students in new course development provides a unique educational experience and valuable perspective for both students and the instructor • Matthew Stern
- P240 Designing An Engaging Lab Manual • Michelle Tremblay
- P241 Exploration of Human Pancreatic Cancer by Undergraduates as Entry Point into Next-Generation Sequence Analysis • Tabatha Grainger, Latanya Hammonds-Odie
- P242 Time travel to T.H. Morgan's lab: Teaching transmission genetics by gamification • Amy Wiles
- P243 Bridging the Genetics Gap: Combining Human Pedigree Analysis with VNTR technology for an Undergraduate Genetics Course Series Activity. • Ghada Bedwan et al.
- P244 From natural selection to classification: A new engagement curriculum to build on concepts for High School Biology • Alexander Krings
- P245 Students Take Charge: Teaching Students to Own their Education in the Introductory Biology Classroom • Virginia Young, Michael Moore
- P246 The Undergraduate Teaching Experience • Amy Williams, Irma Santoro
- P247 A novel way to create a crime scene for forensic science classes. • Patricia Redden et al.
- P248 Using Classroom-Based Undergraduate Research to Enhance Student Learning While Examining Global Change • Jennifer Rhode Ward et al.
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PULSE Posters

Thursday PM, March 30th

P301	Fostering Faculty Development to Increase Inclusiveness and Student Higher Order Cognitive Skills • Charles Winder et al.
P302	SERP III: Strategies to Innovative Teaching and Overcoming Challenges at Alabama State University • Diann Jordan, Kartz Bibb
P303	Curriculum reform: Down in the trenches, a bird's eye view • Zack Murrell, Sarah Marshburn
P304	Transforming the Biological Sciences Curriculum and Instructional Program at Auburn University • Jason Bond et al.
P305	The Ripples Produced by Early CUREs • Barbara Musolf et al.
P306	That's EPIC2 (Engaging Pedagogies in Collaborative Classrooms): Metacognition and More - Adding Collaboration to Improve Science Learning • Heather Aloor et al.
P307	Longitudinal Assessment on Implementation of Curricula Changes in Southern Appalachia • Joseph Bidwell et al.
P308	Ask Me What I'm Working On: A Liberal Arts STEM Cohort as a Scaffold for Undergraduate Research • George Argyros et al.
P309	Small Seeds of Change Can Lead to Faculty Engagement and Diverse Pedagogies. • Chrisha Dolan
P310	SOARING Eagles: Student Opportunities for Authentic Research • Lyndsay Rhodes, Charles Gunnels
P311	Vision and Change at Georgia Tech: Strengthening the PULSE • Jung Choi et al.
P312	New Horizons in Biology at James Madison University • Tim Bloss et al.
P313	Realizing Vision and Change: Completion of an Undergraduate Biology Program Redesign • Lisa McDonald et al.
P314	Save the Bears: An Update on the Action Plan of Mercer University's Biology Department • Linda Hensel et al.
P315	College-wide Implementation of Adaptive Learning Tools in Non-Majors Biology Courses and Impact on Student Achievement • Alfredo Leon
P316	A focus on Curricular and Extracurricular Student Engagement and Critical Thinking: Continuing Strategies to Strengthen the P.U.L.S.E. of the Newberry College Biology Program • Valarie Burnett et al.
P317	From Classical to Modern Pedagogy: A Case-Study • Maureen Scott
P318	Engaging Students Through Sustained Research Experiences • Dixie Gautreaux et al.
P319	Aligning the Radford University Biology Program with <i>Vision and Change</i> : Action Steps Toward Improving Core Competencies and Metacognitive Skills Through Student-Centered Learning and Authentic Research • Christine Small et al.
P320	Experiments in Re-designing Introductory Biology to Align with Vision and Change • Bobby Fokidis et al.
P321	A Chance to be Creative: Assessing the Department of Biology at Samford University • George Keller et al.
P322	Shaw on a Mission through Vision and Change • Vonda Reed
P323	Tackling Curricula Reform using <i>Vision and Change</i> : Efforts at a Research-Intensive University • Kristen Miller et al.
P324	Transforming Education by Enhancing Student Metacognitive Skills • Srinivas Garlapati et al.
P325	Taking the PULSE at UNCW: A plan for curriculum review and change, Department of Biology and Marine Biology • Christopher Finelli et al.
P326	Development and Initial Implementation of the Winthrop University SERPII Action Plan • Matthew Stern et al.
P327	Transforming the Culture for STEM Teaching and Learning • Angela White et al.
P328	Investigating the Impact of Collaborative Make-up Exams • Wilfred Amoako et al.
P329	Biologists engaged in Consensual Curricular Revision • G. R. Davis

