



ECOLOGICAL INTEGRATION SYMPOSIUM 2024

Global Innovations in Ecology

April 4th - 5th, 2024

Texas A&M University, College Station, Texas

PROGRAM BOOK



Welcome to the 24th annual Ecological Integration Symposium!

Texas A&M University's Ecological Integration Symposium (EIS) is an annual interdisciplinary event that brings together a diverse group of leading scientists and students from the fields of ecology, evolutionary biology, and conservation. The symposium provides an excellent opportunity for both local and visiting students to showcase their work and engage in meaningful dialogue with the invited speakers.

Continuing the tradition of EIS since its inception in 2000, we are a graduate student-run event that is open to the public and free to attend.

The organizing committee is grateful to our sponsors for their support and to the large body of faculty, students and public who have made this event possible.

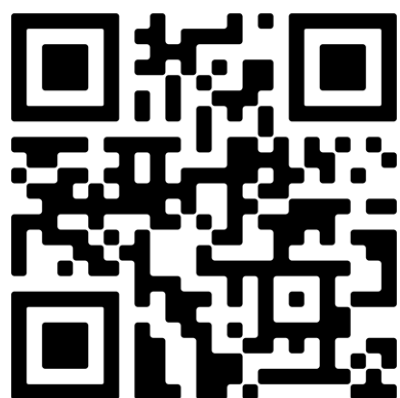
Special Thanks to Our Sponsors:



Schubot Center



EIS Merchandise



The new 2024 EIS t-shirts along with limited edition vintage merchandise are available for [pre-order!](#) Items include EIS mugs, shirts, hats, and stickers!



