

THE SYMPOSIUM FOR

**STUDENT**

**INNOVATION, RESEARCH,**

*and*

**CREATIVE ACTIVITIES**



**APRIL 25, 2025**

**UNIVERSITY CENTER**



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**RESEARCH &  
INNOVATION**

Dear Students, Colleagues, and Friends,

Welcome to the 2025 Symposium for Student Innovation, Research, and Creative Activities!

Today, we come together to celebrate curiosity, creativity, and the bold pursuit of new ideas. This symposium is more than just an event—it is a space for discovery, dialogue, and the exchange of knowledge that pushes boundaries and sparks innovation.

We extend our deepest gratitude to all who have contributed to the success of this symposium. Your support and dedication create opportunities for students to explore, challenge assumptions, and grow as scholars and creators.

To all participants—this is your platform to share your insights, connect with peers, and gain fresh perspectives. Dive into discussions, embrace new challenges, and make the most of this opportunity. We hope this experience ignites your passion and fuels your journey toward future discoveries!

Sincerely,

*Members of the SSIRCA Organizing Committee*

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**Need help? Visit the Q&A Table in the Tejas Lounge for assistance.**

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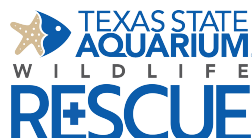
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# Special Thanks to Our Volunteers and Moderators

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Ramadan Abdelrehim	Charles Etheridge	Bozhen Liu	Collin Scarince
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Loretta Battaglia	Benjamin Ghansah	Sadegh Mousavi Kiasary	Christina Stuart
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Fereshteh Billiot	Bob Griffiths	Dung Ngo	Barbara Szczerbinska
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Mikaela Bohem	Jessica Hausladen	Mark Olson	Desiree Thorpe
Josh Boyd	Gina Hawkins	Felix Omoruyi	Syed Izzat Ullah
Robert Bretzing Tungate	Delylah Henry	Dara Orbach	Dugan Um
Marco Cerqueira	David Hill	Tye Payne	Leandra Urrutia
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Luis Espinoza	Boram Lim	Chris Salazar	Liwen Zeng
			Lihua Zuo



# SSIRCA KEYNOTE SPEAKER

April 25, 2025 | 3-4 p.m. | UC Lonestar Ballroom

## Dr. Stuart Firestein

### The Optimism of Scientific Uncertainty

*It may seem odd to pair the words optimism and uncertainty, but Dr. Stuart Firestein will show how in science they are perfect partners.*

Dr. Stuart Firestein is the former Chair of Columbia University's Department of Biological Sciences where his laboratory studies the vertebrate olfactory system, showcasing research of the general principles and mechanisms of signaling and perception in the brain.

Firestein serves as an advisor for the Alfred P. Sloan Foundation's program for the Public Understanding of Science. In 2011 he received the Lenfest Distinguished Columbia Faculty Award for excellence in scholarship and teaching. He is a Fellow of the AAAS, an Alfred Sloan Fellow and a Guggenheim Fellow. He serves as a member of the (visiting) Fractal Faculty at the Santa Fe Institute. At Columbia he is on the Advisory boards of the Center for Science and Society (CSS) and the Presidential Scholars in Society and Neuroscience.

He has published two books on the workings of science for a general audience, *Ignorance, How it Drives Science* and *Failure: Why Science is So Successful*. He is a board member and regular contributor to Nautilus magazine.



# SSIRCA Schedule

April 25, 2025

(All rooms are located in the University Center)

8 a.m. - 1 p.m.	CHECK-IN AND Q&A TABLE OPEN	Tejas Lounge
8:30 - 9:30 a.m.	ORAL PRESENTATIONS	
	AI, Machine Learning, and Data Science	Cayo 210
	Marine Biology, Coastal Ecosystems, and Environmental Health	Copano 216
	Biomedical Research and Human Health	Marlin 317
	Chemistry and Nanotechnology Innovations	Dolphin 306
9:45 - 10:45 a.m.	ORAL PRESENTATIONS & PERFORMANCES	
	Engineering and Technology Solutions	Cayo 210
	Marine Biology, Coastal Ecosystems, and Environmental Health	Copano 216
	Biomedical Research and Human Health	Marlin 317
	Artistic Expressions	Anchor 147 AB
11 a.m. - noon	ORAL PRESENTATIONS & PERFORMANCES	
	Environmental Technology and Monitoring	Cayo 210
	Robotics and Autonomous Systems	Copano 216
	Social Science and Policy	Marlin 317
	Artistic Expressions	Anchor 147 AB
1 - 2:30 p.m.	POSTER PRESENTATIONS & ART GALLERY	Anchor 147 CD
3 - 4 p.m.	SSIRCA KEYNOTE: DR. STUART FIRESTEIN "The Optimism of Scientific Uncertainty"	Lonestar 142
4:10 - 4:30 p.m.	STUDENT ORGANIZATION AWARDS & MIXER	Lonestar 142
4:30 - 5 p.m.	SSIRCA AWARDS CEREMONY	Lonestar 142



