



Friday, 28 February

- 8am **Board of Directors Meeting**
MAC 201 @ MCC
- 9:30am **Poster Set-up**
Science Building Lobby @ MCC
- 9:30am **Student Mixer**
MAC 108 @ MCC
- 11am **Section Chairs Meeting**
MAC 204 @ MCC
- 12pm **Registration (MCC)**
Science Building Lobby @ MCC
- 12:30pm **(S1) Chemistry & Biochemistry A**
MAC 111 @ MCC
Chaired by: Darrell Fry and Bidisha Sengupta
- 12:30pm **Avoiding Oxidant Disproportionation with tert-Butyl Hydroperoxide in Iron Catalyzed Carbon-Hydrogen Bond Oxidations**
» [Iris Christopher](#), Dr. John Gary
- 12:45pm **Building an Understanding of Ab-Initio Calculations in Steps**
» [Dr. Benny Armev](#)
- 1pm **Catalyst and Oxidant Modifications for Carbon-Hydrogen Bond Oxidations**
» [Meghan Jennings](#), Dr. John Gary
- 1:15pm **Characterization of Affibody Molecules that Target Crotalid Snake Venoms**
» [Dr. Edith Osborne](#)

- 1:30pm **Computational Insights into Nitrogen Activation Chemistry Utilizing Chalcogen Bonding Interactions**
» [Kirk French](#), Surya Choutipalli, Dr. Kevin Shuford
- 1:45pm **Crystal growth and characterization of intermetallics for correlated emergent properties: Disorder in Ce₂MnGe₆**
» [Ms. Morgan E. Raines](#), Mr. Benny C. Schundelmier, Teddy G. Spencer, Dr. Gregory T. McCandless, Dr. Kaya Wei, Dr. Julia Y. Chan
- 2pm **Development and Synthesis of Improved Prodrugs of TAK-242 (Resatorvid) for Localized and Controlled Delivery**
» [Ms. Chloe Sells](#), Dr. Jessica Kostyo, Prof. Bob Kane
- 2:15pm **Direct partial oxidation of methane to methanol using dioxygen over superhydrophobic modified catalysts.**
» [Oluchukwu Igboenyesij](#), Dr. Frederick MacDonnell
- 2:30pm **Granular hydrogel synthesis for an in vitro hydrogel model of brain parenchyma tissue**
» [Amanda Mejia](#), Joseph Dorsey, Noor Nazeer, Nicole Hislop, Sabrina Woodward, Cody Crosby
- 2:45pm **High-throughput virtual screening of New Delhi metallo-beta-lactamase 1 (NDM-1) in Klebsiella pneumoniae leads to discovery of potential inhibitors**
» [Sharon Rong](#), Dr. Josh T. Beckham
- 12:30pm **(S2) STEM Education**
MAC 111 @ MCC
Chaired by: Lockwood wcox@lcmcisd.org
- 12:30pm **Credit as a Financial Asset: Maximizing Opportunities and Minimizing Risks**
» [Mr. Anthony Dodson](#)
- 12:45pm **Engage, Explore, Explain: Elevate Your Vocabulary Game!**
» [Mr. Dustin Perez](#)



Continued from Friday, 28 February

1pm **Engaging Students with Innovative Teaching Methodology by Integration Music Into Chemistry and Chemical Sciences**

» Jingbo Liu, John-Ryan Lawrence, [Sajid Liu](#)

1:15pm **Teaching students mastery of instrumentation using micro-credentialing**

» [Darrell Fry](#)

1:30pm **From Classroom to Conference: Integrating Undergraduate Student Research to Transform STEM Education at a Community College**

» [Dr. Jason Locklin](#)

1:45pm **Methodical Microplastics: Development of an undergraduate CURE to quantify abundance of microplastic fibers in a local stream**

» [Dr. Romi Burks](#), Mr. Andre Felton

2pm **Social Belonging and Impostor Phenomenon Effects on Student Success in Chemistry**

» [Dr. Blain Mamiya](#), Joyce Macalling, Toluwalase Shobogun

2:15pm **Understanding the community college transfer student landscape in Texas: identifying the gaps to empower transfer success**

» [Sariah Kaipat](#), Trinity Vig, Dr. Jason Locklin

2:30pm **Integrating Generative AI into Undergraduate Biology Courses for Enhanced Literature Reviews and Scientific Writing**

» [Dr. Susan Klinedinst](#)

2:45pm **Aquaponics in education: Utilizing a sustainable platform for STEM exploration**

» [Ms. Alice Conely](#), Dr. Matthew Allen

3pm **What a GTA Wants: Training and Professional Development Requests by Graduate Teaching Assistants in STEM**

» [Ms. Chloe Sells](#), Dr. Michelle Herridge

12:30pm **(S3) Freshwater Science**

MAC 235 @ MCC

Chaired by: Mary Kay Johnston and Cynthia Bashara

12:30pm **Increased salinity suppresses diversity of colonizing invertebrates in a field mesocosm experiment**

» [Kale Humphries](#), Prof. Hayden Hays, Dr. Matthew A. Barnes

12:45pm **Exploring the Impact of Salinity Levels on Food Consumption in the Invasive Crab Species, *Rhithropanopeus harrisi***

» [Ms. Samantha Hamilton](#), Dr. Terrence Boyle

1pm **Does taxonomy REALLY matter? Using functional traits to predict aquatic insect presence under altered hydrologic conditions**

» [Hayden Hays](#), Dr. Matthew A. Barnes

1:15pm **Habitat selection in the globular drop snail *Helicina orbiculata* in East Texas waterways using GIS data**

» [Alexander Bell](#), Dr. Nicholas Negovetich, Dr. Ben Skipper

1:30pm **The effects of variable nutrient stoichiometry on biogeochemical processes in shallow lake mesocosms**

» [Alexa Hoke](#), Isabelle Andersen, Jason Taylor, Katelyn McKindles, Thad Scott

1:45pm **Spatiotemporal Characterization of Microplastic Pollution in Two Urban Ephemeral Systems**

» [Mr. Andre Felton](#), Sue Ellen Gibbs-Huerta, Beauxregard Martinez, Salem Farnar, Brianna Zamarripa, Cristina Mendez, Oscar Hernandez

2pm **Interactions among *Hydrilla verticillata* and two common native aquatic macrophytes under greenhouse conditions**

» [Dr. Jeffrey Hutchinson](#)



Continued from **Friday, 28 February**

- 2:15pm **Historical Wells and Aquifer Depletion Rates on the Texas High Plains**
» [Dr. John Stout](#)
- 2:30pm **Species sorting and dispersal effects on hyporheic invertebrate functional groups in the Lower Canyons of the Rio Grande.**
» Dr. Benjamin Hutchins, Ms. Zoey Chanin, [Dr. Kathryn Perez](#), Mr. Pete Diaz, Dr. Benjamin Schwartz

12:30pm **(S4) Biomedical Sciences**
Lecture Hall @ MCC
Chaired by: Joni Ylostalo and Nicole Poritsanos

- 12:30pm **Comparative Analysis of B-Cell Repertoire and Therapeutic Antibody Variability: Implications for Phage Display Library Design**
» [Mr. Tarun Hariharan](#)
- 12:45pm **Activity of Atorvastatin Combined With Chemotherapeutic Drugs on Patient-Derived Neuroblastoma Cell Lines**
» [Ms. Hannah Floyd](#), Mr. Manikantha Dunna, Dr. Patrick Reynolds
- 1pm **Modeling the Effects of Acute Inflammation on Endothelial Barrier Function from PDMS-based Brain Microvessels**
» [Leila Martinez](#), Ruoqian Hu, Dr. Ying Zheng
- 1:15pm **Influence of Phytochemicals Present in Mint Extract in Preventing Oxidative Stress in Human Serum Albumin**
» [Ms. Perla Tovar](#), Ms. Nkeiruka Aziekwu, Ms. Grace Murray, Ms. Tess Corbett, Bidisha Sengupta
- 1:30pm **Investigation on Therapeutic Potentials of some Polypeptides for Type-II Diabetes using Computational Approach**
» [Nicolas Campos](#)

1:45pm **Covalently Modifying Hepatocytes with Carbamate Bioconjugates**
» [Johann Karunanathan](#), Elena McGown, Prof. Bob Kane

2pm **A Double-Blind, Placebo-Controlled Study on Probiotic Treatment for Halitosis**
» [Sehyeon Song](#), Jihye Choi, Min Ji Jang, Dr. Md Ariful Haque, Dr. Jin Seok Moon, Dr. Keon Heo, Dr. Myeong Soo Park, Prof. Seockmo Ku

2:15pm **Evaluating the Water Quality of Treated Wastewater from Deep East Texas Wastewater Treatment Plants Using Microbial Biofilm**
» [Ms. Olabisi Ogunlewe](#), Bidisha Sengupta

12:30pm **(S5) Systematics & Evolutionary Biology**
MAC 300 @ MCC
Chaired by: Thornton Larson and Matthew J. Greenwold

12:30pm **Brood pouch anatomy throughout the course of male pregnancy in Gulf pipefish**
» [Farah Atatrah](#), Dr. Sunny Scobell

12:45pm **Characterization of a Potential New Species of the Wildflower Genus *Anemone***
» [Ms. Cricket Tolbert](#), Dr. Russell Pfau