Symposium Schedule



Day One - Thursday, April 4th

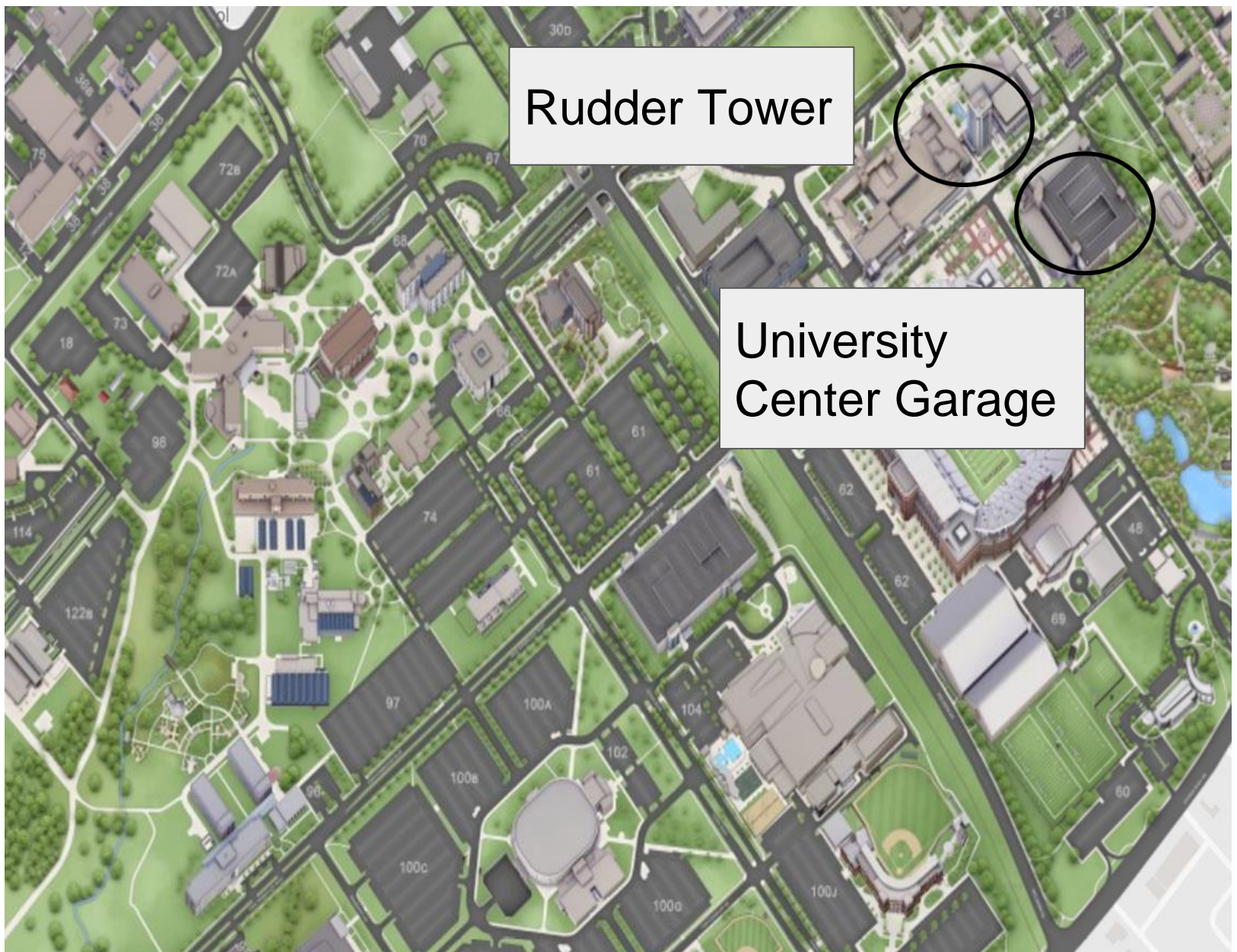
Time	Event	Location
8:00 AM - 4:00 PM	Registration & Check-In	Rudder Lobby
8:45 AM - 9:00 AM	Welcoming Remarks	Rudder Theatre
9:00 AM - 10:00 AM	Nancy Grimm	Rudder Theatre
10:00 AM - 10:10 AM	Break	Rudder Exhibit Hall
10:10 AM - 11:10 AM	Patricia Wright	Rudder Theatre
11:10 AM - 11:20 AM	Break	Rudder Exhibit Hall
11:20 AM - 12:20 PM	Steven Cooke	Rudder Theatre
12:30 PM - 1:30 PM	Lunch	Rudder Exhibit Hall/Plaza
1:40 PM - 2:40 PM	Maria Diuk-Wasser	Rudder Theatre
2:40 PM - 2:50 PM	Break	Rudder Exhibit Hall
2:50 PM - 3:50 PM	Pamela Soltis	Rudder Theatre
3:50 PM - 4:10 PM	Break	Rudder Exhibit Hall
4:10 PM - 5:00 PM	Speaker Panel	Rudder Theatre
5:00 PM - 5:15 PM	Announcements	Rudder Theatre
6:00 PM - 8:00 PM	Happy Hour	Carney's Pub and Grill 3410 S College Ave Bryan, TX 77801

Symposium Schedule



Day Two – Friday, April 5th

Time	Event	Location
8:00 AM - 3:30 PM	Registration & Check-In	Rudder Tower (RT) Lobby
8:00 AM - 8:30 AM	Morning Coffee & Snacks	RT 601, Rudder Exhibit Hall
8:00 AM - 9:00 AM	Poster Check-In (Session 1)	RT Lobby
8:30 AM - 9:30 AM	Oral Presentations	RT 501, 504, 510
9:30 AM - 9:50 AM	Break	RT 601, Rudder Exhibit Hall
9:50 AM - 10:50 AM	Oral Presentations	RT 501, 504, 510
10:50 AM - 11:00 AM	Break	RT 601, Rudder Exhibit Hall
11:00 AM - 12:00 PM	Poster Presentations Session 1	Rudder Exhibit Hall
12:00 PM - 1:00 PM	Graduate/Professional School Panel	RT 501
12:00 PM - 1:00 PM	Lunch	RT 601, Rudder Plaza
12:45 PM - 1:45 PM	Poster Check-In (Session 2)	RT Lobby
1:00 PM - 2:00 PM	Oral Presentations	RT 501, 504, 510
2:00 PM - 2:20 PM	Break	RT 601, Rudder Exhibit Hall
2:20 PM - 3:20 PM	Oral Presentations	RT 501, 504, 510
3:20 PM - 3:30 PM	Break	RT 601, Rudder Exhibit Hall
3:30 PM - 4:30 PM	Poster Presentations Session 2	Rudder Exhibit Hall
4:30 PM - 5:00 PM	Awards, Silent Auction, & Closing Remarks	Rudder Exhibit Hall
6:00 PM - Til	Social (Food & Drinks Provided)	Off-campus



All activities will be held at Rudder Theatre, Rudder Exhibit Hall, & Rudder Tower

Rudder Tower (and all other venue locations) can be reached by all on campus bus lines (route 1, 3, 4, 5, 6, 7, & 8; bus stop: MSC).

