

Texas Academy of Science: 122<sup>nd</sup> Annual Meeting @ Howard Payne University  
Program Schedule

**FRIDAY, MARCH, 1**

**001. TAS Board Meeting**

Texas Academy of Science Annual Meeting  
8:00 to 11:30 am  
Mabee Center: Balcony

**002. Section Chairs Pre-Session Lunch Meeting**

Texas Academy of Science Annual Meeting  
11:30 to 12:30 pm  
Mabee Center: Balcony

**003. Biomedical Sciences Oral Session 1**

Biomedical Sciences  
Paper Session  
1:00 to 2:00 pm  
Winebrenner Science Building: Floor first - 121  
Participants:

- 1:00 Alterations of cellular metabolic pathways in 4T1 breast cancer cells in response to 8-shogaol *Luke Brown, Wayland Baptist University; Jai'Cee Tudman, Wayland Baptist University; Parvin Mirzaei, Center for Biotechnology and Genomics, Texas Tech University; Masoud Zabet-Moghaddam, Center for Biotechnology and Genomics, Texas Tech University; Gary Gray, Wayland Baptist University; Adam Reinhart, Wayland Baptist University*
- 1:15 Determining lipid composition of carotid artery plaques using multimodal imaging: Predictive analysis to enhance risk factor assessment of carotid atherosclerosis *Divya Nagaraj, William P. Clements High School*
- 1:30 Histological analysis of muscular atrophy in *Nauphoeta cinerea* *Megan Alexander, Grant Winner*
- 1:45 In vivo selection of human breast cancer cells that endogenously overexpress Her-2 *Valerie Gallegos, UTEP; Paloma Valenzuela, UTEP; Karla Parra, UTEP; Karen Chavez, UTEP; Natzidielly Lerma, UTEP; Shan Man, Sunnybrook Research Institute; Ping Xu, Sunnybrook Research Institute; Guido Bocci, University of Pisa; Urban Emmenegger, Sunnybrook Research Institute; Robert Kirken, UTEP; Robert Kerbel, Sunnybrook Research Institute; Giulio Francia, UTEP*

**004. Terrestrial Ecology & Management Oral Session 1**

Terrestrial Ecology and Management  
Paper Session  
1:00 to 2:00 pm  
Winebrenner Science Building: Floor first - 123  
Participants:

- 1:00 Chronic Sloughing Shell Disease in the Chihuahuan Mud Turtle, *Kinosternon hirtipes murrayi* and other Subtropical and Tropical Mud Turtles *James Learned Christiansen, University of Texas, Austin; D R Davis, University of Texas Rio Grande Valley; Travis LaDuc, University of Texas at Austin*
- 1:15 Grassland bird diversity and habitat associations in the Southern High Plains, Texas *Sharon Leigh Ann DeMerritt, Wayland Baptist University; Andrew Kasner, Wayland Baptist University*

- 1:30 Habitat associations and population estimates for the Texas horned lizard (*Phrynosoma cornutum*) in the Southern High Plains of Texas *Sara Andea van der Leek, Wayland Baptist University; Andrew Kasner, Wayland Baptist University*
- 1:45 Historic Land Use Effects on Ecosystem Health: Use of Aerial and Satellite Imagery *Julianna Kurpis, UTRGV*

**005. Anthropology Oral Session and Section Meeting**

Anthropology  
Paper Session  
1:00 to 2:15 pm  
Winebrenner Science Building: Floor second - 218  
Participants:

- 1:00 Balancing climatic and energetic demands within the human nose *ALEXA PENNAVARIA KELLY, University of North Texas Health Science Center; Scott D. Maddux, University of North Texas Health Science Center*
- 1:15 Early Onset Anthropocene. Control of the Landscape by the ancient Maya in Northwestern Belize. *Thomas Guderjan, University of Texas at Tyler*
- 1:30 Preliminary Analysis of Fossil Avifaunal Humeri from Swartkrans *Reagan Van Coutren, Department of Anthropology, Baylor University; Thomas A. Stidham, Key Laboratory of Vertebrate Evolution and Human Origins, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences; Timothy L Campbell, Department of Anthropology, Baylor University*
- 1:45 Stable isotope signals as proxy for mobility amongst ancient Canary aboriginals: creating a strontium and oxygen baseline for Gran Canaria *Paloma Cuello, Texas A&M University*
- 2:00 Taxonomic Assessment of Modern and Fossil African Rodent Femora *Timothy L Campbell, Department of Anthropology, Baylor University*
- 2:15 Anthropology Section Meeting *Timothy L Campbell, Department of Anthropology, Baylor University*

**006. Physics & Engineering Oral Session & Section Meeting**

Physics and Engineering  
Paper Session  
1:00 to 2:15 pm  
Winebrenner Science Building: Floor second - 219  
Participants:

- 1:00 Analysis of free and underdamped oscillation of metallic cantilever beams *Hendra Jaya Tarigan, Howard Payne University*
- 1:15 Creating a Heliocentric Lunar Forming Impact Model *Bryant Wyatt, Tarleton State University*
- 1:30 Evolutionary Algorithm Optimization of Lattice Towers *Wyatt Beck Young, Tarleton State University*
- 1:45 Stabilized Adobe Brick – Physical and Optical Properties *Gerald J. Mulvey, Univer of the Incarnate Word; Sreedev J. Ande, Univer of the Incarnate Word*
- 2:00 Physics and Engineering Section Meeting *Kim Arvidsson,*

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Schreiner University

**007. Plant Biology Oral Session and Section Meeting**

Plant Biology

Paper Session

1:00 to 3:00 pm

Winebrenner Science Building: Floor second - 220

Participants:

- 1:00 A new species in *Mentzelia* section *Bicuspidaria* (*Loasaceae*) from Baja California Sur and Cedros Island. *Destiny J. Brokaw, Abilene Christian University; Joshua Michael Brokaw, Abilene Christian University*
- 1:15 An updated vascular flora of the Runningwater Conservancy, Hale County, TX with comparisons to regional floristic records *Krista S. Epley, Wayland Baptist University; Matthew S. Allen, Wayland Baptist University*
- 1:30 Comparison of plant communities from two rivers in the West Cross Timbers ecoregion of Texas *Allan Nelson, Tarleton State University; Randall Rosiere, Tarleton State University; Kim Gamez, Tarleton State University; Turner Cotton, Tarleton State University; Sarah Brown, Tarleton State University; Keagan Lowey, Tarleton State University*
- 1:45 Exploring the potential for communication of learned behavior in populations of the sensitive plant (*Mimosa pudica*) *Nickolas G. Robinson, Northwest Vista College, CIMA-LSAMP*
- 2:00 Investigations of the mycoflora inhabiting the bark of *Juniperus ashei* (Cupressaceae) in central Texas *Jessica Bernardin, Texas State University; Trina Guerra, Texas State University; David Rodriguez, Texas State University; Dittmar Hahn, Texas State University; David E Lemke, Texas State University*
- 2:15 Vegetation survey of the Yegua Knobbs Preserve, Bastrop and Lee Counties, Texas *Diana K. Digges, Texas State University; David E Lemke, Texas State University*
- 2:30 Plant Biology Section Meeting *Kathleen Wood, University of Mary Hardin-Baylor*