# Oral Presentations and Performances

## Session 1 - UC Cayo 210

### AI, Machine Learning, and Data Science

Comparative Analysis of Mel Spectrograms and Short-Time Fourier Transform (STFT) Spectrograms for UAV Audio Detection and Identification Using Deep Learning Models

Sandeep Kumar Amgothu

8:30 - 8:40 a.m.

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Identifying Key Drivers of *Enterococcus* Levels in Texas Coastal Waters Using Machine Learning Techniques

Laura Button; Quincy Walker; Ifeanyi Anyanwu

8:42 - 8:52 a.m.

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Spatiotemporal Analysis of COVID-19 Booster Vaccination Patterns Using Graph Attention and Recurrent Neural Networks

Hossein Naderi

8:54 - 9:04 a.m.

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Nurdle Count – A Solution to Detect Plastic Pellets Using Deep Learning

Khoi Nguyen

9:06 - 9:16 a.m.

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A Time Series Study of the Microbial Community Assemblage at a Coastal Ocean Site Within the Gulf

Mahima Yogesh

9:18 - 9:28 a.m.

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## Session 2 - UC Copano 216

### Marine Biology, Coastal Ecosystems, and Environmental Health

Evolutionary Changes in the Philippines Fishers Over the Past Century

Tykeedrien Burris

8:30 - 8:40 a.m.

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Genetic Identification of Sex Determining Loci in the Red Lionfish, *Pterois volitans*

Katherine Lanoue

8:42 - 8:52 a.m.

---

Biodiversity Patterns Within the Epicenter: Predictive Mapping of Reef-Associated Fish Biodiversity in the Philippines Using Three Decades of Underwater Visual Census Data

Kevin Labrador

8:54 - 9:04 a.m.

## Oral Presentations and Performances

Common Dolphin (*Delphinus delphis*) Swimming Speed Increases in Response to Swim-With-Dolphin Tourism Boat Approaches

Soleil DeLorge

9:06 - 9:16 a.m.

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Effects of Proximity to Industrial Facilities and Depth on the Behavior of Bottlenose Dolphins (*Tursiops truncatus*)

Leala Punjabi

9:18 - 9:28 a.m.

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### Session 3 - UC Marlin 317

#### Biomedical Research and Human Health

WHODUNIT: Who Pooped in Baffin Bay? Sleuthing Out Fecal Pollution with Microbial Source Tracking

Nora Bleth

8:30 - 8:40 a.m.

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Obesity Self-Awareness: Perceptions vs. Reality

Emily Brennan

8:42 - 8:52 a.m.

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Harnessing the Power of Raman Spectroscopy for the Time- and Cost-Effective Detection of Counterfeit Aspirin

Nasanna Henley

8:54 - 9:04 a.m.

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Are Over-the-Counter Antimicrobial Silver-Based Wound Dressings Safe and Reliable?

Kyra Kaiser

9:06 - 9:16 a.m.

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Exploring Mechanisms of Epigenetic Modification by Benzo[A]Pyrene and its Metabolites

Remi Labeille

9:18 - 9:28 a.m.

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### Session 4 - UC Dolphin 306

#### Chemistry and Nanotechnology Innovations

The Stereoisomeric Effects of Diaminocyclohexane (DACH) Counterions on the Self-Assembly of Amino Acid-Based Surfactants (AABSs)

Saylor Blanco

8:30 - 8:40 a.m.

## Oral Presentations and Performances

Solubility and Aggregation Behaviors of Dicarboxylic Mixed Micelle Amino Acid-Based Surfactant Systems

Xitlali Gallegos-Cruz

8:42 - 8:52 a.m.

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Synthetic Procedure and Purification of Novel Bifurcated Amino Acid-Based Surfactants

Angelina Garcia

8:54 - 9:04 a.m.