The closest parking garages are University Center Garage, Gene Stallings Boulevard Garage, and West Campus Garage (see links on next page!)

Getting Around Campus

Interactive Campus Map:

<https://aggiemap.tamu.edu/map/d>

Daily Bus Schedules:

<https://transport.tamu.edu/busroutes/>

Hourly Parking Lot Information:

<https://transport.tamu.edu/Parking/pbp.aspx>

Additional TAMU Transportation Information:

<https://transport.tamu.edu/>



Welcoming Remarks from Dr. Heath Blackmon

Associate Professor; Biology

Thursday, April 4th at 8:45 AM
Rudder Theatre

Dr. Heath Blackmon is an Associate Professor in the Department of Biology and affiliated with the Ecology and Evolutionary Biology and Genetics and Genomics Interdisciplinary Programs at Texas A&M University. He is also the Associate Department Head of Graduate Studies for Biology. Dr. Blackmon's research broadly aims to understand how and why the structure of genomes evolve across the tree of life. He does so by studying a wide variety of organisms, including beetles, mammals, tomatoes, chickens, and betta fish, and a variety of genomic components, including sex chromosomes, chromosome number, and structural mutations.

Plenary Speaker Line-Up

Thursday Morning, April 4th



Dr. Nancy Grimm

9:00 - 10:00 AM

Virginia M. Ullman Regents Professor of Ecology
at Arizona State University

Title: Envisioning positive futures and nature-based solutions for the Anthropocene



Dr. Patricia Wright

10:10 - 11:10 AM

Distinguished Service Professor in the
Department of Anthropology and Department of
Ecology and Evolution at Stony Brook University

TBA



Dr. Steven Cooke

11:20 AM - 12:20 PM

Research Professor in Environmental Science
and Biology at Carleton University

**Title: The RACE to Save Freshwater
Biodiversity**

Plenary Speaker Line-Up

Thursday Afternoon, April 4th



Dr. Maria Diuk-Wasser

1:40 - 2:40 PM

Associate Professor in the Department of Ecology, Evolution & Environmental Biology at Columbia University

Title: Lyme disease as a coupled natural-human system



Dr. Pamela Soltis

2:50 - 3:50 PM

Curator and Professor in Molecular Systematics & Evolutionary Genetics at the Florida Museum of Natural History, University of Florida

Title: Natural History Collections as a Resource for 21st Century Ecology and Biodiversity Science