**008. Conservation Ecology Oral Session and Section Meeting**

Conservation Ecology

Paper Session

1:00 to 3:00 pm

FLC: Floor second - 221

Participants:

- 1:00 Body Condition in Natural Populations of the Georgetown Salamander (*Eurycea naufragia*) *Benjamin Allen Pierce, Southwestern University*
- 1:15 Correlates of Snake Entanglement in Erosion Control Blankets *Sarah Elizabeth Ebert, Department of Biology, Stephen F. Austin State University; Kasey L. Jobe, Department of Biology, Stephen F. Austin State University; Christopher Schalk, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University; Daniel Saenz, Southern Research Station, USDA Forest Service; Cory Adams, Southern Research Station, USDA Forest Service; Christopher Comer,*

Arthur Temple College of Forestry and Agriculture,  
Stephen F. Austin State University

- 1:30 Updating the conservation status ranks for Texas land snails (Mollusca: Gastropoda) *Jeff Nekola, University of New Mexico; Briante Najev, University of Texas Rio Grande Valley; Alison Schofield, University of Texas Rio Grande Valley; Ben Hutchins, Texas Parks and Wildlife; Kathryn Perez, University of Texas Rio Grande Valley*
- 1:45 Updating the known ranges of Texas's endemic, freshwater cavesnails (Mollusca; Gastropoda; "Hydrobiidae") *Dominique Alvear, University of Texas Rio Grande Valley; Pete Diaz, U. S. Fish and Wildlife Service; Randy Gibson, U. S. Fish and Wildlife Service; Ben Hutchins, Texas Parks and Wildlife; Benjamin Schwartz, Texas State University; Kathryn Perez, University of Texas Rio Grande Valley*
- 2:00 Use of Biodiversity Collections in Conservation of Species of Greatest Conservation Need *Gary Pace Garrett, University of Texas; Adam Cohen, University of Texas; Dean Hendrickson, University of Texas*
- 2:15 Variation in Arthropod Community on a Prairie-Style Green Roof Relative to vegetation and slope position *Sydney Jackson, Austin College; Loriann Garcia, Austin College; Brooke Byerley Best, Botanical Research Institute of Texas*
- 2:30 Section Meeting Conservation Ecology *Chris Distel, Schreiner University*

**009. STEM Education Oral Session 1**

STEM Education

Paper Session

1:00 to 2:15 pm

FLC: 222

Participants:

- 1:00 A Guide to Improve the Mathematical Skills of Students in General Chemistry *Elizabeth Antohi, University of Texas at El Paso; Ryan Floresca, University of Texas at El Paso; Geoffrey B. Saupe, University of Texas at El Paso; James El Becvar, University of Texas at El Paso*
- 1:15 Improving Networking Skills by Implementing Study Pages into the Chemistry Workshop Workbooks *Anthony Ramirez, University of Texas at El Paso; Elizabeth Antohi, University of Texas at El Paso; Juan C. Noveron, University of Texas at El Paso; Geoffrey B. Saupe, University of Texas at El Paso; James El Becvar, University of Texas at El Paso*
- 1:30 Peer leaders facilitate teachable moments in interactive workshops dedicated for students acquiring general chemistry *Cassandra Lissett Orozco, University of Texas at El Paso; Mary Adu-Gyamfi, University of Texas at El Paso; Andrea McWilliams, University of Texas at El Paso; Ryan Floresca, University of Texas at El Paso; Mahesh Narayan, University of Texas at El Paso; James El Becvar, University of Texas at El Paso*
- 1:45 PLTL: Science for the Artsy *Ajuma Michelle Alfred, University of Texas at El Paso; Juan C. Noveron, University of Texas at El Paso; Geoffrey B. Saupe, University of Texas at El Paso; James El Becvar, University of Texas at El Paso*
- 2:00 Understanding Conflicts over Evolution Through a

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Historical Lens: A Historiography of the Major Trends in Evolution Education in the United States *Sarah Jenevein, The University of Texas at Austin*

**010. Chemistry and Biochemistry Oral Session 1**

Chemistry and Biochemistry

Paper Session

1:00 to 3:00 pm

FLC: Floor first - Jackson A

Participants:

- 1:00 2019: The United Nations designated International Year of the Periodic Table of the Chemical Elements: A personal assessment and exploration *Keith H Pannell, the university of texas at el paso*
- 1:15 A Comparative Metagenomic and Spectroscopic Analysis of Soils from an International Point of Entry between the US and Mexico *Abdiel Keni Cota-Ruiz, UTEP; Yosef López de los Santos, dINRS-Institut Armand-Frappier, Université du Québec; José Ángel Hernández-Viezas, UTEP; Marcos Delgado-Rios, Universidad Autónoma de Ciudad Juárez; José Ramón Peralta, UTEP; Jorge Luis Gardea-Torresdey, UTEP*
- 1:30 Contact Conductivity Detection in On-column Suppressed Open Tubular Ion Chromatography *Bikash Chouhan, University of Texas at Arlington; Purnendu K Dasgupta, University of Texas at Arlington*
- 1:45 Hierarchical Porous Carbon Fabric Membrane Derived from ZIF-8/PAN: Electrospinning Synthesis and Application as Anode for Sodium-Ion Battery *Yanfeng Yue, Sul Ross State University; Monica Argueta, Sul Ross State University; Hong-Yu Guan, GouangZhou University*
- 2:00 Time-of-Flight Nano Flow Sensor for Instrumentation Development and Troubleshooting *Chuchu Qin, UT Arlington; Purnendu K Dasgupta, University of Texas at Arlington*
- 2:15 TiS<sub>2</sub>-based Electrocatalysts for Hydrogen Evolution Reaction: Synthesis, Fundamental Understanding, Engineering, and Optimization *Aruna Narayanan Nair, University of Texas at El Paso; Saptasree Bose, UTEP; Sreeprasad Sreenivasan, UTEP*
- 2:30 Vibrational and Electronic Spectra of 2-Nitrobenzanthrone: An Experimental and Computational Study *Kefa K Onchoke, Stephen F. Austin State University*

**011. Chemistry and Biochemistry Oral Session 2**

Chemistry and Biochemistry

Paper Session

1:00 to 3:00 pm

FLC: Floor first - Jackson B

Participants:

- 1:00 A Field-Ready Colorimetric Assay for the Determination of Arsenic Concentrations in Freshwater Samples Containing Mixed Metal Contaminants *Hannah Gloden, Midland College*
- 1:15 Applications of STA *Courtney Harris, Stephen F. Austin State University; Alyx Frantzen, Stephen F. Austin State University*