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Physical Characteristics of Commercially Produced Cationic Surfactants Mixed with Amino Acid-Based Anionic Surfactants

Rita Muniz

9:06 - 9:16 a.m.

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Silt Happens: Diving into the Muddy Waters of the Effects Sediment has on *Orbicella faveolata*

Ryce Hailes

9:18 - 9:28 a.m.

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## Session 5 - UC Cayo 210

### Engineering and Technology Solutions

Microplastic Detection in Images Using Image Processing Techniques

Muhammad Ibrar

9:45 - 9:55 a.m.

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Optimizing Mosquito Trap Placement: A Review of Spatial Techniques and Emerging Technologies

Madhukar Kuchavaram

9:57 - 10:07 a.m.

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Real-Time Eye Tracking for Enhanced Driver and Pedestrian Safety in Modern Vehicles

Zaheer Uddin Shaikh

10:09 - 10:19 a.m.

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Single-Image Landscape Reconstruction Using Voxel-Based and Mesh Techniques

Arjun Damaraju

10:21 - 10:31 a.m.

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IoT Smart Greenhouse

Jared Vieyra

10:32 - 10:42 a.m.

# Oral Presentations and Performances

## Session 6 - UC Copano 216

### Marine Biology, Coastal Ecology, and Environmental Health

Tracing Contaminant Exposure in Bottlenose Dolphins

Makayla Guinn

9:45 - 9:55 a.m.

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The Reef's Antacid: The Comparative Effects of Increased Alkalinity on the Calcification of Two Hawaiian Coral Species

Danielle Lisiecki

9:57 - 10:07 a.m.

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Optimizing Ocean Alkalinity Enhancement: The Effects of Olivine on the Hawaiian Rice Coral

Alexander Oveisi

10:09 - 10:19 a.m.

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DNA Profiling of Preserved Coral Skeletons: A Novel Approach to Biodiversity Assessment

Joseph Garza

10:21 - 10:31 a.m.

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Developing Methods for Cyanobacterial Mat Restoration on Wind-Tidal Flats in South Texas

Zahra Hasan

10:32 - 10:42 a.m.

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## Session 7 - UC Marlin 317

### Biomedical Research and Human Health

Tumor Progression and Pharmacological Intervention: Modeling Immunotherapeutic and Chemotherapy Strategies in Neuroblastoma

Yidong Liao; Kate Brockman; Brian Colburn

9:45 - 9:55 a.m.

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Fabrication of a Nanogold-Based Carrier for a Novel Ferrocene-Derived Anticancer Drug

Lauren Reyna

9:57 - 10:07 a.m.

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How Taking Part in a High-Risk Follow-up Program Impacts Caregiver Quality of Life, Attachment and Postpartum Depression Levels

Anllely Rodriguez-Rivera

10:09 - 10:19 a.m.

# Oral Presentations and Performances

Development of Nanoparticles for Assessing Antimicrobial and Host Modulatory Effects of Bioactive Molecules

Paige Rogers

10:21 - 10:31 a.m.

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Advanced Garment Solutions for Space: Regulating Fluid Shifts with Compression, Vibration, and Thermal Stimulus

Aleena Roy

10:32 - 10:42 a.m.

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## Session 8 - UC Anchor 147 AB

### Artistic Expressions

My Loves

Jacqueline Brown

9:45 - 9:55 a.m.

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As Time Passes By

Kailyn Nelson; Kailyn Nelson; Cameron Pina; Jonathan Donna

9:57 - 10:07 a.m.

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Shed, a Dance Interpretation of a Sculpture Inspired by the Female Form

Caroline Ghiloni; Cassy Castillo; Doris Agard

10:09 - 10:19 a.m.

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Us in the Rubble

Jude Rangel; Isaiah Nicholson; Cloey Hollar

10:21 - 10:31 a.m.

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## Session 9 - UC Cayo 210

### Environmental Technology and Monitoring

Quantifying Human Disturbance on Texas Wind-Tidal Flats

Isabel Nykamp

11:00 - 11:10 a.m.

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Monitoring Groundwater Levels in Different Texan Aquifers Using Satellite Data, Geologic Inputs and Machine Learning

Ahmed Omar

11:12 - 11:22 a.m.

# Oral Presentations and Performances

Correlations Between Heavy Metal and Antibiotic Resistance in Marine Bacteria

Wendy Rangel

11:24 - 11:34 a.m.