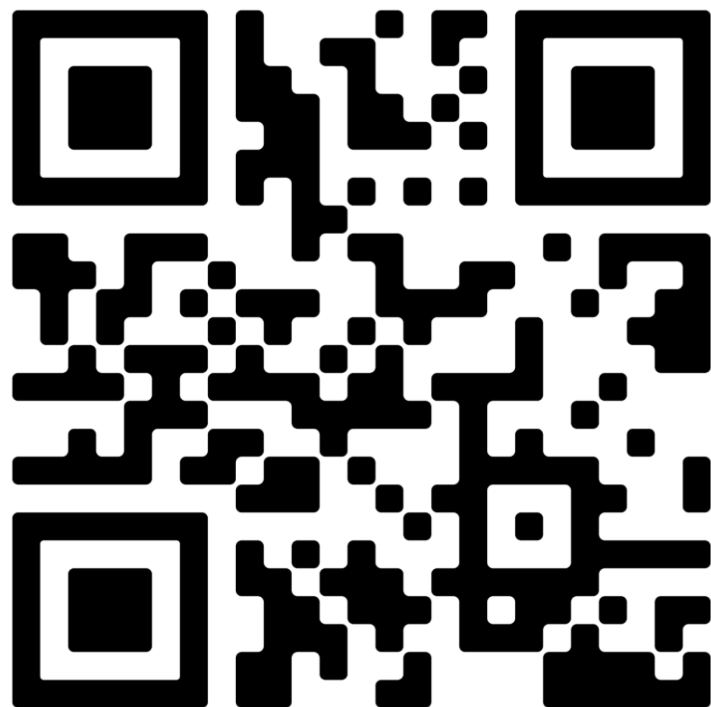


Speaker Panel

4:10-5:00 PM

Please join us at 4:10 on Thursday, April 4th, for an engaging discussion with our plenary speakers where you will have the opportunity to ask questions to researchers leading their respective fields!

To submit your questions for the plenary speakers, click this [link](#) or scan the QR code!





Closing Remarks from Dr. Courtney Fitzpatrick

Assistant Professor; Biology

Friday, April 5th at 4:30 PM
Rudder Exhibit Hall

Dr. Courtney Fitzpatrick is an Assistant Professor in the Department of Biology and affiliated with the Ecology and Evolutionary Biology Interdisciplinary Program at Texas A&M University. She is also the faculty advisor for the Ecological Integration Symposium. The broad goal of her research is to understand how the social environment affects trait evolution, with a particular focus on female ornamentation and reproductive strategies. To do this, Dr. Fitzpatrick utilizes both empirical work with Phrynosomatid lizards and the Amboseli baboons, as well as mathematical modeling.

Student Oral Presentations

Friday, April 5th | 8:30 AM - 9:30 AM



Start Time	Room 501 Tropical Ecology with Texas Tropical Network (TTN) I	Room 504 Evolution & Population Genetics	Room 510 Invasive Biology
8:30 AM	Erik Iverson 60 Years of Ecological Insight from the Manu Elevation Gradient	Andres Barboza Pereira Exploring the Evolutionary Dynamics of Achiasmatic Meiosis	Breann Richey Behaving Invasively: Tracking Behavioral Syndromes Across Invasion Scales
8:45 AM	Benton Fry Size, Diet, and Habitat Associations of a Recently Described Peacock Bass Species, <i>Cichla cataractae</i>	Ferris Zughaiyir Measuring interspecific admixture in federally endangered Houston toads (<i>Bufo</i> [=Anaxyrus] <i>houstonensis</i>) at the main recovery site within designated Critical Habitat	Griffin Nicholson Trends in anthropogenic introductions of frogs across space and time
9:00 AM	Leah Spoolstra Use of RFID to Assess Survival Rates of In-Situ Nests Between Mass and Solitary Strategies	Gabrielle Vaughn Insights into Subterranean Connectivity within the Aquifer of the Yucatán Peninsula: Population Genetics and Distribution of <i>Typhlatya</i> species.	Nicole Stevens Impacts of invasive threats on native lizards and improving coexistence potential
9:15 AM	Ed Basham The canopy frogs of Gabon	Nikunj Joel Non-random recolonization after a hurricane yields rapid evolution by spatial sorting	Paige Hudson Exploitative competition: An invasion mechanism of the invasive lacertid lizard <i>Podarcis siculus</i>

Student Oral Presentations



Friday, April 5th | 9:50 - 10:50 AM

Start Time	Room 501 Tropical Ecology with Texas Tropical Network (TTN) II	Room 504 Plant Ecology and Adaptation	Room 510 Species Range and Dispersal
9:50 AM	Brian Stokes Range expansion dynamics of Green Jay (<i>Cyanocorax yncas</i>) in Texas revealed through population genomics	Borja Barbero Barcenilla Growing beyond Earth: Telomere tales of <i>Arabidopsis thaliana</i> in lunar regolith simulant and on the International Space Station	Kathryn Steffen Effects of Range Management on the Plateau Spot-tailed Earless Lizard, Year 2 Results
10:05 AM	Carly Scott Metagenomic insights into the genotypic, environmental, and temporal drivers of the coral reef microbiome	Gage Strozier Can Plants Spy On Their Friends? Plants Detect Belowground Insect-Damaged Neighboring Plants And Enhance Aboveground Defenses	Luke Micek Demographic Structure of Alligator Snapping Turtles (<i>Macrochelys temminckii</i>) Along a Fishing Pressure Gradient
10:20 AM	Eric Wuesthoff Seed dispersal dynamics across intact and regenerating tropical forests by a threatened frugivore	Sarah Ortiz Water availability and diversity drive rooting strategies in herbaceous plants: insights from a biodiversity experiment	Camryn Kiel Patterns of microhabitat use by Texas tortoises in a southern Texas coastal rangeland
10:35 AM	Maria Hurtado-Materon Niche overlap in transition zones: the relevance of biogeographic areas in niche evolution	Lydia Morley The Ecological and phylogeographic correlates of hybridization in vascular plants	Rose Blanchard Sexual dimorphism in dispersal traits for the highly invasive Western Mosquitofish