- 1:30 Fundamental Growth Mechanism of Thiolate Protected Platinum Nanoparticles *Alexandria Cook, Stephen F. Austin State University; Brian Barngrover, Stephen F. Austin State University*
- 1:45 Latent Fingerprint Development: Reaction Mechanism Observation of 5-MTN and Serine using DFT *Javier V. Castaneda II, Stephen F. Austin State University; Brian Barngrover, Stephen F. Austin State University*
- 2:00 Optimization of a Solution Calorimeter *Pete Camacho, Jr., Stephen F. Austin State University; Alyx Frantzen, Stephen F. Austin State University*
- 2:15 The Development and Validation of an LC-MS Method for Analysis of Nineteen Bile Acids in Human Plasma *Mayte Gonzalez, Schreiner University; Adrian L Zapata, Schreiner University*
- 2:30 Theoretical Stereochemistry of Co(II) IDA with Histidine Tags to Identify Binding Energies Utilizing DFT *Lindsey Ohmstede, Stephen F. Austin State University; Brian Barngrover, Stephen F. Austin State University*
- 2:45 ZrP Immobilized Cobalt Porphyrins as Heterogeneous Electrocatalysts for Oxygen Evolution Reaction *Isabel Barraza, The university of Texas at El Paso*

**012. Cell and Molecular Biology Oral Session & Section Meeting**

Cell and Molecular Biology

Paper Session

2:00 to 3:00 pm

Winebrenner Science Building: Floor first - 123

Participants:

- 2:00 Investigating Synergy Between PA28 $\gamma$  and IKK $\epsilon$  *Hannah Butterfield, Austin College; Lance Barton, Austin College*
- 2:15 Isolation and characterization of novel antibiotic producing soil isolates *Luis Grado, Sam Houston State University*
- 2:30 Isolation and characterization of novel bacteriophages *Tiffany Lujan, Tarleton State University*
- 2:45 Section Meeting Cell and Molecular Biology *Susan Klinedinst, Schreiner University*

**013. Neuroscience Oral Session and Section Meeting**

Neuroscience

Paper Session

2:15 to 2:45 pm

Winebrenner Science Building: Floor first - 121

Participants:

- 2:15 Hemodynamic mechanisms for augmentation of cognitive brain functions with transcranial lasers *Francisco Gonzalez-Lima, The University of Texas at Austin; Emma Holmes, The University of Texas at Austin; Douglas W. Barrett, The University of Texas at Austin*
- 2:30 Neuroscience Section Meeting *Danielle D Grove, Texas Lutheran University*

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**014. Poster Presentation and Judging: Anthropology, Conservation Ecology, Freshwater Science, Geoscience, Mathematics and Computer Science, Neuroscience, Physics and Engineering, Plant Biology, STEM Education, Terrestrial Ecology and Management**

3:00 to 4:30 pm

Winebrenner Science Building: Winebrenner Science Building, Corridor

**014-1. Poster Presentation and Judging: Anthropology, Conservation Ecology, Freshwater Science, Geoscience, Mathematics and Computer Science, Neuroscience, Physics and Engineering, Plant Biology, STEM Education, Terrestrial Ecology and Management**

Texas Academy of Science Annual Meeting  
Poster Session

**014-2. Conservation Ecology Poster Session**

Conservation Ecology

Poster Session

Participants:

Aquatic habitat survey for the Jollyville Plateau salamander (*Eurycea tonkawae*), a threatened endemic of Central Texas. Sean Rangel, Concordia University Texas; Courtney Findley, Concordia University; Alyssa Kaylynn Olivarez, Concordia University Texas; Mary Kay Johnston, Concordia University Texas

Carolina wren (*Thryothorus ludovicianus*) nesting success in urban and rural habitats Gabriel Alexander Barragan, Sam Houston State University; Diane Neudorf, Sam Houston State University

Flight Initiation Distance in Eastern Fox Squirrels (*Sciurus niger*) Varies with Threat Assessment in Urban and Rural Environments. Krista Joy Ward, Stephen F. Austin State University

Invasive Plant Impact On Tadpole Survivability Joshua Vincent Medovich, Schreiner University

The Effects of the Reintroduction of Native Grasses on Native Bird Populations in West Texas Francisco A Velasco, Hardin Simmons University; Bryson T Holcomb, Hardin Simmons University; Kayli A Bragg, Hardin Simmons University; Wendi K Wolfram, Hardin Simmons University

The Infection of the Protozoan Parasite, *Ophryocystis elektroscirrha*, in the Monarch Butterfly, *Danaus plexippus*, across Central Texas. Brad Burden, Texas A&M University - Central Texas; Jackelyn Ferrer-Perez, Fort Hood AIM Program; Charlie Plimpton, Fort Hood AIM Program; Chelsea Blauvelt, Fort Hood AIM Program; Laura Weiser Erlandson, Texas A&M University - Central Texas

**014-3. Freshwater Science Poster Session**

Freshwater Science

Poster Session

Participants:

Bullseye! Hitting the target on primer optimization Shellsea

Elizabeth Miller, Southwestern University; Lauren Elizabeth Muskara, Southwestern University; Matthew A. Barnes, Texas Tech University; Romi L Burks, Southwestern University

Determining the effect of agricultural pollutant accumulation on Guadalupe river water quality Dalton Rollins Reid, Schreiner University; Jacob Vargas, Schreiner University

Evaluating the health of saline lakes via environmental DNA analysis of microbial communities Matthew Owen Jones, Texas Tech University; Kristen Heath, Texas Tech University; Warren C Conway, Texas Tech University; Matthew A. Barnes, Texas Tech University

Highway to shell: Troubleshooting methods of genetic detection and identification in two invasive species, *Cipangopaludina chinensis* and *C. japonica* Nicole Kelly, Southwestern University; Shannon Odell, Southwestern University; Hannah Winkler, Southwestern University; Shannon Walsh, Southwestern University; Russ Minton, Gannon University; Romi L Burks, Southwestern University

Predicting East Texas freshwater mussel distributions using current and future climate data Kinza Iftikhar Ashraf, University of Texas at Tyler; Ashley D Walters, US Forrest Service Rocky Mountain Research Station; David Ford, EcoAnalysts; Marsha G Williams, University of Texas at Tyler; Neil B Ford, University of Texas at Tyler; Lance R Williams, University of Texas at Tyler; Joshua A Banta, University of Texas at Tyler

The effect of Independence Creek inflow on Pecos River water quality Susan Aina, Midland College

Tracking invasives in Texas: A comparison of spatial distribution of invasive fish over the last decade Kaylei Diane Chau, Environmental Institute of Houston - UHCL

**014-4. Geosciences Poster Session**

Geosciences

Poster Session

Participant:

Structural Analysis of Barite Precipitation in Porous Media Bruce Nicholas Lomeli, Department of Physics, The University of Texas at El Paso; Jose Leo Banuelos, Department of Physics, The University of Texas at El Paso; Vitalii Starchenko, Geochemistry and Interfacial Sciences, Oak Ridge National Laboratory; Gernot Rother, Geochemistry and Interfacial Sciences, Oak Ridge Natinoal Laboratory

**014-5. Neuroscience Poster Session**

Neuroscience

Poster Session

Participants:

Characterization of ferroptosis inductors in neuronal cells Elaine Michelle Hollibaugh, UTSA; George Perry, UTSA; German Plascencia-Villa, UTSA; Leslie Michelle Fuentes, University of Texas at San Antonio

Characterizing the role of autophagy gene product BEC-1 in neuronal longevity in the model organism *Caenorhabditis elegans* Nicholas Ashley, St. Edward's University; Andrea Holgado, St. Edward's University

Exercise precludes salt craving and fat consumption in

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satisfied female athlete *Gracia Sebastiao, Presenter*

Initial studies examining bisphenol S effects on hippocampal neurons *Amber S Lancaster, Texas Lutheran University; Danielle D Grove, Texas Lutheran University*

Salt addiction in male satisfied athlete possibly explained by preparation of home-made food less salty than restaurant and processed food. *Aaron white, Wayland Baptist University*

Study of neuronal toxicity of amyloid-beta aggregates conjugated with copper ions *Leslie Michelle Fuentes, University of Texas at San Antonio; Elaine Michelle Hollibaugh, UTSA; German Plascencia-Villa, UTSA; George Perry, UTSA*

Zebrafish as a model for nicotine cessation *Norma Perez-Garcia, The University of Texas at Tyler; Maria Alejandra Rivero, The University of Texas at Tyler; Amanda Solorza, The University of Texas at Tyler; Ayman K Hamouda, The University of Texas at Tyler; Brent Bill, University of Texas at Tyler*

#### 014-6. Physics and Engineering Poster Session

Physics and Engineering

Poster Session

Participant:

Novel Analytical Technique for Dendritic Microstructures of Directionally Solidified Alloys and Synthesis of Alloy Fabrication Protocols to Optimize Physical Properties *Arman Sharma, The Academy of Science and Technology*

#### 014-7. Plant Biology Poster Session

Plant Biology

Poster Session

Participants:

At the root of it: Investigating the effects of noise pollution on directional root growth *Shayna Marie Engdahl, St. Edward's University; Molly Williams, St. Edward's University*

Bryophyte abundance on *Liquidambar styraciflua* *Teslin Chaney, Stephen F. Austin State University*

Chlorophyll content and net photosynthesis in an intercropping and crop rotation system with *Zea mays* and *Medicago sativa* *Samuel Kenyon, St. Edward's University Student*

Comparing mesh traps against standard traps to avoid the capture of *Tamarixia radiata*, a biological control organism of the ACP *Gisel Garza, The University of Texas-Rio Grande Valley; Genoveva Carriles, Co-Author; Teresa Feria Arroyo, Associate Professor*

Dendrochronological suitability and climate sensitivity of *Quercus mohriana* in the Texas Panhandle *William R. Watkins III, Wayland Baptist University; Sarah A. Macha, Wayland Baptist University; Matthew S. Allen, Wayland Baptist University*

Discovering microbial networks in plant microbiomes *Lauren Yancy, St. Edward's University; Dr. Charles Hauser, St. Edwards*

Effect of nitrate supplementation and input frequency on lipid production in *Chlorella vulgaris* *Cherokee Rivera Chatterton, Concordia University; Ashleigh Wostarek,*

*Concordia University; Lauren Shuffield, Concordia University; Mary Kay Johnston, Concordia University Texas*

Range extension for the rare sedge *Schoenoplectiella erecta* *Mark Gustafson, Texas Lutheran University; Alan Lievens, Texas Lutheran University; George Yatskievych, Billie L. Turner Plant Resources Center, University of Texas at Austin*

Soil carbon amendments: Vireo Habitat Restoration approach *Serena Lynn Gibbs, St. Edward's University; Dr. Charles Hauser, St. Edwards*

The evolutionary origins of *Mentzelia bartonioides* (LOASACEAE) *Destiny J. Brokaw, Abilene Christian University; Joshua Michael Brokaw, Abilene Christian University*

#### 014-8. Terrestrial Ecology and Management Poster Session

Terrestrial Ecology and Management

Poster Session

Participants:

Altered landscapes: how rapidly do soils change? *Megan Davis, University of the Incarnate Word; David Starkey, University of the Incarnate Word*

Burrow Occupancy in Relation to Territoriality *Maclin Miller, Schreiner University; Dominique Nicole Muniz, Schreiner University; Abigail Rose Garcia, Schreiner University*

Caudates as prey: Predator diversity and size-relationship patterns *Kasey L. Jobe, Department of Biology, Stephen F. Austin State University; Carmen G. Montaña, Department of Biological Science, Sam Houston State University; Christopher Schalk, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University*

Comparison of tracking tubes and camera traps for assessment of relative abundance of small mammals *Madison Alexander, East Texas Baptist University; Ariana Lopez, East Texas Baptist University; Troy A. Ladine, East Texas Baptist University*

Host plants of the Lepidoptera of the Coastal Bend, Texas *Richard Patrock, Dept. of Biological and Health Sciences, Texas A&M University-Kingsville*

Prey composition of Barn Owl (*Tyto alba*) pellets from three different habitats in the Southern High Plains, Texas *Evelynn Simmons, Wayland Baptist University; Andrew Kasner, Wayland Baptist University*

Response in activity patterns of white-tailed deer (*Odocoileus virginianus*) to lunar cycles and cloud cover *Lindsey Settles, East Texas Baptist University; Troy A. Ladine, East Texas Baptist University*

Tardigrades in Texas: Fifth Graders add a New Record for the State *Hannah Catherine Cotten, Education; William R. Miller, Baker University*

The effects of urbanization and habitat density on alarm call propagation in Carolina Wrens (*Thryothorus ludovicianus*) *Stephen Scribner, Sam Houston State University*

Use of landscape shrubs by mammals *Hunter Barnes, East Texas Baptist University; Troy A. Ladine, East Texas Baptist University*

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**014-9. Mathematics and Computer Science Poster**

**Session**

Mathematics and Computer Science

Poster Session

Participants:

Dynamic Fourier Technique Applied to Discriminate Between Seismic Signals from Natural Earthquakes and Mining Explosions *Md Al Masum Bhuiyan, The University of Texas at El Paso; Maria C. Mariani, The University of Texas at El Paso; Osei Kofi Tweneboah, The University of Texas at El Paso; Hector G. Huizar, The University of Texas at El Paso*

Estimating the volatility of geophysical time series by using stochastic volatility models *Osei Kofi Tweneboah, The University of Texas at El Paso; Md Al Masum Bhuiyan, The University of Texas at El Paso; Hector G. Huizar, The University of Texas at El Paso; Maria C. Mariani, The University of Texas at El Paso*

Optimal corrections to slam light shifts in human circadian rhythms using light and melatonin perturbations *Carrie Fulton, Schreiner University*

Optimizing performance using mathematical models for circadian rhythms *Tiara Hendricks, Schreiner University; Samuel Brice, Schreiner University*

**015. Biomedical Sciences Oral Session 2 and Section**

**Meeting**

Biomedical Sciences

Paper Session

4:30 to 5:45 pm

*Winebrenner Science Building: Floor first - 121*

Participants:

4:30 Novel Therapeutic Organotin compound against *Leishmania major* *Itzel Amacalli Tejada, University of Texas at El Paso; Keith H. Pannell, the university of texas at el paso; Rosa Maldonado, University of Texas at El Paso*

4:45 Pathobiology and Therapy of Acute Myeloid Leukemia with KLF4 Gene *Abraham Fausto Jornada Cooper, Howard Payne University*

4:30 Survey of Wild Turkeys for reticuloendotheliosis virus *Faith Josephine Cox, Tarleton State University1010*

4:45 Toxicity Profile and Localization of Virus Like Particles (VLPs) in *Danio rerio* *Bridget Fitzgerald, University of Texas at Tyler; Olivia Brandenburg, University of Texas at Tyler; Baylie Catrett, University of Texas at Tyler; J. Michael King, University of Texas at Tyler; Dustin Patterson, University of Texas at Tyler; Brent Bill, University of Texas at Tyler*

5:00 Biomedical Sciences Section Meeting *Joni H Ylostalo, University of Mary Hardin-Baylor*

**016. Terrestrial Ecology and Management Oral Session 2 and Section Meeting**

Terrestrial Ecology and Management

Paper Session

4:30 to 6:30 pm

*Winebrenner Science Building: Floor first - 123*

Participants:

4:30 Mosquito Ecology and Nectar Preferences *Ben Sloan, Austin College; Anusha Jacob, Austin College; Loriann Garcia, Austin College*

4:45 Novel ecosystems correlate with high biodiversity in urban areas *Damari Anderson, Alamo Colleges; Eric Nathan Madrid, Northwest Vista College*

5:00 Survey and life history of bee fly parasitoids (Diptera: Bombyliidae) of Hymenoptera within Brewster and Jeff Davis counties of Texas *Lauren G Garrett, Sul Ross State University; Chris M Ritzi, Dept of BGPS, SRSU*

5:15 Monitoring of Three Biocontrols for Salt Cedar in the Trans Pecos Texas and Southeastern New Mexico *Chris M Ritzi, Dept of BGPS, SRSU*

5:30 Section Meeting Terrestrial Ecology and Management *Richard Patrock, Dept. of Biological and Health Sciences, Texas A&M University-Kingsville*

**017. Systematics and Evolutionary Biology Oral Session and Section Meeting**

Systematics and Evolutionary Biology

Paper Session

4:30 to 5:00 pm

*Winebrenner Science Building: Floor second - 218*

Participants:

4:30 Visual communication in Gray Treefrog (*Hyla versicolor*): are yellow leg patches sexually selected? *Taylor Nicole Black, Stephen F. Austin State University; Jennifer Gumm, US Fish and Wildlife*

4:45 Systematics and Evolutionary Biology Section Meeting *Simon Scarpetta, University of Texas at Austin*

**018. Mathematics and Computer Science Oral Session and Section Meeting**

Mathematics and Computer Science

Paper Session

4:30 to 5:30 pm

*Winebrenner Science Building: Floor second - 219*

Participants:

4:30 A Toy Problem and it's Twisted Solution *Nicholas Alexander Petela, Tarleton State University; Randi Brianna Kelleher, Tarleton State University; Jaryd Stone Domine, Tarleton State University*

4:45 Math vs. Gerrymandering *Preston Ward, Tarleton State University*

5:00 Predicting the Evolution of the Spotted Owl Population *William Rommel Serrano, Sul Ross State University*

5:15 Mathematics and Computer Science Section Meeting *Scott R. Franklin, Wayland Baptist University*

**019. Geosciences Oral Session and Section Meeting**

Geosciences

Paper Session

4:30 to 6:30 pm

*Winebrenner Science Building: Floor second - 220*

Participants:

4:30 Development of rill marks on washover fans, on Bryan

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- Beach, Freeport, Texas *Russell LaRell Nielson, Stephen F. Austin State University*
- 4:45 Modeling high resolution soil organic matter profiles: insights into soil carbon stabilization *Lily Serach, The University of Texas at Austin*
- 5:00 Sedimentology analysis of the source of the Lanana Creek sediments in Nacogdoches, Texas *Jessica L. O'Neill, Stephen F. Austin State University; Russell LaRell Nielson, Stephen F. Austin State University*
- 5:15 The Pleistocene Capybaras of Texas *Pershing Darrow Gervais, Liva Nova PLC, Houston TX; Camille Gervais, League City Intermediate School; Jon Alan Baskin, Texas A&M-Kingsville*
- 5:30 The rise, fall and resurrection of Caplen, Texas: 10 years after Hurricane Ike *James Westgate, Lamar University*
- 5:45 Section Meeting Geoscience *Erin M Keenan Early, University of Texas at Austin*

**020. Freshwater Science Oral Session and Section**

**Meeting**

Freshwater Science

Paper Session

4:30 to 6:30 pm

FLC: Floor second - 221

Participants:

- 4:30 A snail out of water: Apple snail detection along Oyster Creek (Missouri City/Sugar Land, TX) *Lauren Elizabeth Muskara, Southwestern University; Shellsea Elizabeth Miller, Southwestern University; Matthew A. Barnes, Texas Tech University; Romi L Burks, Southwestern University*
- 4:45 Determining the specific status of an unusual, phreatic, Texas cavesnail (Mollusca; Gastropoda; Hydrobiidae) *Dominique Alvear, University of Texas Rio Grande Valley; Pete Diaz, U. S. Fish and Wildlife Service; Randy Gibson, U. S. Fish and Wildlife Service; Ben Hutchins, Texas Parks and Wildlife; Benjamin Schwartz, Texas State University; Kathryn Perez, University of Texas Rio Grande Valley*
- 5:00 The effect of cheliped function and color on male mating success in the red swamp crayfish, *Procambarus clarkii* *Hayden Hays, Sam Houston State University; Diane Neudorf, Sam Houston State University*
- 5:15 Unraveling the mystery: Genetic identification of non-native Asian Mysterysnails, *Cipangopaludina chinensis* and *C. japonica* *Hannah Winkler, Southwestern University; Nicole Kelly, Southwestern University; Shannon Odell, Southwestern University; Shannon Walsh, Southwestern University; Russ Minton, Gannon University; Romi L Burks, Southwestern University*
- 5:30 Use of diatom communities in aquatic biological assessments *Cynthia Hobson, Texas Parks and Wildlife Dept*
- 5:45 Section Meeting Freshwater Science *Matthew A. Barnes, Texas Tech University*

**021. STEM Education Oral Session 2 and Section**

**Meeting**

STEM Education

Paper Session

4:30 to 5:45 pm

FLC: 222

Participants:

- 4:30 Controversial Issues in Biology: a Senior-Level Assessment *Kathleen Wood, University of Mary Hardin-Baylor*
- 4:45 Design and implementation of activities to improve student performance on foundational concepts in biochemistry *Mary Kopecki-Fjetland, St. Edward's University*
- 5:00 Development of an engaging and rigorous microbiology online course *Joni H Ylostalo, University of Mary Hardin-Baylor*
- 5:15 Identifying Unknowns: Real Science for Middle-School Students *Steven Keith Mittwede, Covenant Classical School*
- 5:30 STEM Education Section Meeting *Phillip G Greco, Temple College*