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Satellite-Based Monitoring and Mapping of Disaster Risk: A Case Study of the Southern Flood Plain in Pakistan

Mohammad Sohail

11:36 - 11:46 a.m.

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Acoustics of Common Bottlenose Dolphins (*Tursiops truncatus*) Foraging with Trawlers and Along Seawalls

Emily McGhee

11:48 - 11:58 a.m.

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## Session 10 - UC Copano 216

### Robotics and Autonomous Systems

Decoupled Architecture for Testing UAV Swarm Autonomy: A Simulation-Based Approach

Josh Boyd

11:00 - 11:10 a.m.

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Autonomous Self-Maintaining Energy Harvesting Sensing Networks with a Dynamic Gateway for Coastal Monitoring

Ruben Dominguez

11:12 - 11:22 a.m.

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3D Unmanned Traffic Management: Geofencing Airspace in Urban Environments with Orthogonal Vector Geometry

Joshua Garcia

11:24 - 11:34 a.m.

---

Predictive AI Models for Enhancing UAV Obstacle Avoidance in Uncertain Environments

Syed Izzat Ullah

11:36 - 11:46 a.m.

---

Integrating Cognitive Training in a Simulated Unmanned Aerial Systems (UAS) Pilot Training Course

Bailey Miller

11:48 - 11:58 a.m.

# Oral Presentations and Performances

## Session 11 - UC Marlin 317

### Social Science and Policy

Public Opinion on Immigrants' Impact on Crime and Employment

Amy Chamberlain

11:00 - 11:10 a.m.

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TikTok's Influence on Audience Perception of A24's "Midsommar"

Brittney Esqueda

11:12 - 11:22 a.m.

---

Voting and Wellbeing: A Test of Political Science Knowledge and Health

Jameson Tidwell

11:24 - 11:34 a.m.

---

Pews and Politics: A Study of Evangelical and Mainline Protestant Voting Differences

Zachary Watson

11:36 - 11:46 a.m.

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## Session 12 - UC Anchor 147 AB

### Artistic Expressions

Fascination & The Delivery of Cow's Milk

Shameka Cobb; Ryan Perez-Castaneda; Angela Presser; Haley Sturgeon; JinSun Kim

11:00 - 11:10 a.m.

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Poof

Justin Taylor; Angel Purl; Ben Domingue

11:12 - 11:22 a.m.

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Reese's

Gideon Lancaster

11:24 - 11:34 a.m.

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Moon Thief

Alexandria Ytuarte; Jennifer Zamora; Jonah Downs

11:36 - 11:46 a.m.



# Poster Presentations and Art Gallery

## Undergraduate Posters

UG\_Poster\_1 | Daily Time Series Analysis of Ambient O3 and PM2.5 levels in Corpus Christi, TX

Destini Sanchez-Warren

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UG\_Poster\_2 | Leadership, Professional, and Creative Development with Youth at the Garcia Arts & Education Center

Carina Mejia-Guerrero and Bianca Shepherd

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UG\_Poster\_3 | Tax Literacy Education through Community-Based Volunteer Income Tax Assistance

Jeremiah Sanchez; Haley Eli; Christina Horvath

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UG\_Poster\_4 | A Community-Based Initiative to Address Adult Illiteracy in Corpus Christi

Mohammed Asad Khan

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UG\_Poster\_5 | Cause for Paws: Helping the Stray Cat Populations of Corpus Christi

Madison Clickett

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UG\_Poster\_6 | Acknowledging and Serving the Homeless in Corpus Christi

Ryan Wilks; Jacob Sides; Audrey Broussard; Victoria Godsey

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UG\_Poster\_7 | Closing the Tech Gap: Serving Seniors in the Digital Age

John Emmanuel Lava

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UG\_Poster\_8 | Creating Opportunities and Empowering Youth in our Community Through Soccer

Cilia Leal Cardona

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UG\_Poster\_9 | Improving Reading Literacy at Gloria Hicks Elementary: A Service-Learning Project

Jewel Mitchell

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UG\_Poster\_10 | Understanding the Role of Nonprofit Clinics in Providing Accessible and Affordable Healthcare to Uninsured Individuals: A Service-Learning Project

Kattarina Leal Roderio and Bryanna Ydrogo

# Poster Presentations and Art Gallery

UG\_Poster\_11 | Understanding Light Pollution in the Flour Bluff Area: A Service-Learning Project  
Lily Bhaskar and Kalyn Utenis

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UG\_Poster\_12 | Stray Cat Rescue for a Safer Community: A Service-Learning Project  
Christiana Salinas