Student Oral Presentations



Friday, March April 5th | 1:00 - 2:00 PM

Start Time	Room 501 Tropical Ecology with Texas Tropical Network (TTN) III / Environmental Monitoring and Conservation I	Room 504 Diet, Metabolism, and Morphology	Room 510 Community Dynamics I
1:00 PM	Abir Chaudhuri Urbanization at the cost of biodiversity? Examining implications of urban growth on habitats and Key Biodiversity Areas in Indonesia	Brandy Craft Of Mice and Museums: utilizing natural history collections to investigate the relationship between cranial morphology and habitat	Johnathan Ellard Spatially intensive fish inventories conducted 70 years apart reveal strong spatial footprints of reservoirs in a regulated temperate river
1:15 PM	Ziyu Wang Abiotic and biotic factors that shape <i>Cassiopea</i> organism-environment interaction in response to global change	Haley Ellis Comparative Shape Differentiation in Forelimb and Hindlimb Morphology across Habitats in the <i>Peromyscus maniculatus</i> Species Complex	Rebecca Mangold Long-term changes in fish assemblage structure across the Neches River Basin
1:30 PM	Alanna Fulkerson Environmental DNA analysis for detection of <i>Poeciliopsis</i> in northern Sonora, Mexico.	Kiley Stout The Mighty Power of a Micronutrient: How Tryptophan & Zinc Impact Mass Reared Insect Larvae	Anastasia Umstott Partitioning Spatial Variation in Stream Fish Beta Diversity, East Texas
1:45 PM	Ed Rhodes It's all over but the drying. Managing for a post-Ogallala world	Jordan Salomon Triatomine vector host preference in an experimental cafeteria: the impact of <i>Trypanosoma cruzi</i> infections	Jordan Lindholm Why are there so many darters in East Texas streams? Exploring local stream environmental predictors of darter diversity and their conservation status.

Student Oral Presentations



Friday, April 5th | 2:20 - 3:20 PM

Start Time	Room 501 Environmental Monitoring and Conservation II	Room 504 Modeling Techniques in Ecology	Room 510 Community Dynamics II
2:20 PM	Mei-Kuei Lu Mapping Aboveground Biomass in Oregon and California with ICESat-2 and Ancillary Data	Alexandra Howard PaleoPhyloGeographic Models: Integrating paleontological, neontological, and spatial data in a phylogenetic comparative framework	Chase Nimee Local predictors of the distribution of two endangered shiners (Sharptnose Notropis oxyrhynchus and Smalleye N. buccula) in the upper Brazos River, Texas
2:35 PM	Andre Felton Amphibian Exposure to Microplastic Pollution Linked to Hydroperiod Dynamics in an Urban IRES System	Hailey Schmidt Measuring and Preserving the Texas A&M Century Tree with Mobile LiDAR	Bailey Lin Building up ecological indicators for the assessment and recovery of estuarine ecosystems in the wake of external disturbances
2:50 PM	Meredith Anderson Imidacloprid exposure is detectable in over one third of wild bird samples from diverse Texas ecoregions	Katie Sanbonmatsu Leveraging the past to predict the future: the range dynamics of porcupines through time	Raegan Schott Mapping the Microbial Landscape of Porites Corals: the effect of age, environment, and genotype
3:05 PM	Abigail Meeks Understanding the Role of Aliens on University Student Views on Predator Culling Contests	Purushottam Gyawali Integrating Ecology and Economics for Achieving Effective Weed Management Decisions	Fernando Calderon Gutierrez Response and resilience of karst subterranean estuary communities to precipitation impacts