1pm **Determining species boundaries in the springsnail *Pyrgulopsis* (Mollusca, Gastropoda, Hydrobiidae).**
» [Dr. Kathryn Perez](#), Mr. Trenton Meadows, Ms. Chante Lundskog, Mr. Eric Miskow

1:15pm **Divergent gene expression between the eyes of surface and subterranean salamander species from central Texas (clade *Paedomolge*) through development**
» [Ruben U. Tovar](#), Brittany A. Dobbins, Dr. Rebecca L. Young, Dr. Katherine Bockrath, Dr. Thomas J. Devitt, Dana M. García, David M. Hillis



Continued from Friday, 28 February	
1:30pm	<p>Exploring the morphology, geography and phylogeny of a family of Blindsnakes (Anomalepididae: Serpentes) » <u>Mr. Camilo Linares</u>, Christopher Bell, Dr. Claudia Koch, Dr. Matthew Heinicke, Dr. Hussam Zaher, Dr. Juan D. Daza</p>
1:45pm	<p>Hiding in plain sight: a commonly observed and widely distributed new species of wolf spider » <u>Dr. Russell Pfau</u>, Eric Neubauer</p>
2pm	<p>Investigating male pregnancy in Gulf Pipefish using scanning electron microscopy to describe the anatomy of the brood pouch over the reproductive cycle. » <u>Ms. Jennifer Schmalz</u>, Dr. Deanna Soper, Dr. Sunny Scobell</p>
2:15pm	<p>Investigation of the role of prolactin during reproduction in a fish with male pregnancy » <u>Dr. Sunny Scobell</u></p>
2:30pm	<p>Use of ddRAD sequencing to diagnose cryptic species with low interspecific mitochondrial divergence » <u>Halle Summers</u>, Dr. Loren Ammerman</p>
2:30pm	<p>Biomedical Sciences Section Meeting MAC 200 @ MCC</p>
2:30pm	<p>(S4) Coffee Break MAC 1st 2nd & 3rd floor lobbies</p>
2:45pm	<p>Freshwater Science Section Meeting MAC 237 @ MCC</p>
2:45pm	<p>Systematics & Evolutionary Biology Session Meeting MAC 305 @ MCC</p>
2:45pm	<p>(S3) Coffee Break MAC 1st 2nd & 3rd floor lobbies</p>
2:45pm	<p>(S5) Coffee Break MAC 1st 2nd & 3rd floor lobbies</p>
3pm	<p>(S1) Coffee Break MAC 1st 2nd & 3rd floor lobbies</p>
3pm	<p>(S4) Cell & Molecular Biology Lecture Hall @ MCC Chaired by: Adriana Visbal and Dr. Craig Younce</p>
3pm	<p>Visualising Liquid-Liquid Phase Separation of Intrinsically Disordered Proteins » <u>Cas Knox</u>, Oliver Kipp, Dr. Steven Whitten, Lance English</p>
3:15pm	<p>A Positive Control Let Us Make the RecA+ Strain » <u>Dylan Dodd</u>, Dr. Matthew Dyson</p>
3:30pm	<p>Delineation of in vitro and in vivo Oxysterol-modified RNA Adducts by Distinct TLC Spots » <u>Ms. Abby Sweeney</u>, Ms. Adaeze Ozuzu, Dr. Craig Younce, Dr. Godwin Ifere</p>
3:45pm	<p>Screening Compounds for Their Anti-Cell Proliferation Properties » <u>Tina Prajapati</u>, Dr. Rachna Sadana</p>



Continued from Friday, 28 February

- 4pm **An easy and comprehensive protocol for microinjection into zebrafish (*Danio rerio*) and medaka (*Oryzias latipes*) eggs to study gene function**
» [Ms. Alicia Mendoza](#), Ms. Isabella Simon, Dr. Sharmin Hasan
- 4:15pm **Making decisions: does mitochondrial metabolism influence retinogenesis?**
» [Yaqueline Gutierrez](#), Yessenia Beltran, Emilia Santamaria, Elda Rueda
- 4:30pm **Measuring the Effects of Aerosol Exposure: Dose-Response Dynamics and Potential Outcomes**
» [Ms. Taylor Jefferis](#), Dinny Stevens, Kiera Griffin, Yanira Baldovinos, Christie Sayes
- 4:45pm **Every amino acid matters, but some matter more: insights from population-wide histone missense mutation landscape**
» [Dustin Fetch](#), Tiffany Bastos, Natalie Redding, Ksenia Dydo, Gauri Raje, Dr. Alexey Soshnev
- 5pm **Functional study of profilins using a vertebrate model**
» [Samira Alam](#), Andre Gil, Leslie Mendez, Dr. Sharmin Hasan
- 5:15pm **Orco and IR8a co-receptor knockout leads to dis-regulation of tuning receptors and other chemosensory genes in *Aedes aegypti***
» [Mr. Matthew Cooke](#), Dr. Jason Pitts, Mr. Michael Chembars
- 5:30pm **Bioinformatic analysis of COX 1 and COX 2 proteins**
» [Mr. Jerry Leisure](#)

3:15pm **STEM Education Section Meeting**
MAC 205 @ MCC

3:15pm **(S1) Chemistry & Biochemistry B**
MAC 111 @ MCC
Chaired by: Darrell Fry and Bidisha Sengupta

- 3:15pm **In vitro studies on ethanolic extracts of Watercress leaves using spectroscopic and cell viability assays.**
» [Bidisha Sengupta](#), Dr. Debarshi Roy
- 3:30pm **Innovative Biologically Equivalent Simulant for Forensic Tracedrop (BEST) for Enhanced Criminal Scene Reconstruction**
» Jingbo Liu, Maria Sandoval, Emily Rancourt, [Sajid Liu](#)
- 3:45pm **Investigation of itinerant kagomé-lattice magnets, ZrFe₆-xCoxGe₆**
» [Euarda Stein Christ](#), Victoria Li, Dr. Michael Shatruk
- 4pm **Lanthanide alkali metal sulfates, MLn(SO₄)₂(H₂O)₂, viable candidates for nuclear waste matrices?**
» [Dr. Ralph Zehnder](#)
- 4:15pm **Mechanistic Analyses of DNA Lesion Recognition and Repair in the Eukaryotic Global Genome Nucleotide Excision Repair**
» [Ms. Temilade R. Adeniran](#), Ms. Linh Pham, Prof. Kenji Murakami, Dr. Jung-Hyun Min
- 4:30pm **Microplastics in Wastewater Treatment Plants of Deep East Texas**
» [Mr. Jacob Swallow](#), Dr. Kefa Onchoke
- 4:45pm **Microwave Graphitization of Biochar Catalyzed by Ferric Nitrate**
» [Ms. Jessica Villarreal](#)
- 5pm **NO RADIOACTIVITY REQUIRED! A new approach to RecA-mediated DNA strand exchange**
» [Haley Fossett](#), Dr. Robert Moore
- 5:15pm **N-Sulfonylation of Carbamates Under Mild Conditions**
» [Ms. Claire Slort](#), Rahul Gaykar, Prof. Bob Kane
- 5:30pm **Organic Synthesis of Norneolambertellin**
» [Mr. Nick Welch](#), Mr. Cody Dubes



Continued from Friday, 28 February	
3:15pm	(S2) Coffee Break MAC 1st 2nd & 3rd floor lobbies
3:15pm	(S3) Marine Science MAC 235 @ MCC Chaired by: Madelyn Knauss and Ms. Jennifer Hunt
3:15pm	Species sorting and dispersal effects on hyporheic invertebrate functional groups in the Lower Canyons of the Rio Grande. » Dr. Benjamin Hutchins, Ms. Zoey Chanin, <u>Dr. Kathryn Perez</u> , Mr. Pete Diaz, Dr. Benjamin Schwartz
3:30pm	Impact of Topology on Coral Larvae Settlement on Concrete Matrices » <u>Ms. Jennifer Hunt</u> , Brian Flowers, Dr. Thomas Ready
3:45pm	Longitudinal Study of White Band Disease in Acropora species in Roatán, Honduras » <u>Ethan Villa</u> , Deandre Rosales, Kylee Steiger, Stephanie Randell, Dr. Stephanie Lockwood, Dr. Traesha Robertson, Dr. Jacqueline Dove
4pm	LONGITUDINAL STUDY OF WHITE BAND DISEASE IN ACROPORA SPECIES IN ROATÁN, HONDURAS » <u>Ethan Villa</u> , Deandre Rosales, Kylee Steiger, Dr. Jacqueline Dove, Dr. Traesha Robertson, Dr. Stephanie Lockwood, Stephanie Randell
4:15pm	A Longitudinal Study: The Abundance and Disease Status of Starlet Corals in Roatán, Honduras » <u>Gloria Dominguez</u> , Kaylee Aguilar, Leon Rosales, Annie Mowry, Stephanie Randell, Dr. Stephanie Lockwood, Dr. Traesha Robertson, Jacqueline Dove
4:30pm	Effects of Hyposalinity and Nutrients on the GPP of Gracilaria tikvahiae » <u>Mr. Donavuan Salazar</u>
3:45pm	(S2) Anthropology MAC 206 @ MCC Chaired by: Stephanie Baker and Theresa de Cree
3:45pm	Optimizing Skeletal Cast Resources: Developing Standardized Maintenance Protocols for Enhanced Osteology Study at Texas State University » <u>Ms. Nathalia Garza</u> , Ms. Stephanie Baker
4pm	Anthropology Section Meeting MAC 205 @ MCC
4pm	(S2) Geosciences MAC 206 @ MCC Chaired by: Dr. Michael Read and Dr. Mindy Faulkner
4pm	Broader implications of the challenges associated with building a field guide to the macroscopic invertebrate fossils of the lower Walnut Formation in Travis County, Texas » <u>Stacie Skwarcan</u> , Christopher Bell
4:15pm	The physics of sandcastles: Jammed granular columns with and without fluid » <u>Dr. Jeffrey Olafsen</u> , Dr. Oliver-Denzil Taylor, Dr. Mihan McKenna Taylor
4:30pm	Rill marks on the beach face at McFaddin National Wildlife Refuge, Texas » <u>Prof. R. LaRell Nielson</u>
4:45pm	Searching for the K-Pg Iridium Anomaly in Central Arkansas » <u>Dr. Mindy Faulkner</u> , Ms. Rebecca Beyer
4:30pm	Marine Science Section Meeting MAC 237 @ MCC