βββ Posters

Friday March 31st, 9:30 am – Noon

- βββ 1 **Impact of myeloid cell NF-κB signaling on glioblastoma growth** • Natasha Venugopal, Shelby Howard, Bhagelu Achyut, Meenu Jain, Ali Arbab, and Jennifer W. Bradford, Kappa Kappa, Augusta University
- βββ 2 **Behavioral and molecular effects of the insecticide carbaryl on the salt-marsh killifish *Fundulus heteroclitus*** • Kendall Maze, Andrew Shirley, and Nancy Eufemia Dalman, Rho Psi chapter, University of North Georgia
- βββ 3 **The Influence of Zn+2 on Human Prostate Smooth Muscle Cell's Proliferation** • Yang He, Sigma Lambda, Wesleyan College
- βββ 4 **Modeling CD4 Expression with Short Lived EGFP** • Chika Fujii, Tau Omega, Davidson College
- βββ 5 **The effects of molecular weight on the antimicrobial and wound healing properties of chitosan in *Carassius auratus*** • Stephanie Reidell, Psi Chi Chapter, Virginia Wesleyan College
- βββ 6 **The release of zooxanthellae in *Aiptasia pallida* due to environmental stress** • Lisa Nguyen, Deidre Gonsalves-Jackson, Psi Chi, Virginia Wesleyan College
- βββ 7 **Clonal Root Development of the Yellow Toad Flax *Linaria vulgaris*** • Leslie Elrod, Beta Chi Nu, Dalton State College
- βββ 8 **Comparison of Bt vs Conventional Field Corn in Production Yield** • Kelsey Smith, Christine Fleet, Eta Iota, Emory & Henry College
- βββ 9 **Quantifying Sepallata Concentrations in Reproductive Organs of *Phalaenopsis*** • Lindsey Dean, Christine Fleet, Eta Iota, Emory & Henry College
- βββ 10 **Phylogeography of Montane Salamanders in Southwest Virginia: A Mitochondrial Analysis** • Erin Kirk, George Argyros, Eta Iota, Emory & Henry College
- βββ 11 **Epithelial Mucosal Swabbing of Frogs (Ranidae) as an Indicator of Bovine Fecal Coliform Contamination of Aquatic Habitats in Southwest Virginia** • Brandon Gearhart, Melissa Taverner, George Argyros, Eta Iota, Emory & Henry College
- βββ 12 **Analysis of NOTCH1 Expression in Cervical Carcinoma Cells** • Zahna Bigham, Wanda Schroeder, Sigma Lambda, Wesleyan College
- βββ 13 **The Expression of GATA-3 in Cervical Carcinoma** • Monica Mohanty, Wanda Schroeder, Sigma Lambda, Wesleyan College
- βββ 14 **Effect of root-knot nematode parasitism on yield and sugar content of sugar beet in Georgia** • Emily R. Boyd, Richard F. Davis, Theodore M. Webster, Brian T. Scully, Timothy B. Brenneman, Tau Delta Kappa, Abraham Baldwin Agricultural College
- βββ 15 **A study of an aquatic turtle assemblage in a northwest Georgia lake and wetland prior to restoration** • Jonathan Leberman, Carrie Swinney, Chris Manis, G. John Lugthart, Beta Chi Nu, Dalton State College
- βββ 16 **Antimicrobial Properties of Venom from Native Snakes of Southeastern United States** • Annalia Ramos, Cantrell Dillion, Beta Chi Nu, Dalton State College
- βββ 17 **Nose Goes: Alzheimer's Olfaction and *C. elegans* Chemotaxis** • Amanda Green, Tanner Watkins, Heather Cathcart, Tau Delta Kappa Chapter, Abraham Baldwin Agricultural College
- βββ 18 **Analysis of Pesticide Residues in Georgia's Groundwater** • Jessica Bell, Tau Delta Kappa, Abraham Baldwin Agricultural College
- βββ 19 **Survey of Amphibians in a Northwest Georgia Urban Wetland** • Tegan Hendricks, Harrison Daley, Chris Manis, John Lugthart, Beta Chi Nu, Dalton State College
- βββ 20 **Oncolytic Vesicular Stomatitis Virus Alters Cancer Cell Invasion Mechanisms** • Brittany DeVasure, Dakota Goad, Darren Seals, Maryam Ahmed, Beta Psi, Appalachian State University
- βββ 21 **A Survey of Amphibians In A Northwest Georgia Urban Wetland** • Daley Harrison, Tegan Hendricks, Beta Chi Nu, Dalton State College
- βββ 22 **Worker Subcaste Behavior in Neotropical Leafcutter Ants** • Kaitlin Pepper, Kaitlin Ramspeck, Daniel Brown, and Mark Davis, Psi Rho Chapter, University of North Georgia
- βββ 23 **Comparative Study of Mosquito Biodiversity in Rowan and Cabarrus Counties, North Carolina** • Shannon Garrick, Chrystal Swinger, Carmony Hartwig, Bruce Harrison, Joshua York, Elizabeth Brown, Parker Whitt, Ryan Harrison, Hugh Smith, and Marlon Barber, Tau Eta Chapter, Catawba College
- βββ 24 **Modeling the MAPK Cascade in Starfish Oocytes** • Abigail Rich, Claudia Kassouf, Semen Koksai, David Carroll, Beta Alpha Chapter of BBB, Salem College