Student Poster Session I

Friday, April 5th, 11:00 AM - 12:00



Number	Presenter	Title
1*	Megan Beeksma	Exploring the diversity of cichlid fishes in rivers of Guyana, South America
2*	David Costa	Water availability and extreme events under climate change scenarios in an experimental watershed of the Brazilian Atlantic Forest
3*	Takiya Jackson	How high do they go? Comparison of maximum food chain length in channel and floodplain habitats of the Rupununi River, Guyana
4*	Kaitlyn Patterson	Intraspecific Diel Temporal Niche Conservatism and Assemblage-Wide Overlap in Neotropical Bats
5*	Sophie Scott	Freshwater fish diversity in a river of the Guiana Shield: The Rupununi River – Guyana
6*	Calvin Young	Analysis of South American Characiform species between river and floodplain lake littoral habitats
7	Namrata Bhandari	Contrast of diel activity patterns versus body mass in Asian Euungulates: Ecological, evolutionary, and conservation implications.
8	Amanda Laboy	Evaluating Small Mammal Biodiversity using Camera Traps
9	Imogen Southerland	The influence of a novel immune challenge on immune cell proliferation in the purple sea urchin, <i>Strongylocentrotus purpuratus</i> , based on disease state
10	Dylan Stewart	Space Use, Movement, and Survival of Translocated Desert Bighorn Sheep in Sonora, Mexico
11	Brian McElligott	Towards a temporal theory of ecology: The role of body mass for activity budgets of North American Artiodactyls
12	Hannah Evans	Mesohabitat and macroecological correlates of Blue Sucker occurrence in regulated rivers
13	Lucas Stevens	Integrating stream ecosystem theories into spatial modelling of fish richness and assemblage structure
14	Brianna Mena	Investigating variation in cave habitat use among mammal species in response to soft tick abundance
15	Chelsea Thorn	Development of genomic resources for the gecko tapeworm, <i>Oochoristica javaensis</i>

* Denotes inclusion in the Texas Tropical Network Symposium (TTN)

Student Poster Session I

Friday, April 5th, 11:00 AM - 12:00



Number	Presenter	Title
16	Ryne Maness	Characterization of the major histocompatibility complex (MHC) in the invasive gecko species, <i>Hemidactylus turcicus</i> .
17	Blake Elzi	Hydrodynamics and Fish Assemblage Fluxes in a Forested Riverscape
18	Claire Legaspi	Examining phosphorus output at endangered Atlantic Salmon hatchery
19	Erica Hagemeyer	Temporal and Spatial Variability of Fish Assemblages in Harmon Creek: The Influence of Habitat Complexity and Environmental Drivers
20	Gage Grantham	Southern pine forest restoration implications for small mammal diversity
21	Magdalene Moses	The Suckermouth Minnow (<i>Phenacobius mirabilis</i>): An imperiled and rare fish species in east Texas streams
22	Lily DiFrank	Conservation status of the threatened Red River Pupfish (<i>Cyprinodon rubrofluviatilis</i>) in the upper Brazos River, Texas.
23	Sope Adeniji	Mapping Epigenetic Divergence in a Migratory Divide between Songbirds
24	Liz Reed	Characterizing the gut microbiomes of damselflies and mayflies.
25	Edgardo Rivera	Exploring thermal tolerance limits of the upsidedown jellyfish
26	Megan Thomas	EGFR Over-Expression in ERBB2 Independent Colorectal Cancer
27	Brier Klossing	Diel Activity: Exploring Temporal Niche Conservatism in African Euungulates and its Ecological Consequences
28	Tatiana Velasquez-Roa	Is fragmentation affecting the bat-plant interaction networks?
29	Stephanie Hendricks	Symbiont communities of juvenile <i>Acropora hyacinthus</i> remain stable following a mass mortality event in Mo'orea but contribute to bleaching severity
30	Elizabeth Suh	Apparent Self Fertilizing Boulder Brain Coral and Implications for Reef Restoration