Continued from **Friday, 28 February**

5:30pm **Geosciences Section Meeting**

MAC 205 @ MCC

5:45pm **Cell & Molecular Biology Section Meeting**

MAC 200 @ MCC

5:45pm **Poster Session**

Science Building Lobby @ MCC

Early-Life Medication Exposure: Unraveling the Gut Microbiome's Role in Neurodevelopmental Disorder Risk

» [Ms. riya palanki](#)

Pulmonary Endothelial Cell Proliferation in Response to HIV Nef Sequence Variants

» [Eli Heath](#), Minh Nguyen, Mario Rodriguez, Amanda Garcia, Javaria Baig, Dr. Sharilyn Almodovar

Memristors: The Elusive Circuit Component

» [Mr. Vance Vyoral](#), Prof. Derek Johnston

Identification of Novel Transcripts of the Obesity Related, Neph15 Gene found in Drosophila melanogaster

» [Chase Drucker](#), Dr. Surya Banerjee

Evaluating the Adipogenic Effects of Bisphenol S on OP9 Mouse Cells

» [Ms. Hailee McCulloch](#), Ms. Lizbeth Campos, Dr. Stephanie Perez, Dr. Danielle Grove

The Effects of Dimethyl Terephthalate on Adipogenesis in an OP9 Mouse Cell Model

» [Sophie Salgado](#), Eric Moninger, Dr. Stephanie Perez, Dr. Danielle Grove

Screening TZ62, TZ70, and TZ71 for Inhibition of Metastasis

» [Mr. Maximiliano Perez](#), Dr. Rachna Sadana, Dr. Vaishali Chaubal

An Experimental Algorithm Analysis for Die Configurations

» [Ms. Mary Heeren](#), Dr. Jeremy Becnel

The effects of driving under the influence of cannabis, a meta-analysis.

» [Om Tannu](#)

Infection sites do not affect virulence factors or biofilm formation by Pseudomonas aeruginosa

» [Mr. Eltayeb Diab](#)

Synthesis of Substituted Indoles and Imidazopyridines Through N-Alkynyl Imidazoles

» [Mr. Gabriel Martinez](#), Dr. Mohanna Muppidi, Dr. Sean Kerwin

A morphological analysis of the dopaminergic pathway in the brain of a male-pregnant pipefish

» [Ms. Madeleine Thomas](#), Dr. Sunny Scobell

The Impact of Obesity on Femoral Cortical Bone Size and Shape

» [Alanna Melchor](#), ChristiAna Dunham, Dr. Deborah Cunningham, Daniel Wescott

A critical analysis of the bent-hip/bent-knee locomotor hypothesis for Australopithecus afarensis

» [Ms. Jayci Bonnette](#), Dr. Adam Sylvester, Dr. Deborah Cunningham

Ivermectin induces apoptosis on HEC-1A endometrial carcinoma cells

» [Ms. Jaitlynn Sherman](#), Dr. Matthew Dyson

Vertebral Canal Constriction: Exploring the Link Between Vertebral Neural Canal Size and Early Mortality

» [Ms. Kelsey Fox](#), Dr. Michelle Hamilton

Enhancing Belonging for Underrepresented Students through Student-Designed Learning Field Experiences

» [Dr. Brian Shmaefsky](#)



Continued from **Friday, 28 February**

A mitochondrial based intervention for Mild Cognitive Impairment (MCI) using photobiomodulation, methylene blue, and medium chain triglycerides

» [Mr. Hunter Dutkiewicz](#), Mr. Jordan Schwartz, Dr. Francisco Gonzalez-Lima, Dr. Douglas Barrett, Dr. Gabriela Guimaraes, Isabelle Rose

Evaluation of microplastic uptake by Asian clams in isolated pools within an ephemeral stream in Central Texas

» [Ananya Seth](#), Dr. Jeffrey Hutchinson

Laser Synthesis of Mixed Metal Spinel Materials for the Oxidation Reduction Reaction

» [Mx. Mal Millholland](#), Mr. Andres Garza, Mx. Makena Burns, Dr. Ben Martin

Modeling the optimal growth of gravitropic respondent *Solanum pimpinellifolium* root systems

» [Aaron Garza](#), Prof. Arjun Chandrasekhar

Comparative mitogenome analysis of *Procambarus* crayfish species.

» [Matthew Blow](#), Matthew J. Greenwold

Determining intra-genomic variation of *Cladosporium velox*: considerations for aerobiology fungal metagenomics

» [Ms. Elise Berryhill](#), Dr. Josh McCloud

Facilitating Archaeological Research Through the Veterans Curation Program

» [Alanna Melchor](#), James Moore, Darrell Anderson

Diet of the Great Horned Owl (*Bubo virginianus*) in a Chicago suburb

» [Dr. Timothy Campbell](#), Ms. Jasmine Zhai, Ms. Ashley Lanzarotti, Mr. Alexander Delgado, Dr. Samuel Gutherz

Computational Analysis of the Hydrolytic Stability of Heteroboroles by Varying the Number of Water Molecules

» [Mr. Gallage KPA Ariyaratne](#), Prof. Dustin Gross

Parking Predicament: A Microeconomic Analysis of Tech's Parking Shortage

» [Mr. Affan Anas](#), Dr. Victoria Hang, Mr. James Kemper, Dr. Latchezar Popov, Mrs. Patricia Schovanec

Effects of Chinnaberry on Foraging of Gulf Coast Toads (*Incilius nebulifer*)

» [Marion Mundy](#), Amy Lowe, Dr. Chris Distel

The Little Chamaeleon That Could

» [Adelle Cannon](#), Dr. Juan D. Daza

Progress on *Saurodactylus* (Squamata: Gekkota: Sphaerodactylidae) classification: One or two genera

» [Ms. Jayden Crew](#), Christopher Bell, Dr. Aaron Bauer, Dr. Juan D. Daza

Lose the Lichen: The Use of Photogrammetry in Epigraphic Documentation

» [Aliyah Anderson](#), Dr. Nick Carter, Dr. Barb MacLeod, Jake Lozano

PAX6 colocalizes with actin filaments in hair cells

» [Nisa Sindhi](#), Brittany A. Dobbins, Ruben U. Tovar, David M. Hillis, Dr. Thomas J. Devitt, Dana M. García

Gene Editing: A New Way to Treat Breast Cancer

» [Ms. Cheyenne Willis](#)

Predator Prey Simulation

» Dr. Jeremy Becnel, [Mr. Brenden Swope](#)

A Novel Machine Learning Approach for Predicting Evolutionary Stages of Stars

» [Mr. Hitaishi Chillara](#)



Continued from Friday, 28 February

Getting a(head) of ourselves: Ectopic head formation following nerve injury in *Lumbriculus variegatus*.

» [Isabella Ortiz](#), Jake Garza, Dr. Veronica Martinez Acosta

Comparative Analysis of Molecular Impacts of Short-Chain PFAS Exposure on ABCG2 Transporter in Human Cell Models

» [Gracen Collier](#), Dr. Ramon Lavado

Determining the Effect of Connectivity on Community Composition of Pollinators Through Pollen Metabarcoding

» [Erin Miller](#)

Interfaith Informatics

» [Yordanos Ayelework](#), Dr. Aravind Mohan

Discovering Novel Inhibitors for 3-Oxoacyl-ACP-Reductase (FabG) in *Plasmodium falciparum* Using Virtual Screening

» [Mahdia Rahman](#), Hannah Thomas, Dr. Josh T. Beckham

Phenotypic Analysis of Allopatric *B. subtilis* Strains

» [Nichole Cepeda](#), Dr. Robert Jonas

Distortion of Single Transferable Vote on a Line

» [Ms. Camille James](#), Dr. Barbara Anthony

Novel Sexy Role of Prolactin in Regulating EMT of Breast Cancer Through CD44 Splicing

» Ms. Reagan Farrell, [Mr. Trevor Jones](#), Mr. Nicholas Pascuzzi, Dr. Ethan Chen

Upcycling Orange Peels for Sustainable *Monascus* Pigment Production

» [Ian Konvicka](#), Dr. Md Ariful Haque, Prof. Seockmo Ku

Evaluating Diatom-Based Carbon Filtration for Emission Reduction in Controlled Environments

» [Mr. Ethan Yager](#), Dr. Athenia Oldham

Acetate Formation from Various Alkenes: An Undergraduate Addition Reaction Laboratory