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UG\_Poster\_13 | Zooplankton Community Composition and Biomass in Copano Bay, Texas  
Harvey Houlthby

---

UG\_Poster\_14 | Setting-Up an IoT-Based Camera for Environmental Debris Monitoring  
Omar Escudero

---

UG\_Poster\_15 | Gaining a New Perspective on Uninsured Patients: A Service-Learning Project  
Mia Perez

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UG\_Poster\_16 | Supporting Local Artists at K Space Contemporary for Career Growth and Community Development  
Savannah Turner

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UG\_Poster\_17 | Alleviating Food Insecurity Among College Students: A Service-Learning Project  
Briana Parsons

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UG\_Poster\_18 | Serving at Texas Sealife to Assist in Animal Rehabilitation and Learn About Animal Behavior  
Madeline Foster

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UG\_Poster\_19 | Serving with the Texas Sealife Center to Protect and Rehabilitate Coastal Bend Wildlife  
Emily Burger and Emily Newsom

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UG\_Poster\_20 | What Love Makes Us  
Sullivan Blanco; Lucas Collins; Jude Rangel; Bell Voelkel; Nelson Thornton; Noah Bryant; Syd Urias; Mark Capuano

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UG\_Poster\_21 | Voices Under Pressure: Assessing Trauma, Burnout, and Support Resources Among 911 Dispatchers in Corpus Christi, Texas  
Miranda Rodriguez

# Poster Presentations and Art Gallery

UG\_Poster\_22 | Developing eDNA qPCR Methods for Detecting Dulalas Luta (Rota Blue Damselfly, *Ischnura luta*)  
Avery Richardson

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UG\_Poster\_23 | Optimizing Heparin Extraction and Adsorption: A Comparative Study of Strong and Weak Anion Exchange Resins  
Mousab Rehmani

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UG\_Poster\_24 | Optimization of the Larval Rearing of Amano Shrimp  
Ethan Smith

---

UG\_Poster\_25 | Identifying and Manipulating the Implicit Attitudes Towards Elderly Individuals among both Younger and Older Adults Through the IAT  
Kaitlyn Woods

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UG\_Poster\_26 | Smart Classrooms: The Future of Education with AI  
Reagan Reed

---

UG\_Poster\_27 | Effects of Nutrient Amendments on Algal Growth in the Tidal Segment of Nueces River (Texas)  
Nancy Ballard

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UG\_Poster\_28 | Public Opinion Trends on Immigration  
Alyssa Villegas

---

UG\_Poster\_29 | Rapid and Sensitive Detection of Dicholormethane vapor using a Colorimetric Square Planar Platinum(II) Salt  
Katelyn Reid

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UG\_Poster\_30 | Discovering the Evolutionary Origin of the Endangered Dulalas Luta (Rota Blue Damselfly, *Ischnura luta*)  
Coralynn Coapland

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UG\_Poster\_31 | The OCEANS Program and the Role It Has on Environmental Stewardship  
Logan Younger; Jonas Jackson ; Jimmy Rodriguez

# Poster Presentations and Art Gallery

UG\_Poster\_32 | Promoting Environmental Stewardship Through Cross-Generational and Place-Based Education

Kate Yniguez; Eneece Avila; Sarah Strickland; Lee Nichols

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UG\_Poster\_33 | Evaluation of Dispersal-Related Phenotypes in Clownfish: How Does Larval Morphology and Movement Behavior Vary Within a Species?

Erica Anguiano

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UG\_Poster\_34 | Does Creatine Use Influence Perceived Fatigue and Recovery in Physically Active College Students?

Katelynn Ferrell

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UG\_Poster\_35 | Analyzing Dicarboxylic Amino Acid-Based Surfactants' Aggregation Behavior with Molecular Dynamic Simulations

Thea Kraft

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UG\_Poster\_36 | Photophysical Characterization, Optical Density Modulation, and Photoinduced Charge Transfer of a Thiazolothiazole-Viologen Amphiphile in Crosslinked Polymer Films and Solution-Based Systems

Connor Duncan

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UG\_Poster\_37 | Stable Isotope Analysis of Muscle from Fish in Hypoxic Waters

Sophia Ortegon

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*UG\_Poster\_38 | Real-Time Adaptive Multi-Modal Stock Prediction with Temporal Graph Attention and Dynamic Interaction Networks*