Student Poster Session II

Friday, April 5th, 3:30 - 4:30 PM



Number	Presenter	Title
31	Shelby Bork	Investigating the Barriers and Opportunities to Creating Wildlife Corridors on Agricultural Lands
32	Jade Bach	Behavioral Syndromes in <i>Podarcis siculus</i> : Insights into Invasion Success
33	Nicole Stevens	Diet of Introduced Mongoose in St. Croix, USVI
34	Sean Chien	Chromosome Number and Sex Chromosome Evolution in Scarabaeidae
35	Nathan Kincaid	The Effects of Multiple Herbivores on Sorghum Defenses
36	Abby Jensen	Cophylogeny Across Geographic Barriers: Using Genetic Markers to Explore the Coevolution between <i>Geomys pinetis</i> Pocket Gophers and their Chewing Lice.
37	Paige Hudson	Exploitative competition: An invasion mechanism of the invasive lacertid lizard <i>Podarcis siculus</i>
38	Wesley Arend	Sexual dimorphism in an invasive population of suckermouth armored catfish: Implications for management
39	Audra Hicks	Habitat selection coefficients decrease in a transient population of <i>Podarcis siculus</i>
40	Elliana Carter	How increasing ocean temperatures and microbe content impact sea urchin development
41	Shannon Jarratt-Harris	Effects of ectopic expression of <i>Spiroplasma</i> RIP toxin genes in <i>Drosophila</i> to determine the mechanistic basis of a defensive mutualism
42	Rennan Dias	Hydrological modeling using artificial neural networks for flood event forecasting
43	Camille Brown	Habitat depth drives bleaching tolerance variation in lineages of a Caribbean coral, <i>Montastrea cavernosa</i>
44	Jordan Engstrom	Sexual Antagonistic Selection Detected within One Generation of Stickleback Fish
45	Kelley Mundy	How will Climate Change Affect Rangeland Management Practices?