» [Ms. Saira Sitgreaves](#), Mr. Benjamin Wisser, Dr. Bruce Hathaway, Dr. Scott Morris

Comparative Mitogenome Analysis of True Toads (*G. Anaxyrus*)

» [Ciara E. Moroney](#), Dr. William I. Lutterschmidt, Matthew J. Greenwold

Synthesis of Methotrexate loaded Poly L-lactic acid combined with a hydrogel for treatment of Rheumatoid Arthritis

» [Areej Khodair](#), Dr. Milka Montes

Minimizing Citrinin in *Monascus purpureus* Fermentation

» [Khadija Ayesha](#), Lakshmi Devi Chittepu, Dr. Md Ariful Haque, Prof. Seockmo Ku

Using Thermal Imaging to Investigate Differences between Body Temperature and Surrounding Microhabitat Temperature in a Free-ranging Ectotherm

» Dr. William I. Lutterschmidt, [Ms. Jenna Brue](#)

Microbial and Saccharification Dynamics in Developing Sustainable Sorghum Makgeolli

» [Marianne Howell](#), Elizabeth Campbell, Min Ji Jang, Dr. Md Ariful Haque, Prof. Samuel Haruna, Prof. Seockmo Ku

Investigating Carbon Source Effects on Fungal Cellulose Production from Red Yeast Rice

» [Paulina Sandoval](#), Anishka Talari, Dr. Md Ariful Haque, Prof. Seockmo Ku

Microbial Dynamics and Probiotic Potential of Lactic Acid Bacteria in Traditional Korean Makgeolli

» Yu Jeong So, [Min Ji Jang](#), Prof. Seockmo Ku, Yunju Jeong

Adding worms to an aquaponic system: Impacts on plant growth

» [Ms. Alice Conely](#), Dr. Matthew Allen



Continued from Friday, 28 February

Cellular Uptake and Cytotoxicity of Micro and Nanoplastics

» [Mrs. Alisha Janiga-MacNelly](#), Dr. Tham Hoang, Dr. Ramon Lavado

Effects of Temperature on the Fecundity of Secondary Cavity Nesters at the University of Texas at Tyler

» [Gwendolyn J. Bouse](#), Jessica L. Coleman, Matthew J. Greenwold

Structural properties of lanthanide alkali metal sulfates, $MLn(SO_4)_2(H_2O)_x$

» [Thomas Hodge](#), Jackson Turner, Dr. Ralph Zehnder

A lanthanum glutarate bromoterephthalate compound with unique structural properties

» [William Best](#), Emory Brandon, Daniel Rios, Dr. Ralph Zehnder

Macroorganism Associations and Health Status of Demospongiae Species in Roatán, Honduras

» [Ms. Cambria Blanton](#), Caden Helona, Naomi Hammond, Ashlynn Kennedy, Dr. Jacqueline Dove, Anne Mowry, Dr. Traesha Robertson, Stephanie Randell, Dr. Stephanie Lockwood

Liver Morphology in Gliding and Non-Gliding Geckos

» [Lynsey Haynes](#), Dr. Juan D. Daza

Investigating Fermentation and Probiotic Properties of American Kimchi with 100% U.S.-Grown Crops

» [Sehyeon Song](#), Maddie Shults, Min Ji Jang, Prof. Seockmo Ku

Zoonotic Risks in Tourist Hotspots: The Critical Need for Education on Safe Human-Animal Interactions

» [Elea Vander Burgh](#)

Flavonoid's Influence on Amyloid Beta Peptide Aggregation

» [Mrs. Imani Harris](#), Dr. Robert Friedfeld, Bidisha Sengupta

Egg size variation in Carolina Wren clutches

» [Ms. Kendra Rodrigue](#), Mr. Stefano Cavezza, Dr. Diane Neudorf

Comparative Analysis of Food-Induced Aggression in *Drosophila* Species with Varying Dietary Preferences

» [Mrs. Laurie Neuman](#), Dainet Arencibia, Juan Magadan, Tammy Duong, Yuan Yuan Kang

Experimental test of predator odor detection in a cavity-nesting songbird

» [Anna Maloney](#), Kendall Kinsey, Dr. Diane Neudorf

Plankton Communities of Coastal Habitats in Roatan, Honduras

» [Aero Warren](#), Harrison Wolf, Annie Mowry, Dr. Traesha Robertson, Dr. Stephanie Lockwood, Dr. Jacqueline Dove, Stephanie Randell

Development of Modified Media for Enhanced Fungal Cellulose Production

» [Gianmarco Frau](#), Dr. Md Ariful Haque, Lakshmi Devi Chittepu, Anishka Talari, Prof. Seockmo Ku

Floral Diversity and Function in the Upper Leon Creek Greenway

» [Ms. Annie D'Arcy](#), Dr. Jeffrey Hutchinson

Using lichens as bioindicators for analyzing air quality in Central Texas

» [Mr. Jack Luckey](#), Prof. Chad Cryer

Biodiversity Assessment of Vertebrates in Runnels County, Texas

» [Maya Morrell](#), Makayla Easley

Developing an In Vivo Screening Protocol for Proteins Predicted to Phase-Separate

» [Kaylie Cano](#), Sebastián Vélez Guzmán, Dr. Steven T. Whitten, Dr. Loren E. Hough, Dr. Karen A. Lewis

Development and Validation of an Analytical Method for the Determination of Minor and Trace Metals in Water by ICP-OES

» [Ms. Layla Jackson](#), Dr. Alakananda Chaudhuri



Continued from Friday, 28 February

Assessing the effects of early life maternal separation stress on adolescent behavior and hypothalamic-pituitary-adrenal axis function in male and female C57BL/6J mice

» [Grace Read](#), Caroline Fowler, Dr. Elisabeth Vichaya

Desmoinesian (Middle Pennsylvanian) fusulinids from Holman Hill, Mora County, New Mexico

» [Ariana Rodriguez](#), Dr. Michael Read

Detection of non-native freshwater jellyfish *Craspedacusta sowerbii* in central Texas using environmental DNA

» [Vera Ye](#), Morgan Jennison, Kaitlin Plate, Dr. Matthew A. Barnes

Microfragmentation method alters growth in the endangered stony coral *Acropora palmata*

» Dr. Deanna Soper, [Ms. Maria Cordero](#), Ms. Nora Aigberadion, Ms. Monique Bedolla, Mr. Jason Spadaro, Mr. Ian Combs, Mrs. Keiji Okamura, Mrs. Makayla Stewart, Mrs. Sarah Hamlyn, Mr. Lou Schlecker

Preliminary Data on the Influence of Habitat Type and Environmental Variables on Fish Community Dynamics in Harmon Creek, Texas

» [Erica Hagmeyer](#), Dr. Jeffrey R. Wozniak

Coefficient of restitution of two colliding particles in experiment and simulation

» [Dr. Jeffrey Olafsen](#), Dr. Kai Yang

Indole Variant-Specific Effects on *Fusobacterium nucleatum* Invasion and Barrier Function in Intestinal Epithelial Cells

» [Ms. Jessalyn Hawkins](#), Mr. Colin Scano, Mr. Gregory Zaharas, Dr. Leigh Greathouse

Comparative Analysis of *Varroa* Mite Infestation in Managed Bee Populations in Williamson County, Texas

» [Mr. Ramiro Collado Irizarry](#), Prof. Chad Cryer

You Better Belize They're Different: Phylogenetic analysis and species identification of native apple snails in Belize

» [Mr. Gage Mallo](#), Mr. Johun Reyes, Dr. Romi Burks

Characterization of BRCA1/2 Variants in Latinas Using Genomic Prediction Tools: A Study from NIH All of Us Research Program

» [Eunice Pelcastre Villanueva](#), Dr. Catherine Gavile, Dr. Erick Olivares, Dr. Cathy Samayoa, Adriana Visbal

Making decisions: does mitochondrial metabolism influence retinogenesis?

» [Yaqueline Gutierrez](#), Yessenia Beltran, Emilia Santamaria, Elda Rueda

Minimally invasive measurement of zonulin, a key biomarker for environmental enteric dysfunction and childhood growth faltering, in dried blood spot samples

» [Luna Orozco](#), Elizabeth Kim, Emma Shoemaker, Laila Fahed, Tomasz Nowak, Dr. Samuel Urlacher, Dr. Michael Muehlenbein

Simulating the Minimum Number of People Needed for an Interstellar Journey

» [Mr. Dominic Mashak](#), Dr. Steven Alexander

Using Molecules to Store Energy

» [Mr. Dante Medina](#), Dr. Steven Alexander

Evidence of aging recovery on germination rate of admixed genotypes of *Arabidopsis thaliana*

» [Syeda MTI Sanzara](#), Dr. Kattia Palacio-Lopez

How does exposure to drought and high-temperature conditions affect the development of *Arabidopsis thaliana*?