**022. Marine Science Oral Session and Section Meeting**

Marine Science

Paper Session

4:30 to 6:30 pm

FLC: Floor first - Jackson A

Participants:

- 4:30 A longitudinal study of fish assemblages on the Mesoamerican Barrier Reef, in Roatán, Honduras *Scheila Rene Corujo, Texas Tech University*
- 4:45 Detection and Comparison of Bacterial Pathogens in the American Oyster in South Texas Waters *Mohammad Maruf Billah, The University of Texas Rio Grande Valley; MD Saydur Rahman, University of Texas Rio Grande Valley; Wendy Guerra, The University of Texas Rio Grande Valley; alehli silguero, The University of Texas Rio Grande Valley*
- 5:00 Determination of iron (II) and iron (III) concentrations in coral reef waters at roatan, honduras; august 18 – 25, 2018 *Patrick Edward Mileski, Midland College*
- 5:15 Impacts of Global Warming on Gonadal Functions, Heat Shock Protein Expression, and Cellular Apoptosis in Atlantic Sea Urchin *Jackson Brooks Johnstone, University of Texas Rio Grande Valley; MD Saydur Rahman, University of Texas Rio Grande Valley*
- 5:30 Lunar Reproductive Rhythms of Atlantic Sea Urchin in the Southern Gulf of Mexico *Eleazar Hernandez, University of Texas Rio Grande Valley; Omar A. Vázquez, University of Texas Rio Grande Valley; André Torruco, University of Texas Rio Grande Valley; MD Saydur Rahman, University of Texas Rio Grande Valley*
- 5:45 The Effects of Prozac on Feeding Behaviors and Reproductive Success in a Sex Role-Reversed Saltwater Fish *Dylan Joseph Wichman, Saint Edward's University; Samuel Alexander Cornelius, St. Edwards university; Raelynn Deaton Haynes, St. Edward's University; Sunny Scobell, St. Edward's University*
- 6:00 Effects of elevated carbon dioxide level on bioactive metabolite accumulation in freshwater and marine cyanobacteria *I-Shuo Huang, Texas A&M Corpus*

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*Christi; Xiping Hu, Texas A&M Corpus Christi; Paul V. Zimba, Texas A&M Corpus Christi*

6:15 Section Meeting Marine Science *Stephanie Lockwood, Texas Tech University*

**023. Chemistry and Biochemistry Oral Session 3 and Section Meeting**

Chemistry and Biochemistry

Paper Session

4:30 to 6:30 pm

FLC: Floor first - Jackson B

Participants:

- 4:30 Assessing the Immunotoxicity of RNA Nanorings with Varied Functional Orientations *Yelixza Idalyss Avila, Sul Ross State University; Morgan Chandler, University of North Carolina at Charlotte; Kirill A. Afonin, University of North Carolina at Charlotte*
- 4:45 Designing a Simple Catalytic System for C-H Bond

Oxidation *Roberto Napoleon Silva Villatoro, Stephen F. Austin State University; Randy J. Romero, Stephen F. Austin State University; John Brannon Gary, Stephen F. Austin State University*

5:00 Development of Synthetic Carbohydrate Biomimetics as Urinary Tract Infection (UTI) Prophylactics *Juan C. Mora, Sul Ross State University; David J Leaver, Sul Ross State University*

5:15 Implications of RecA in Tuberculosis Drug Resistance *Kyle Rickman, Wayland Baptist University; Robert Moore, Wayland Baptist University*

5:30 Investigating Programming of a Virus Like Particle for Cell Specific Chemotherapy *Savannah Marie Seely, The University of Texas at Tyler*

5:45 Molecular Analysis of *Eryngium Foetidum* L. *Paulo Bryant Flores, Howard Payne University*

6:00 Section Meeting Chemistry and Biochemistry *Brian Barngrover, Stephen F. Austin State University*

**SATURDAY, MARCH, 2**

**024. Past Presidents Breakfast**

Texas Academy of Science Annual Meeting

7:00 to 8:00 am

Mabee Center: Balcony

**025. Poster Presentation and Judging: Biomedical, Cell and Molecular Biology, Chemistry and Biochemistry, Marine Science, Systematics and Evolutionary Biology**

8:00 to 9:30 am

Winebrenner Science Building: Winebrenner Science Building, Corridor

**025-1. Poster Presentation and Judging: Biomedical, Cell and Molecular Biology, Chemistry and Biochemistry, Marine Science, Systematics and Evolutionary Biology**

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Poster Session

**025-2. Biomedical Sciences Poster Session**

Biomedical Sciences

Poster Session

Participants:

Antitrypanosomal activity of novel  $\alpha,\beta$ -unsaturated ketones and 15 N-aryl derivatives *Karsten Dieter Amezcua, UNIV OF TEXAS-EL PASO; Felipe Rodriguez, UNIV OF TEXAS-EL PASO; Jonathan Dimmock, University of Saskatchewan; Rosa Maldonado, University of Texas at El Paso*

Delivery of Virus Like Particles (VLPs) in *Danio rerio* *Baylie Catrett, University of Texas at Tyler; Bridget Fitzgerald, University of Texas at Tyler; Olivia Brandenburg, University of Texas at Tyler; J. Michael King, University of Texas at Tyler; Dustin Patterson, University of Texas at Tyler; Brent Bill, University of Texas at Tyler*

Finding cytotoxic activity of thiadiazole a potential anti-cancer compound on leukemia cell lines *Karla Gabriela Cano Hernandez, The University of Texas at El Paso; Austre Schiaffino, UTEP; Armando Varela, UTEP; Renato Aguilera, UTEP*

*Streptococcus mutans* genotyping from a predominantly Hispanic population in South Texas *Lazaro Tobias, University of Texas Rio Grande Valley; Thomas Eubanks, University of Texas Rio Grande Valley; Kristine Lowe, University of Texas Rio Grande Valley*

NKT cell subsets regulate the cytokine storm during *Francisella tularensis* infection *Leslie Rodriguez, University of Texas at El Paso; Nicole Setzu, University of Texas at El Paso*

Potency and efficacy of peppermint and Thieves® essential oil on *Escherichia coli* and *Staphylococcus aureus* compared to commercial cleaners *Hannah Justice, Howard Payne University*

Potential Impact of Climate Change on the Geographic Distribution of *Aedes albopictus* in Southern Texas *Wendy Westerheide, The University of Texas Rio Grande Valley; Jonathan Kasofsky, Student; Marcos Valdez, Student; Hamaad Gohar, Student; Teresa Feria Arroyo, Associate Professor*

**025-3. Cell and Molecular Biology Poster Session**

Cell and Molecular Biology

Poster Session

Participants:

Components of *Cinnamomum verum* (Cinnamon) and *Salvia officinalis* (Sage) are Cytotoxic to Murine 4T1 Breast Cancer Cells *Makayla Nicholson, Wayland Baptist University; Jai'Cee Tudman, Wayland Baptist University; Adam Reinhart, Wayland Baptist University; Gary Gray, Wayland Baptist University*