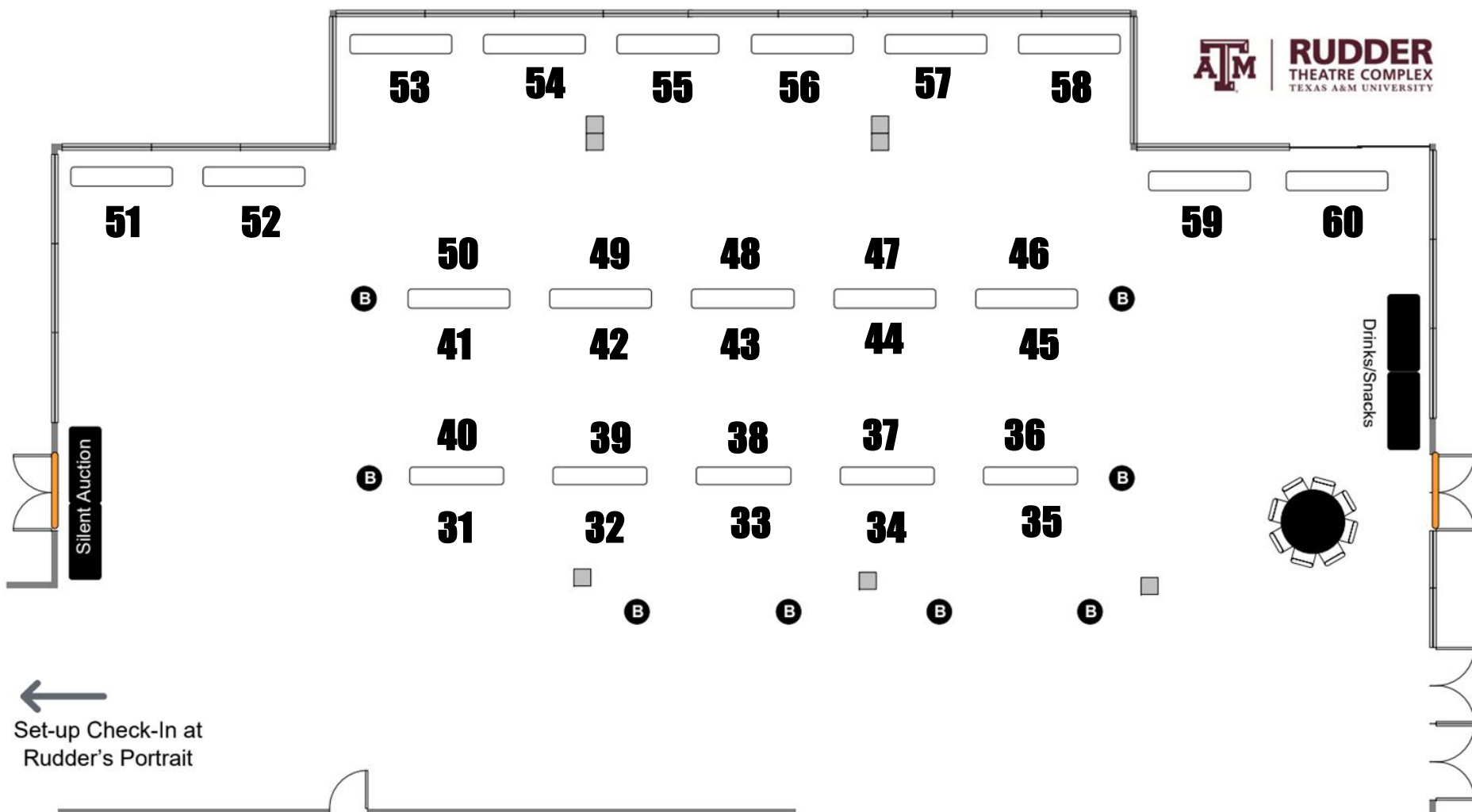
Student Poster Session II

Friday, April 5th, 3:30 - 4:30 PM



Number	Presenter	Title
46	Shanna Gleason	Using Drone Imagery to Evaluate Post-Grazing Herbaceous Vegetation Structure
47	Kendall Hastings	Comparison of morphological diversity of catfishes in channel and floodplain habitats of the Rupununi River, Guyana.
48	Alexis Adams	Unveiling the Microbial Tapestry: Probing Protistan Abundance and Diversity in Hydrothermal Vent Plumes of the NE Pacific
49	Dylan Kim	Meta-Analysis of Threats to Freshwater Fish of North America
50	Kayla Nedd	Who Reigns Supreme in the Mid-Cayman Rise Deep-sea Hydrothermal Vents?
51	Dana Reuter	When, where, and what was dinner? Capturing dietary niche variation in North American mammals.
52	Julieanne Montaquila	Hemi-parasitic mistletoes in a Madagascar rainforest show highly skewed host tree associations based on ecology and phylogenetic relationships
53	Drew Berdo	Using Geographic Information Systems to examine the potential Impact of Wind Turbines on Grassland Birds
54	Danial Nayeri	Anglers and Spotted Seatrout: Using Participation Preferences to Understand Angler Diversity
55	Consuelo Azuaje	Stealth Democracy and Exotic Wildlife Ranching in Texas
56	Alexia Engel	Examining Trends in Body Mass of Endemic Madagascar Shrews
57	Andre Felton	Effects of Microplastic Uptake on Amphibian Growth & Development
58	Amanda Fleming	What Does the Puma Like for Dinner?; Taxonomic, temporal, and geographic variation in the diet of the Mountain Lion.
59	MK Futrell	The Human Dimensions of the Big Bend
60	Muntadher Mashaan	Using genomic tools to enhance biodiversity assessments in karst subterranean estuaries

Poster Session 2 Layout





Thank you to all who have helped us organize EIS 2024, and to those who donated items for the silent auction:

- Dawn Miles
- Lindsay Hutchins
- Kristi Smith
- Cindy Jarrott
- Whitney Wagoner
- Kirk and Leslie Winemiller
- Alberth Rojas Carranza
- Nicole Stevens
- Gabe Hamer
- Lee Fitzgerald
- Courtney Fitzpatrick
- Emerson Barnett at Rudder Tower
- Shanna Wright at Rudder Exhibit Hall



An Additional Special Thanks to our Sponsors!!

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