» [Laura D'luyz Pastor](#), Syeda Sanzara, Yoselin Sanchez, Dr. Kattia Palacio-Lopez

***Arabidopsis thaliana* Fitness and Resource Allocation While in an Interspecific Competition with *Lolium multiflorum*.**

» [Daniel Medina](#), Kassandra Orellana, Dr. Kattia Palacio-Lopez



Continued from **Friday, 28 February**

Photonegative behaviors of polychaete worms

» [Mr. Ian Gafford](#)

Shoot for the Moon An In-depth discussion of child engagement in STEM

» [Ms. RosAaliyah Olguin](#)

Assessing Thermal Tolerance in Guinea and Johnson Grasses Using Chlorophyll Fluorescence as an Indicator of Plant Damage

» [Mr. Arvin Allahyari](#)

A Coumarin-enamine derivatized Chemosensor for Relay recognition

» [Marlene Zepeta-Rodriguez](#)

Fluorescence Microscopy Analysis of Microplastic Interactions with Microorganisms

» [Nolan Godfrey](#)

A Preliminary Summary for the Thermal Profiles of Microhabitats within Bastrop State Park: Helping to Inform Occupancy Models for the Houston Toad

» [Peter Babcock](#), Dr. William I. Lutterschmidt, Paul Crump, Toby J. Hibbitts, Wade A. Ryberg, Danielle K. Walkup, Corey Fielder, Brandon C. Bowers

Osteological Comparison of the Houston Toad with other selected members of the family Bufonidae

» [Lauren N. Scherrer](#), Dr. Juan D. Daza, Dr. William I. Lutterschmidt

Arachnid Species in Callahan County

» [Jacob Wooten](#), Dr. Terrence Boyle

Rill marks on the beach face at McFaddin National Wildlife Refuge, Texas

» [Prof. R. LaRell Nielson](#)

Comparative Medium to Large Mammal Diversity Within the Crosstimbers of Central Callahan County Texas

» [Melinda Siebert](#), Prof. Joel Brant

Effects of age and health of deer on nasal bot fly counts in white-tailed deer

» [Evee Rasor](#), Julia Galvan, Prof. Chad Cryer

MiR-23a as a potential post-transcriptional regulator of KDM6A and CTCF protein expression in EMT

» [Ms. Emily York](#), Dr. Joseph Taube

Developing a paleontological database for the fossil collection in the Department of Earth Sciences and Geologic Resources at Stephen F. Austin State University

» [Kandace Muniz](#), Dr. Michael Read, Prof. R. LaRell Nielson

The impact of market integration on school-age children's gut microbiota and growth among the Amazonian Shuar

» [Emma Shoemaker](#), Fernanda Miron, Dr. Samuel Urlacher

"Vocalization Signatures of Frog Species: A Study of Call Patterns for Species Identification and Biodiversity Monitoring in a Temperate Wetland Ecosystem"

» [Sunshyne Gwinn](#), Prof. Joel Brant

A Comparison of Rural and Urban Bird Communities in the Big Country

» [Caleb Dale](#), Prof. Joel Brant

Extraordinary extraction efforts: Experiments to enhance DNA extraction for tissues of apple snails of conservation interest

» [Kylie Allemeier](#), Katelin Pilarski, Rachel Ling, Sarah Berver, Dr. Romi Burks

Potential Disruptors of the Acoustic Habitat of Carolina Wrens and The Implications For Reproductive Isolation

» [Zachary Seidel](#), Dr. Diane Neudorf



Continued from **Friday, 28 February**

Rodent Habitat Selection in Three Counties (Callahan, Coleman, and Taylor) in Texas

» [Ansynn Franklin](#), Prof. Joel Brant

Characterization of the Smackover Formation in Upshur County, Texas using core and geochemical data

» [Eric Browning](#), Dr. Julie Bloxson

UV-vis spectrophotometry for kinetic study of the Dushman reaction

» [Ms. Lily Sowell](#), Dr. Byron Rogers

PAX6 in Salamander Inner Ear: A Developmental and Comparative Study

» [Ms. Kimia Feiz](#), Brittany A. Dobbins, Ruben U. Tovar, Dr. Thomas J. Devitt, David M. Hillis, Dana M. García

Varroa mite prevalence feral Central Texas bee colonies

» [Caleb Bell](#), Prof. Chad Cryer

Indole Variant-Specific Effects on Fusobacterium Nucleatum Biofilm Growth, Virulence Expression, and Invasion of Intestinal Epithelial Cells

» [Mr. Gregory Zaharas](#), Ms. Jessalyn Hawkins, Mr. Colin Scano, Dr. Leigh Greathouse

The importance of canopy width and connectivity for biodiversity in urban riparian habitats

» [Maya Flores](#), Prof. Thomas Garrison, Dr. Mary Poteet

Effects of Angiotensin II in the Development of Atherosclerosis/Atherothrombosis

» [Ms. Kenya Gomez](#)

Examining the Effects of the ApoE4 Genotype on Hyperglycemia-Induced Affective and Mitochondrial Dysfunction in Male Mice

» [Mr. Matthew Folh](#), Mr. Jonathan Duhon, Ms. Laura Kusumo, Dr. Elisabeth Vichaya

Development of oxonol fluorogenic probe for hydrogen peroxide detection in-vitro

» [Mr. Biakengzaua Khupngai](#), Mr. MOHAN KODISANA, Dr. Syed Usama

Viscosity-Sensitive Cy3 Fluorophores for Cell Membrane Labeling

» [Mr. MOHAN KODISANA](#), Dr. Syed Usama

Skeletal morphology of Tetracheilostoma Carla (Typhlopidae, Serpentes, Squamata), the world's smallest snake

» [Mr. Caleb Shoemaker](#), Dr. Juan D. Daza

Bone fracture trends in elderly individuals with arthroplasty

» [Theresa de Cree](#)

Ecological Niche Modeling of selected West Coast Angiosperms

» [Mason Scott](#), Ms. Samantha Hamilton

Early-Life Communication at Critical Developmental Timepoints Among NS-PTEN Mice

» [Ms. Taylor Bradish](#), Mr. Gautham Chelliah, Ms. Chloe Lau, Mr. Colton Kelley, Mr. Joshua Thayil, Mr. Joaquin Lugo, Ms. Katherine Blandin, Dr. David Narvaiz, Dr. Joaquin Lugo

Investigating the Effects of the ApoE4 Genotype on Hyperglycemia-Induced Depressive Like Behavior and Neuroinflammation in Female Mice

» [Mr. Jonathan Duhon](#), Mr. Matthew Folh, Ms. Laura Kusumo, Dr. Elisabeth Vichaya



Continued from Friday, 28 February

Exploring the Potential of Novel 2D Transition Metal Compounds (2DTMCs) for Advanced Energy and Catalytic Applications: A Computational Study on Stability and Electronic Properties

» [Puja Rijal](#), Dr. Uvin Dealwis, Dr. Kevin Shuford

Synthesis and Computational Analysis of Diazaborolidines Derived from Phenylboronic Acid Derivatives and 1,2- and 1,3-diamines

» [Mr. Ravindu Pathirana Hewage](#), Prof. Dustin Gross

Variations in Assignment Expectations as Represented by Rubric Structure and Content in General Chemistry

» [Ms. Chloe Sells](#), Dr. Michelle Herridge

Improving CKKS Performance with Vector Computation and GPU Acceleration

» [Smaran Manchala](#)

Investigating Neuroinflammatory and Behavioral Outcomes of MOC2-7 Tumors in Male C57BL6/J Mice: Absence of Depressive-Like Phenotype with Evidence of Fatigue and Cachexia

» [Avery Gillett](#), Caroline Fowler, Dr. Cory Dungan, Dr. Elisabeth Vichaya

The Effects of Tart Cherry Extract on the Lifespan and Gene Expression of *Caenorhabditis elegans* Models of Alzheimer's Disease

» [Mr. Abid Miah](#), Dr. Naima Moustaid-Moussa, Dr. Yujiao Zu

Investigating the long-term effects of pifithrin- μ on cisplatin-induced cognitive impairment

» [Mia Tarantino](#), Caroline Fowler, Valeria Muniz, Mathew Chatham, Tanish Raina, Dr. Elisabeth Vichaya

Transcranial Photobiomodulation (tPBM) Reduces Anxiety Symptoms and Improves Attentional Control

» [Mr. Kevin Thakkar](#), Mr. Anagh Mirji, Laura Gamboa, Dr. Roger Davis, Dr. Francisco Gonzalez-Lima

The impacts of diel thermal variability on zebra mussel survivorship at the upper limit of their tolerance: linking laboratory results to natural field conditions in Texas

» [Chase Herrington](#), Cadence Sen, Amya McCarroll, Dr. Jason Locklin

Temperature-induced stress and the starvation of zebra mussels (*Dreissena polymorpha*) in a Central Texas Lake

» [Cadence Sen](#), Amya McCarroll, Chase Herrington, Dr. Jason Locklin

Bacteria Growth in Schools

» [Carlie Buck](#)

The Effect of Reporting Bias on the Opioid Crisis: What You Don't Know CAN Hurt You

» [Katy Garmon](#), Dr. Kendall Hammonds, Dr. Emily Garmon

Effects of location and time of hunting season on nasal bot fly counts in white-tailed deer

» [Julia Galvan](#), Eevee Rasor, Prof. Chad Cryer

Large-scale natural and anthropogenic environmental variables associated with Rio Grande chirping frog distribution in Central Texas

» [Kamille Marry](#), Jeff R. Troy, Clark D. Jones

Completing a Fossil of a 99 Million Year Old Squamate from Myanmar Using 3D Modeling

» [Lilly Nguyen](#), Elizabeth Kull, Dr. Juan D. Daza

Environmental factors affecting the antioxidant properties and phenolic content of green and purple basil

» [Myla Benally](#), Luke Ford, Andrea Armeriv, Teresa Bilinski, Emily Niemeyer



Continued from **Friday, 28 February**

Investigating the antidepressant effects of dimethyl fumarate in a murine model of diabetes