Cytotoxic and apoptotic effects of gingerols and shogaols on 4T1 breast cancer and EpH4-ev non-tumorigenic epithelial cell lines *Jai'Cee Tudman, Wayland Baptist*



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University; Makayla Nicholson, Wayland Baptist University; Alana Quackenbush, Wayland Baptist University; Parvin Mirzaei, Center for Biotechnology and Genomics, Texas Tech University; Masoud Zabet-Moghaddam, Center for Biotechnology and Genomics, Texas Tech University; Gary Gray, Wayland Baptist University; Adam Reinhart, Wayland Baptist University

Detection of Parasite DNA in a Metagenome Sample Chloe Herman, St. Edwards University; Dr. Charles Hauser, St. Edwards

Estradiol May Not be Anorexigenic in Hibernators Lisha Susan Jacob, Austin College; Taqwa Armstrong, Austin College; Monica Martinez, Austin College

Looking for genetic superheroes: Genetic background affects mutant phenotypes in *Drosophila melanogaster* Maria Jose Cardenas Muedano, St. Edward's University; Lisa M. Goering, St. Edward's University

Screening of students' noses for *Staphylococcus* Loan Yen Vu, Ms.

The Effect of Dietary Protein on Parkinson's Disease Symptoms in *Drosophila melanogaster* Kaitlyn Matthey, St. Edward's University; Maria Jose Cardenas Muedano, St. Edward's University; Lisa M. Goering, St. Edward's University

Using bioinformatics approaches to identify differentially expressed genes in Alzheimer's disease Adriana Calderone, University of Mary Hardin-Baylor; Joni H Ylostalo, University of Mary Hardin-Baylor

#### 025-4. Chemistry and Biochemistry Poster Session

##### Chemistry and Biochemistry

##### Poster Session

##### Participants:

Acetaldehyde Determination in Home Distilled Liquors and Commercial Liquors Renae Elizabeth Gosnell, Texas A&M University - Central Texas; Andrew Rhiner, Texas A&M University- Central Texas; Randy Stoneroad, Texas A&M University- Central Texas; Linh Pham, Texas A&M University- Central Texas; Coady Lapierre, Texas A&M University- Central Texas

Analysis of the Amino Acid Content in Beef, Chicken and Turkey Bone Broth Max Shaw, West Texas A&M University; Nick Flynn, West Texas A&M University

Assessment of drinking water quality for metals in the eight natural springs of Manitou Springs, Colorado, using inductively coupled plasma-mass spectroscopy Elijah Edward Miranda, University of the Incarnate Word; Yesenia L Bass, University of the Incarnate Word; Jason Gerding, University of the Incarnate Word; Alakananda Ray Chaudhuri, University of the Incarnate Word; Edward E Gonzalez, University of the Incarnate Word

Computational Analysis of Silver (II) NHC Complex Allison Marie McKee, University of Houston-Downtown

Construction and Evaluation of Low-Volume Flow through Asymmetric Membranes Devices for Gas Exchange Payton Alexia Wasemiller, University of Texas at Arlington; C. Phillip Shelor, Research Assistant Professor; Purnendu K Dasgupta, University of Texas at Arlington

Developing a Multifunctional Treatment Solution of

TMPyP/DHN for the Treatment of Alzheimer's Disease. Matibur Rahaman Zamadar, Stephen F. Austin State University; Jacob Herschmann, Stephen F. Austin State University

Effect of Metal Ions on Photosensitized Singlet Oxygen Generation for Photodegradation of Polyaromatic Hydrocarbon Derivatives and Photoinactivation of *Escherichia coli* Aqeeb Ali, SFASU Chemistry and Biochemistry Department; Matibur Rahaman Zamadar, Stephen F. Austin State University

Electrochemical Determination of A Silver Intermediate Milka O Montes, UT Permian Basin; Michael Hayes, UT Permian Basin

Encapsulation of Proteins inside the HK97 VLP Bubacarr Ceessay, University of Texas at Tyler; Dustin Patterson, University of Texas at Tyler

Functional Significance of Point Mutations in Hsp27 that Lead to Neurodegenerative Disease Maria Iziar Grajeda, University of Texas at EL Paso

Genomic Analysis of *C. acetobutylicum* for its Potential as a Biofuel Source Sarah Reeder, University of Texas at Tyler

Influence of Composted Wastewater Sludge (CWS) on Cadmium and Manganese Uptake by Radish (*Raphanus sativus* L.) OLUWADAMILOLA OLASUMBO FATERU, Stephen F. Austin State University; Kefa K Onchoke, Stephen F. Austin State University

Multidimensional Analysis of Texas Home Distilled Liquors Andrew Rhiner, Texas A&M University- Central Texas; Randy Stoneroad, Texas A&M University- Central Texas; Coady Lapierre, Texas A&M University- Central Texas; Linh Pham, Texas A&M University- Central Texas

Quantification of Hydrolyzable Tannins in Acorns from Different Species of Oak Trees (*Quercus* sp.) in East Texas Russell J. Franks, Stephen F. Austin State University; Sarah E. Browning, Stephen F. Austin State University

Strain Management in an Extended Series of Lanthanide 2-Sulfonatoterephthalates,  $[Ln(tpso3)(h2o)2]n$ , with Ln = ce - lu, except pm Harry Maslen, Angelo State University

Synthesis and Structural Study of (3-Chloropropyl)Triphenyltin  $[Ph_3Sn(CH_2)_3Cl]$  and (3-Chloropropyl)Diphenyltin Chloride  $[Ph_2ClSn(CH_2)_3Cl]$  Henk Steven van den Bogaard, The University of Texas at El Paso

The Design of Irreversible Inhibitors of Sterol C24-Methyltransferase (24-SMT) as Potential Therapeutics to Treat Parasitic Protozoan Infections Luis Payan, Sul Ross State University; David J Leaver, Sul Ross State University

Toward the Synthesis of a Macroinitiator and its use in the Preparation of Poly(styrene-*b*-methacrylonitrile): An Undergraduate Laboratory Project in Polymer Chemistry Aaron Scoggins, The University of Texas at Tyler; Whitney Romero, The University of Texas at Tyler; Neil Gray, The University of Texas at Tyler; Sean Butler, The University of Texas at Tyler

Using Virtual Screening to Identify Possible Inhibitors of S-adenosylmethionine in *Burkholderia pseudomallei* Marie Pearce, University of Texas at Austin

#### 025-5. Marine Science Poster Session

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Poster Session

Participants:

Abundance and frequency of disease and bleaching in *Xestospongia muta* in Roatán, Honduras *Matthew Wayne Krueger, T.I.D.E.S*

A Methodological Comparison of the Belt Transect and Randell-Robertson Marine Survey Technique for Assessing Coral Health in Roatán, Honduras *Brittlinn O'Quinn, McLennan Community College; Madison Knight, McLennan Community College*