Friday March 31st, 9:30 am – Noon

- βββ 25 The role of starvation and cellular differentiation in polyhydroxybutyrate depolymerase synthesis in *Streptomyces* sp. 5A • Kara Jones, Nu Upsilon, Bridgewater College
- βββ 26 Identification of Mutations in the Polyhydroxybutyrate Depolymerase gene of Bald Mutants of *Streptomyces* 5A • Michelle Reed, Nu Upsilon, Bridgewater College
- βββ 27 Adolescent Oxycodone Exposure's Impact on Drug Sensitivity in Adulthood • Dominique Johnson, Nu Upsilon, Bridgewater College
- βββ 28 Do Antioxidants=Anti-Alzheimer's? Affects of Antioxidants on APL-1 in *C. elegans* • Tanner Watkins, Amanda Green, Joseph Falcone, Heather Cathcart, Tau Delta Kappa, Abraham Baldwin Agricultural College
- βββ 29 Techniques in characterizing the morphology of osteocyte cell bodies and their dendrites • Elias Moreno, Leslie Pryor McIntosh, Tau Delta Kappa, Abraham Baldwin Agricultural College
- βββ 30 An Acute study of the Toxic Effects of TiO₂ on *Daphnia magna* • Zach Bowens, Naoma Nelsen, Erskine College
- βββ 31 Detection of Pathogens and Markers of Permethrin Resistance in Human Lice from Madagascar • Shamta Warang, Titilope Ogunleke, Danielle Capps, Lance A Durden, Sarah Zohdy, and Marina E. Eremeeva, Tau Kappa Chapter, Georgia Southern University and School of Forestry & Wildlife Sciences
- βββ 32 Environmental factors influencing gopher tortoise distribution at Merritt Island National Wildlife Refuge • Allie Leight, Beta Alpha, Salem College
- βββ 33 Protein concentration variations in larval Gobiidae • Maddison Harman, Sigma Psi Chapter, Florida Institute of Technology
- βββ 34 Determinants of Reef-Fish Assembly in Pacific and Caribbean Coral Reefs After the Establishment of Marine Protected Areas (MPAs) • Victor Rodriguez Ruano, Sigma Psi Chapter, Florida Institute of Technology
- βββ 35 Identification of the Heat Shock Protein Family in the Starfish Oocyte and Egg • Altair Dubé, Sigma Psi Chapter, Florida Institute of Technology
- βββ 36 Forensic Sample Digestion: What Microbes are Eating Human Proteins • Jason Floyd, Beta Zeta, University of North Alabama
- βββ 37 Effect of Crude Oil on *Vibrio parahaemolyticus*, a Causative Bacterium of Seafood Poisoning • Kristina Bokenfohr, Mu Epsilon, Troy University
- βββ 38 Bacterial Communities Residing in Core and Surface of Tar Balls on the Gulf Coast Beaches • Callie S. Bennett, Mu Epsilon, Troy University
- βββ 39 High-Dose Taurine Causes Cognitive and Behavioral Deficits in Adolescent and Young Adult Mice With Highest Risks in Males • Yislain Villalona, Mu Iota, Northern Kentucky University
- βββ 40 The Involvement of Estrogen Receptors in Astrocyte Survival • Lauren Johnson, Mu Omicron, Columbus State University
- βββ 41 Detection of Neutrophil Apoptosis in Response to *Haemophilus influenzae* • Rachel Pearson, Mu Omicron, Columbus State University
- βββ 42 Intracellular Survival of *Acinetobacter baumannii* in Human Neutrophils • Rowan Pitts, Mu Omicron, Columbus State University
- βββ 43 Foxi3 Ablation Retards Bone Derived Prostate Cancer Cell Growth • William Byrd, Angana Mukherjee, Saeed Ahmed, Shanice Theodore, Jacqueline Jones, Mu Epsilon, Troy University
- βββ 44 Hilpertshauer, Leah The physico-chemical relationship between an open and closed canopy reach of a first-order stream, containing **Elimia paupercula** Beta Zeta University of North Alabama
- βββ 45 Windmiller, Reid A Toxicity Study of Tetracycline and Titanium Dioxide Nanoparticles on the Nematode *Caenorhabditis elegans* and the Rotifer *Philodina acuticornis*. Sigma Gamma Erskine College
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Thank You for Attending



See you next year in Myrtle Beach, SC!!

Wednesday, March 28 – Saturday, March 31, 2018

Myrtle Beach Convention Center, Myrtle Beach SC

Safe Travels Home!

• NOTES •