» [Ms. Madilyn Johnson](#), Ms. Laura Kusumo, Mr. Reece Bonner, Ms. Kaylea Gawf, Dr. Elisabeth Vichaya

Cranial Anatomy of the Australian Western Beaked Gecko (*Rhynchoedura omata*: Diplodactylidae: Gekkota) in 3D

» [Andrew Rock](#), Samira Alam, Tanya Duran, Sofiane Gana, Elyse Howerton, Mr. Camilo Linares, Amber Reynolds, Elizabeth Saxton, Dr. Aaron Bauer, Dr. Juan D. Daza

Exploring Emotional Development through Physiological, Behavioral, and Contextual Factors

» [Ms. Nicole Jackson](#), Dr. Yelim Hong, Ms. Megan Klinginsmith, Dr. Laura Quinones Camacho

Investigating chloroplast DNA diversity within populations of *Mentzelia thompsonii*

» [Gisela Guerrero](#), Darren Pratt, Nadia Tuggle, Kiley Frost, Kyuyeon Kim, Alexis Tuyo, Joshua Brokaw

Travel or Treat?: An Analysis of Spider and Howler Monkey Prehensile Tail Use

» [Ms. Lydia Lehman](#), Dr. Jill Pruetz

Understanding the Correlation Between Cardiovascular Disease and Major Depressive Disorder: The Role of Common Biomarkers

» [Kylee Adkinson](#), Macie Berry, Dr. Katherine Sanchez, Dr. Karel Kalecky

Influence of the hyporheic zone on gene flow in invertebrates in the Edwards-Trinity Aquifer, Texas.

» [Mr. Evan Guerrero](#), Dr. Kathryn Perez, Dr. Benjamin Hutchins, Dr. Benjamin Schwartz

Initial Characterization of Unique Mice Fibroblasts Populations

» [Megan Hicks](#), Dr. James Harper

Mitochondrial structure is altered before muscle wasting during tumor induced cachexia

» [Ms. Kenia Grimaldo](#), Sofiane Gana, Mrs. Mardelle Atkins

Early Life Stress in Fmr1 Knockout Mice Reduces Body Weight Acutely, But Minimally Alters the Behavioral Manifestation

» [Ms. Katherine Blandin](#), Ms. Taylor Bradish, Mr. David Narvaiz, Mr. Joshua Thayil, Ms. Chloe Lau, Ms. Diuto Enyeribe, Ms. Maria Hemmerseier, Ms. Kendall Lally, Mr. Joaquin Lugo, Dr. Joaquin Lugo

Variations in antioxidant properties and phenolic content within cultivars of *Monarda* herbs

» [Mattigan Aga](#), Alexis Flores, Holly Lawson, Emily Niemeyer

Exploring the phenolic composition of *Monarda* herbs: Influence of seed source and cultivar

» [Alexis Flores](#), Mattigan Aga, Holly Lawson, Emily Niemeyer

Studying the Effectiveness of Chlorine Treatment in Wastewater using Microbial Biofilm

» [Mr. Philip Baker](#), Ms. Cephus Bess-Grunewald, Ms. Olabisi Ogunlewe, Bidisha Sengupta

Identification of Affibody Molecules that Target Phospholipase A2

» [Ms. Kechcheng Sreang](#), Ms. Grace Youngblood, Dr. Edith Osborne, Ms. Kelyia Estell

The Consequences on Neuroinflammation Following Neonatal Status Epilepticus in C57BL/6J Mice

» [Mr. Joshua Thayil](#), Ms. Taylor Bradish, Mr. David Narvaiz, Katherine Blandin, Reagan Yarborough, Dr. Danielle Santana-Coeelho, Dr. Joaquin Lugo

The Observational Analysis of the Behavioral Differences Between *Palaemonetes paludosus* and *Pomacea bridgesii*

» [Ms. Kirstey Ferguson](#), Dr. Laura Weiser Erlandson

Analysis and Validation of Quantitative Trait Locus Mapping of Locomotive Behaviors in *Drosophila* species

» [Mr. Pedro Rodriguez Navarro](#), Yuan Yuan Kang



Continued from Friday, 28 February

FISH DIVERSITY IN ROATÁN, HONDURAS

» [Emily Boling](#), Morena Flores Mejia, Rebecca Musick, Lorelei Payne, Anne Mowry, Dr. Traesha Robertson, Dr. Jacqueline Dove, Dr. Stephanie Lockwood, Stephanie Randell

Discovering novel inhibitors for 6-phosphogluconate dehydrogenase in *Plasmodium vivax*

» [Celeste Rodriguez](#), Ifeanyichukwu Nwofor, Dr. Josh T. Beckham

Neuroplastic Changes in Opioid Tolerance: A Comparative Study of Oxycodone and Fentanyl

» [Arjun Trehan](#), Mariana deJeux, Sarah Jewanee, Blake Reeves, Dr. Benjamin Schwartz, Dr. Jacques Nguyen

Effect of abiotic stresses on cellular responses in *Penium margaritaceum*

» [Kassandra Orellana](#), Dr. Kattia Palacio-Lopez

Quantification of individual flavonoids and methylxanthines in cacao nibs sourced from different origins

» [Alex Dow](#), Samantha Hazen, Holly Lawson, Emily Niemeyer

Progenesis as an Explanation for the Similarity Between Adult Miniaturized Geckos and Juvenile Larger Geckos' Hands

» [Mrs. Elyse Howerton](#), Dr. Juan D. Daza, Dr. Aaron Bauer

Arginine Kinase 1 is necessary for eye development in *Drosophila melanogaster*

» [Amber Reynolds](#), Josceline Tenido, Kaycee Torres, Courtney Farrington, Mrs. Mardelle Atkins

An Affinity Analysis of *Aliivibrio fischeri* and Zooxanthellae

» [Murphy Jacobie](#), Dr. Stacie Brown

Analysis of Microplastic Concentrations in Dried Algae Mats and Sediment Collected from Detention Basins in the Edwards Aquifer Recharge Zone.

» [Paulina Quinonez](#), Mr. Andre Felton, Dr. Jeffrey Hutchinson

Threads of Change: Zooplankton community shifts in response to fiber disturbances

» [Caitlyn Lankford](#), Heaven Thompson, Ashton Fisher, Addison Lehw, Mary Kay Johnston

Hemangiosarcoma in Canines: A Personal Case Study in Disease Progression and Therapy

» [Mr. Yuto Goto](#)

Microgravity Experiment for Lunar Dust (MELD): A platform to study lunar dust interactions with surfaces

» [Samantha Daigle](#), Karissa Coker, Jeffrey Kelber, Eduardo Bidot, Matthew Wittal, Richard Zhang, John Beatty

A Study of the Default Mode Network in Individuals with ADHD

» [Mr. Yuto Goto](#)

Rad7-Rad16 in global genome nucleotide excision repair in *Saccharomyces cerevisiae*

» [Ms. Chathurika Hewa Bhashithage](#), Dr. Jung-Hyun Min

Plants Grown at Reduced Pressures for Extraterrestrial Environments

» [Craig Bateman](#), John Beatty

Synthesis and characterization of copper (II) complexes with 1,10-phenanthroline-5,6-dione and derivative ligands: Potential applications in triple-negative breast cancer therapy

» [Mr. Matthew Cartwright](#), Ms. Sofia Stanfield, Dr. Hadi Arman, Dr. Charles Fermaint, Dr. Rafael Adrian

Effect of rapamycin and minocycline on autistic-like behaviors in male C57BL/6J mice after early life seizure induction.

» [Ms. Sydney Pell](#), Katherine Blandin, Ms. Taylor Bradish, Ms. Madison Wallis, Ms. Chloe Lau, Mr. Colton Kelley, Mr. Luke Hammett, Mr. Joshua Thayil, Ms. Ashley Smelley, Mr. Gautham Chelliah, Mr. David Narvaiz, Ms. Leighton Douglas, Ms. Linay Burge, Dr. Joaquin Lugo



Continued from Friday, 28 February

Calcium analysis of eggshells

» [Ms. Kathryn Clevenger](#), Dr. Alyx Frantzen

Studies of the transition metal complex on Human Serum Albumin

» [Ms. Tess Corbett](#), Ms. Nkeiruka Aziekwu, Ms. Perla Tovar, Bidisha Sengupta

The Effects of Vitamin D on Zebrafish in Varied pH Environments

» [Ethan Cortez](#)

Primer Design: Developing New Tools for DNA Sequence Investigation in the Plant Genus *Mentzelia*

» [Ms. Kseniia Schneider](#), Ms. Amy Osborn, Joshua Brokaw

Novel palladium(II)-polyphenol complexes: Synthesis, characterization, and anticancer potential against triple-negative breast cancer cells

» [Mr. Victor Torres](#), Ms. Sofia Stanfield, Dr. Hadi Arman, Dr. Charles Fermaint, Dr. Rafael Adrian

Geologic Salt Analysis

» [Katelyn Jones](#), Dr. Alyx Frantzen, Dr. Julie Bloxson

Metabolic Fingerprinting of Creek Ecosystems: The Influence of Urban Stressors on Productivity and Respiration

» Ria Bhatia, [Carol Tran](#), Isabella Serrao, Charles Yang, Joji Sherman, Irfan Eshan, Kandace Diaz, Dr. Mary Poteet