A one day continuous water quality record along the Lower Laguna Madre between the Brazos-Santiago Pass and the Arroyo Colorado *Estefania Andrade, The International Baccalaureate Program at Lamar Academy; Fathima Elizondo, The International Baccalaureate Program at Lamar Academy; Alexa Dezenea, The International Baccalaureate Program at Lamar Academy; Josiah Cabeza, Classical Conversations of Edinburg, TX; Itzel Salas, Classical Conversations of Edinburg, TX; Alfredo Salas, Classical Conversations of Edinburg, TX; Destiny Garcia, The International Baccalaureate Program at Lamar Academy; Julian Cabeza, Classical Conversations of Edinburg, TX; Daniel Santos, The International Baccalaureate Program at Lamar Academy; Sara Maldonado, The International Baccalaureate Program at Lamar Academy; Joseph Kowalski, The University of Texas Rio Grande Valley*

Faunal diversity along a salinity gradient, Lower Laguna Madre, Texas *Fathima Elizondo, The International Baccalaureate Program at Lamar Academy; Daniel Santos, The International Baccalaureate Program at Lamar Academy; Julian Cabeza, Classical Conversations of Edinburg, TX; Alfredo Salas, Classical Conversations of Edinburg, TX; Itzel Salas, Classical Conversations of Edinburg, TX; Josiah Cabeza, Classical Conversations of Edinburg, TX; Estefania Andrade, The International Baccalaureate Program at Lamar Academy; Sara Maldonado, The International Baccalaureate Program at Lamar Academy; Alexa Dezenea, The International Baccalaureate Program at Lamar Academy; Destiny Garcia, The International Baccalaureate Program at Lamar Academy; Joseph Kowalski, The University of Texas Rio Grande Valley*

Frequency and Disease Prevalence in Boulder Corals in Association with Burrowing Annelids in Roatan, Honduras. *Terri Cox, Texas Tech University Waco*

Genetic and morphological characterization of internal parasites of the Gulf pipefish, *Syngnathus scovelli* *Samuel Alexander Cornelius, St. Edwards university; Daniel A Gold, St. Edwards university; Sunny Scobell, St. Edward's University*

Prevalence and Frequency of Encrusting Millepora on Octocorals on the Mesoamerican Barrier Reef in Roatán, Honduras *Shirley Rose Stewart, McLennan Community College*

Territoriality and aggressive behavior of dusky damselfish, *Stegastes adustus*, in Roatán, Honduras *Maria Lozada, McLennan Community College*

The use of optical brighteners to track water quality in the Arroyo Colorado (Texas) drain *Sara Maldonado, The*

*International Baccalaureate Program at Lamar Academy; Alexa Dezenea, The International Baccalaureate Program at Lamar Academy; Alfredo Salas, Classical Conversations of Edinburg, TX; Itzel Salas, Classical Conversations of Edinburg, TX; Fathima Elizondo, The International Baccalaureate Program at Lamar Academy; Daniel Santos, The International Baccalaureate Program at Lamar Academy; Estefania Andrade, The International Baccalaureate Program at Lamar Academy; Josiah Cabeza, Classical Conversations of Edinburg, TX; Julian Cabeza, Classical Conversations of Edinburg, TX; Destiny Garcia, The International Baccalaureate Program at Lamar Academy; Joseph Kowalski, The University of Texas Rio Grande Valley*

Community respiration and primary productivity patterns along a salinity and nutrient gradient in the Lower Laguna Madre of Texas *Fathima Elizondo, The International Baccalaureate Program at Lamar Academy*

**025-6. Systematics and Evolutionary Biology Poster**

**Session**

Systematics and Evolutionary Biology

Poster Session

Participants:

Codon Bias: Do turtles show a preference? *Vivian Nguyen, University of the Incarnate Word; Brittany Muller, University of the Incarnate Word; David Starkey, University of the Incarnate Word*

Cytochrome B Sequences to Determine Clade Assemblages of *Lonchophylla* Species (Phyllostomidae: Lonchophyllinae). *Austin Biddy, Texas Tech University*  
*Estigmene acrea* Crossing Dunes with "Island Hopping" Technique *Alexander G Martinez, Sul Ross State University*

Range extension of *Ashmunella carlsbadensis*, the Guadalupe Woodlandsnail, and its relationship with other *Ashmunella*. *Alison Schofield, University of Texas Rio Grande Valley; Ben Hutchins, Texas Parks and Wildlife; Jeff Nekola, University of New Mexico; Kathryn Perez, University of Texas Rio Grande Valley*

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**026. Graduate Competition Oral Session**

Graduate Student Paper Competition  
Paper Session

10:00 to 11:40 am

*Mims Theater Hall: Mims Theater Hall*

Participants:

- 10:00 Assessing species-specific responses to forest restoration interventions in the Lower Rio Grande Valley *Faeqa Mohsin, The University of Texas Rio Grande Valley; Kimberly Wahl-Villarreal, US Fish and Wildlife Services; Willemijn Stoffels, Land Life Company; Gautham Ramachandra, Land Life Company; Tom Janmaat, Land Life Company; Bradley Christoffersen, The University of Texas Rio Grande Valley*
- 10:20 Comparison of snail communities of the lower Rio Grande Valley of Texas in urban and wild areas *Briante Najev, University of Texas Rio Grande Valley; Alison Schofield, University of Texas Rio Grande Valley; Jeff Nekola, University of New Mexico; Ben Hutchins, Texas Parks and Wildlife; Kathryn Perez, University of Texas Rio Grande Valley*
- 10:40 Data collection methods and species traits influence species distribution model predictions *Elizabeth Roesler, Texas Tech University; Timothy B. Grabowski, University of Hawai'i at Hilo; Matthew A. Barnes, Texas Tech University*
- 11:00 Miocene modernization of North American lizard fauna *Simon Scarpetta, University of Texas at Austin*
- 11:20 Using diceCT as a novel approach to the comparative anatomy of degenerate neural structures *Ruben Tovar, The University of Texas; Paul Gignac, Oklahoma State University Center for Health Sciences*

**027. Lunch**

Texas Academy of Science Annual Meeting  
12:00 to 1:30 pm  
*Mabee Center: Cafeteria Area*

**028. Section Chairs post Session Meeting**

Texas Academy of Science Annual Meeting  
1:30 to 2:00 pm  
*Winebrenner Science Building: Floor first - 121*

**029. Science Jeopardy**

Texas Academy of Science Annual Meeting  
1:30 to 2:30 pm  
*Mims Theater Hall: Mims Theater Hall*

**030. TAS Business Meeting**

Texas Academy of Science Annual Meeting  
Business Meeting  
2:30 to 3:00 pm  
*Mims Theater Hall: Mims Theater Hall*

**031. Texas Outstanding Educator Award and Lecture**

Texas Academy of Science Annual Meeting  
Plenary Session  
3:00 to 3:30 pm  
*Mims Theater Hall: Mims Theater Hall*

**032. Distinguished Texas Scientist Award and Lecture**

Texas Academy of Science Annual Meeting  
Plenary Session  
3:30 to 4:00 pm

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