Generalized Happy Numbers

» [Mr. Briley Elrod](#), Dr. Rachel Lynn

From Storm Drains to Streams: How Riparian and Upland Leaf Inputs Transform Urban Creek Ecosystems

» [Ms. Zoe Herndon](#), Mireya Velazquez, Alyssa Steinhart, Celeste Rodriguez, David Rimada, Pablo Ramos, Nardos Shiferaw, Madison McGee, Dr. Mary Poteet

Exploring Thermal Variability in Urban Creeks: The Combined Influence of UHI and Hydrogeology

» [Areli Velasquez](#), Alondra Trejo, Catherine Byelousova, Zachary Courreges, Kimberly Tran, Sommer Montes, Zenaida Rodriguez, Dr. Mary Poteet

The limitations of using intrapersonal isotopic variation within the use of commingled bones

» [Ms. Tori Rowe](#), Ms. Stephanie Baker, Ms. Emma Giacomello

Proportion of Daily Community Respiration in Texas Farm Ponds for Which Plankton are Responsible

» [Ms. Sarah Baggett](#)

Mechanism of the Rad34-Rad23-Rad33 in RNA Polymerase I-associated transcription-coupled nucleotide excision repair of yeast

» [Ms. Meenuka Dalpathadu](#), Ms. Linh Pham, Prof. Kenji Murakami, Dr. Jung-Hyun Min

Automating Flashcard Creation: A Python-Based Approach for Organic Chemistry Education

» [Benjamin Rybak-Dow](#), Patrick Harlan, Connor Stear, Lance English

Development of a Protein Structure Driven CURE Module for Second-Semester Organic Chemistry

» [Connor Stear](#), Cas Knox, Benjamin Rybak-Dow, Dr. Steven Whitten, Lance English

Using Guided Antimicrobial Peptides to Target *Oncomicrobe F. nucleatum* and Prevent Colorectal Cancer Progression

» [Ms. Allison Barton](#), Dr. Ankan Choudhury, Dr. Leigh Greathouse

Ecological conflicts inherent in the spread and management of a Texas invasive, *Paulownia tomentosa*

» [Dr. Richard Patrock](#)

Characterizing The Role of *dennd5b* in Zebrafish Through Microinjection During Early Embryonic Development

» [Isabella Simon](#), Magdalen Marston, Ms. Alicia Mendoza, Dr. Sharmin Hasan



Continued from **Friday, 28 February**

Identifying Novel Inhibitors of 3-oxoacyl-(acyl-carrier-protein) reductase in Plasmodium falciparum to combat malaria

» [Haneef Ibrahim](#), Dr. Josh T. Beckham, Dr. Walt Fast

Role of *fnbp1* during early development of vertebrate

» [Mr. Ty Franklin](#), Dr. Sharmin Hasan

Making decisions: does mitochondrial metabolism influence retinogenesis?

» [Yaqueline Gutierrez](#), Yessenia Beltran, Emilia Santamaria, Elda Rueda

Increasing ethanol concentrations in increments can detrimentally affect yeast cell viability: modeling alcohol toxicity in animal cells.

» [Mr. Logan Olguin](#), Mr. Brennen Leidy

The small mammal fauna from Matjhabeng, a Pliocene fossil locality in the Free State of South Africa.

» [Mr. Brennen Leidy](#)

Explaining the relationship between elevation and gut-microbe diversity of *Sceloporus Poinsettii* (Crevice Spiny Lizard) between the Christmas and Davis mountains

» [Thomas Levrie](#), Thornton Larson

7:45am **Impact of Soil Microalgae on Olivine Weathering**
 » [Ms. Layla Jackson](#), Ms. Lauren Bomer, Dr. Betsy Leverett, Dr. John Hooker, Dr. Alakananda Chaudhuri

8am **Redox Cooperativity Analysis with Computational Chemistry: Interplay Between Energy Matching and Geometric Arrangement in Redox Non-Innocent Systems**
 » [Hadley Watts](#), Dr. John Gary

8:15am **Role of the NAC Linker in Early Protein Sorting**
 » [Travis Bishop](#), Emir Maldosevic, Dr. Ahmad Jomaa

8:30am **Structural rearrangements in lanthanum glutarate bromotherephthalate, $\text{La}(\text{Glut})(\text{TPBr})(\text{H}_2\text{O})_4\text{H}_2\text{O}$, initiated by drying**
 » [Dr. Ralph Zehnder](#)

8:45am **Structure and mechanisms of Nucleotide Excision Repair in yeast**
 » [Dr. Jung-Hyun Min](#)

9am **Substances of Health Concern: Label Accuracy of Cannabidiol and Tetrahydrocannabinol in Commercial Tinctures from the United States**
 » [Mr. Zander Sullivan](#), Dr. Coady Lapierre, Dr. Laura Weiser Erlandson, Dr. Linh Pham

9:15am **Synergistic Effects of Watercress Extract with plant flavonoid Kaempferol against Oxidative Damage in Human Serum Albumin**
 » [Ms. Nkeiruka Aziekwu](#), Ms. Bidisha sengupta

Saturday, 1 March

7am **Past Presidents & Fellows Breakfast**
 MAC 304 @ MCC

7:45am **(S1) Chemistry & Biochemistry C**
 MAC 111 @ MCC
 Chaired by: Darrell Fry and Bidisha Sengupta

7:45am **(S2) Mathematics & Computer Science**
 MAC 206 @ MCC
 Chaired by: Dipak Singh and John Garza

7:45am **A Multimodal Approach for Resource Allocation During Natural Disasters**
 » [Agafia Bowden](#), Dr. Dipak Singh



Continued from **Saturday, 1 March**

- 8am **Classifying Z-related sets of order 5**
» [Nicholas Jones](#), Prof. William Erickson
- 8:15am **Dissipative quantum systems with non-local point interactions**
» Christoph Fischbacher, Chloe Povey-Rowe, [Brady Zimmerman](#), Danie Paraiso
- 8:30am **Lies and Deceptions of the Traveling Salesman**
» [Prof. Paul Feit](#)
- 8:45am **Methods Connecting Differential Operators and Combinatorics**
» [Mr. Jonathan Thomas](#), Prof. William Erickson
- 9am **Predicting chemical respiratory sensitizers with machine learning QSAR models**
» [Kiera Griffin](#), Dr. James Liu, Ms. Taylor Jefferis, Dr. Joshua Peeples, Christie Sayes
- 9:15am **Towards a Universal Format for Exercise Construction**
» [Prof. Paul Feit](#)
- 7:45am **(S3) Plant Biology**
MAC 235 @ MCC
Chaired by: Kevin Eddy and Josh Brokaw
- 7:45am **“Exploring Native West Texas Plant Extracts for Anti-Hemolytic Properties: Potential Natural Remedies for Red Blood Cell Protection and Inflammation**
» [Ms. Atlanta Williams](#), Ms. Sui Tial
- 8am **Gene flow among populations of the annual wildflower *Mentzelia pectinata* (Loasaceae).**
» [Ms. Amy Osborn](#), Gisela Guerrero, Jessica Edo, Yourim Cho, Joshua Brokaw

- 8:15am **Life History Evolution in the Annual *Mentzelias*: Sections *Bicuspidaria* and *Trachyphytum* (Loasaceae)**
» [Joshua Brokaw](#)
- 7:45am **(S4) Physics & Engineering**
Lecture Hall @ MCC
Chaired by: Cody Crosby and Brian Flowers
- 7:45am **Adapting an Open-Source Syringe Extruder to Photocrosslink Soft Hydrogels**
» [Joseph Dorsey](#), Amanda Mejia, Angel Rodriguez, Sabrina Woodward, Domenic Cordova, Cody Crosby
- 8am **Evaluating Deep Learning Models for Multiclass Classification of LIGO Gravitational Wave Glitches**
» [Mr. Rudhresh Manoharan](#), Dr. Gerald Cleaver
- 8:15am **First Principle calculations of effective Hubbard Parameter**
» [Mrs. Manjula Raman](#), Mr. Anjy-Joe Olatunbosun, Dr. Kenneth Park
- 8:30am **From Dust to Dawn: The Search for Young Stellar Objects**
» [Peter Newcomer](#), Dr. Luisa Rebull, Dr. April Andreas, Kivan Andreas, Andres Mar, Mickayla Tosch, Mr. David Dahari, Gabriel Dahari, Sahar Sultani, Mr. Joseph Perry, Ricky Perry, Maddie Sullivan, Mr. Jeff Benter, Bo Zeleznik, Jackson Ritchie, Tanner Hurliman, Jack Benter
- 8:45am **Historic First Liquid Fueled Advanced Nuclear Reactor permitted by the NRC**
» [Dr. Charles Ivey](#)
- 9am **Optimizing biomass pyrolysis and syngas reformation: A study on microwave reactor variables and efficiency**
» [Chase Rheinlander](#), Dr. Chao Dong
- 9:15am **Pioneering Climate Resilience through Innovating Property-Variable Materials for South Texas' Energy Transition**
» Jingbo Liu, [Sajid Liu](#)



Continued from Saturday, 1 March	
7:45am	<p>(S5) Neuroscience MAC 236 @ MCC Chaired by: Seena Mathew and Dr. Danielle Grove</p>
7:45am	<p>Abdominal photobiomodulation (PBM) as a therapeutic intervention for autism spectrum disorder (ASD): Impacts on mitochondrial function and gut health » Dr. Gabriela Guimaraes, Sarah Diaz, Ms. Nicole Jackson, Mr. Nisarg Vshah, Dr. Douglas Barrett, Dr. Francisco Gonzalez-Lima</p>
8am	<p>Assessing Anxiety in a Zebrafish Nicotine Cessation Model » Britney Castillo, Dr. Ayman Hamouda, Dr. Brent Bill</p>
8:15am	<p>Augmenting Cognitive Behavioral Therapy for Major Depressive Disorder with Transcranial Infrared Laser Stimulation » Dr. Douglas Barrett, Dr. Christopher Beevers, Dr. Francisco Gonzalez-Lima</p>
8:30am	<p>Cognitive Improvement and Prefrontal Network Interactions in Individuals with Remitted Bipolar Disorder after Transcranial Infrared Laser Stimulation » Dr. Roger Davis, Dr. Douglas Barrett, Dr. Erin Logue, Dr. Andreana Haley, Ms. Amy Bichlmeier, Ms. Lucy Chibib, Dr. Jennifer Siegel-Ramsay, Mr. Farzad Salehpour, Laura Gamboa, Mr. Anagh Mirji, Mr. Kevin Thakkar, Dr. Gabriela Guimaraes, Sarah Diaz, Mr. Hunter Dutkiewicz, Isabelle Rose, Jana Jimenez, Mr. Jordan Schwartz, Dr. Jorge Almeida, Dr. Francisco Gonzalez-Lima</p>
8:45am	<p>Effects of Transcranial Infrared Laser Stimulation on Brain Rhythmic Electrical Activity and Cognitive Aging » Isabelle Rose, Dariella Fernandez, Laura Gamboa, Mr. Hunter Dutkiewicz, Sarah Diaz, Dr. Roger Davis, Dr. Gabriela Guimaraes, Dr. Douglas Barrett, Dr. Francisco Gonzalez-Lima</p>
9am	<p>Location-independent axon pathfinding in the hindbrain of larval zebrafish » Annika Tracy, Dr. Kimberly McArthur</p>
9:15am	<p>Mental-Mixtral: AI-powered multi-modal mood disorder detection » Ms. Nikila Swaminathan</p>
9:30am	<p>Python-Based Machine Learning For Three-Dimensional Human Brain Model Segmentation and Analysis » Ms. Morgan Smith, Dr. Elizabeth Ochoa, Dr. Kevin Bieniek</p>
9:45am	<p>Transcranial Infrared Laser Stimulation (TILS) Improves Impulse Control in Adults with Attention-Deficit/Hyperactivity Disorder (ADHD) » Mr. Farzad Salehpour, Dr. Douglas Barrett, Mr. Anagh Mirji, Ms. Ayla Farzamnian, Mr. Vikas Burugu, Dr. Francisco Gonzalez-Lima</p>
8am	<p>Registration Science Building Lobby @ MCC</p>
8:30am	<p>Plant Biology Section Meeting MAC 237 @ MCC</p>
8:45am	<p>(S3) Terrestrial Ecology & Management MAC 235 @ MCC Chaired by: Richard Patrock</p>
8:45am	<p>Do Grasses of Central Texas Use Water Stored in Limestone? » Mr. Eli Hartung</p>
9am	<p>Structure and composition of forests in the Leon and Salado Creek Greenways » Ms. Natalie Martinez, Dr. Jeffrey Hutchinson</p>
9:30am	<p>Terrestrial Ecology & Management Section Meeting MAC 237 @ MCC</p>
9:30am	<p>Mathematics & Computer Science Section Meeting MAC 207 @ MCC</p>
9:30am	<p>Physics & Engineering Section Meeting MAC 200 @ MCC</p>



Continued from Saturday, 1 March	
9:30am	(S1) Coffee Break <i>MAC 1st 2nd & 3rd floor lobbies</i>
9:30am	(S2) Coffee Break <i>MAC 1st 2nd & 3rd floor lobbies</i>
9:30am	(S3) Coffee Break <i>MAC 1st 2nd & 3rd floor lobbies</i>
9:30am	(S4) Coffee Break <i>MAC 1st 2nd & 3rd floor lobbies</i>
9:45am	(S1) Chemistry & Biochemistry D <i>MAC 111 @ MCC</i> Chaired by: Darrell Fry and Bidisha Sengupta
9:45am	Synergizing Biocompatible Nanoagents with AI for Revolutionary Forensic Fingerprint Analysis » Jingbo Liu, John-Ryan Lawrence, Zhaohui Wang, Sajid Liu
10am	Synthesis and Characterization of a Water-Soluble TAK-242 Prodrug » Jacquelin LaBerteaux , Prof. Bob Kane
10:15am	Synthesis of AER-270 prodrugs to inhibit Aquaporin-4 using controlled-release kinetics » Mr. Akhil Kumar Sarkar , Dr. Michael Nicosia, Dr. Anna Valujskikh, Prof. Bob Kane
10:30am	Synthesis of bis-diamine monomer to construct oligo-benzodiazaborole-based macrocycles. » Mrs. Sathsara Senarathne , Mr. Javier Hodges, Prof. Dustin Gross
10:45am	Synthetic Efforts Towards Novel Prodrugs of TAK-242 (Resatorvid) for Localized Immunosuppression » Rahul Gaykar , Prof. Bob Kane
11am	The growth and characterization of intermetallic compound Gd₄Mn₄Sn₇ » Teddy G. Spencer , Ms. Morgan E. Raines, Dr. Gregory T. McCandless, Dr. Julia Y. Chan
11:15am	The Silicon-Germanium Bond » Keith Pannell
9:45am	(S3) Conservation Ecology <i>MAC 235 @ MCC</i> Chaired by: Wendi Wolfram
9:45am	Assessment of Bird Communities Using eBird Data in the Red River Basin Following a Significant Weather Event » Zoe R. Williams , Jessica L. Coleman, Matthew J. Greenwold
10am	Detecting Leptoncyteris nivalis at Emory Cave using airborne eDNA » Ashley Loehn , Dr. Loren Ammerman
10:15am	Effects of Invasive Chinaberry Tree Fruits on Invasive Asian Clams in Texas » Amy Lowe , Marion Mundy, Dr. Chris Distel
10:30am	Effects of Stream Restoration on Caddisflies » Fernanda Gonzalez , Dr. Mark Gustafson



Continued from Saturday, 1 March	
10:45am	Environmental DNA detection of the Endangered Rio Grande Silvery Minnow » Ms. Julianne Bullock , Dr. Matthew A. Barnes
11am	Spatio-temporal patterns of environmental DNA detectability for a cryptic species of greatest conservation need » Kyra S. Woytek , Dr. William I. Lutterschmidt, Dr. Christopher M. Schalk, Dr. Daniel Saenz
10am	Neuroscience Section Meeting MAC 201 @ MCC
10am	(S5) Coffee Break MAC 1st 2nd & 3rd floor lobbies
11:15am	Conservation Ecology Section Meeting MAC 237 @ MCC
11:30am	Chemistry & Biochemistry Section Meeting MAC 200 @ MCC
11:30am	Lunch Break LTC Cafeteria @ MCC
12pm	Section Chairs Post Meeting MAC 204 @ MCC
12:30pm	Meeting moves from MCC to BU
1pm	Registration (BU) HURD @ BU

1pm	Graduate Student Competition HURD @ BU
1pm	Mechanisms of Toxicity and Metabolic Disruption by Bisphenol Analogs in Human Cell Models » Rafia Afroze Rifa , Dr. Ramon Lavado
1:15pm	Antimicrobial Applications of Probiotic Byproducts in Food Safety » Min Ji Jang , Dr. Md Ariful Haque, Dr. Hae Woong Park, Prof. Seockmo Ku
1:30pm	Effects of Transcranial Photobiomodulation on Symptoms of Autism Spectrum Disorder » Sarah Diaz , Dr. Gabriela Guimaraes, Ms. Nicole Jackson, Mr. Nisarg Vshah, Dr. Roger Davis, Dr. Douglas Barrett, Dr. Francisco Gonzalez-Lima
1:45pm	Comprehensive insights into mosquito species diversity and habitat-specific host selection patterns to enhanced surveillance of vector-borne pathogens in Cameron Park Zoo, Waco, Texas. » Ms. Dhiyya Rajamanickam , Dr. Jason Pitts
2pm	Examining the rescuing effects of voluntary wheel running on depressive-like behaviors and neuroinflammation in a mouse model of hyperglycemia » Ms. Laura Kusumo , Grace Summers, Mr. Matthew Folh, Mr. Jonathan Duhon, Ms. Kaylea Gawf, Dr. Elisabeth Vichaya
2:15pm	Modelling patterns of reproductive occupancy to inform management of toads in a dynamic desert system » Sadie Roth , Dr. Matthew A. Barnes, Dr. Kerry Griffis-Kyle
3pm	Graduate School Fair HURD @ BU
3pm	Mentoring & Networking Session HURD @ BU



Continued from **Saturday, 1 March**

3pm **Faculty Reception**
HURD @ BU

3pm **Graduate Student Panel**
HURD @ BU

4pm **OTE Keynote Talk: Mark Rogers, Austin Achieve, TX**
HURD @ BU

4:45pm **DTS Keynote Talk: Dr. Jingbo Louise Liu, Professor of Chemistry, Texas A&M University-Kingsville, TX**
HURD @ BU

5:30pm **Awards Banquet**
HURD @ BU