*Jamie Ehlers*

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UG\_Poster\_39 | The Effects of Clownfish Personality on the Likelihood of Cannibalism in Potential Settlers

Abigail Pirkle

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UG\_Poster\_40 | Photochromic Behavior and UV-Responsive Optical Transitions of a Novel Thiazolothiazole-Viologen Derivative in Solution and Polymer Matrices

Sarah Yniguez

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UG\_Poster\_41 | Circularly Polarized Luminescent Cruciform Dyes for Biomolecular Sensing

Charles Jackson

## Poster Presentations and Art Gallery

UG\_Poster\_42 | Strawberries, Sushi, and Pickles: Preschool Children's Use of Directives and Interrogatives in Kitchen Play

Camila Avantes; Mia Kemp; Sofia Ibarra; Catherine Gether; Marina Salinas

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UG\_Poster\_43 | Assessment of T-lymphocytes Development Under Flame Retardant Exposure in Japanese Medaka

Garrett Diehl

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UG\_Poster\_44 | Tracking Atlantic Tarpon Movements with Isotopes from Archived Scales

Kellen Rushfeldt

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UG\_Poster\_45 | Community Structures of Elasmobranch Populations Within and Between Coastal Estuaries

Videl Obenhin

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UG\_Poster\_46 | Exploring Sex-Based Patterns in Shoplifting: Reassessing Shoplifting as a Pink-Collar Crime

Jonathan Baez and Raul Reyna

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UG\_Poster\_47 | Heavy Metals in Common Bottlenose Dolphins (*Tursiops truncatus*) off Galveston, Texas

Madison Hallmark

---

UG\_Poster\_48 | Comparative Analysis of Dominant Fungal Communities on Texas Tortoise Shells with Varying Disease Status

Faith Runyon

---

UG\_Poster\_49 | Metabolic Signatures of Aging Across Muscle, Brain, and Liver in the (*Oryzias latipes*), a Human Skeletal Model Organism

Paige Hart

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UG\_Poster\_50 | Treated Wastewater as a Sustainable Water Source

Harley Johnson

---

UG\_Poster\_51 | Whistle Contours of Common Bottlenose Dolphins (*Tursiops truncatus*) in Different Foraging Contexts

Michelle Hazard Rodriguez

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UG\_Poster\_52 | Chiral Selectors Based on Reversible Disulfide-Bridged Cysteine Surfactants

Ciara Bohn

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UG\_Poster\_53 | A Geospatial Analysis of Mental Health in Corpus Christi Post Covid-19

Thomas Kovar

## Poster Presentations and Art Gallery

UG\_Poster\_54 | Untargeted Metabolic Analysis of Peripheral Blood Maintenance Across Age and Sex in *Oryzias latipes*, a Human Model Organism  
Abigail Martinez

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UG\_Poster\_55 | Amino Acid Nitrogen Isotope Analysis of Fish Muscle and Gut Contents  
Dat Tran

---

UG\_Poster\_56 | Phylogenetic and Physiological Characterization of Amino Acid Nitrogen Isotopes in Phytoplankton  
Colin Otubanjo

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UG\_Poster\_57 | An Analysis Of Gendered Clothing Choices in Pretend Play of Preschool Children  
Mia Kemp; Camila Avantes; Sofia Ibarra; Catherine Grether; Marina Salinas; Lisa Comparini

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UG\_Poster\_58 | Cultural Effects in the Remote Work Environment  
Hilliary Herrera

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UG\_Poster\_59 | Nervous System Untargeted Metabolomic Study Across Sex and Age in *Oryzias latipes*, a Human Immune Model Organism  
Kylli Widas

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UG\_Poster\_60 | A High-Resolution Snapshot of Nutrient Transport in the San Marcos-Guadalupe River System  
Allie Watson

---

UG\_Poster\_61 | From Beneath the Building: Excavation and Forensic Osteological Analysis of Human Skeletal Remains  
Desiree' Eaglin

---

UG\_Poster\_62 | Analysis of Untargeted Metabolomics in Positive Mode for Head, Kidneys and Liver in *Oryzias latipes*  
Layke Kinney

---

UG\_Poster\_63 | Synthesis of Highly Emissive Spiro-Cored Polyhydrazone Covalent Organic Frameworks  
Leah Marr-Lyon

## Poster Presentations and Art Gallery

UG\_Poster\_64 | Developing a Physicochemical Procedure for the Trace Metal Quantification in *Spartina spartinae* at Mustang Island State Park  
Eduardo Amador

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UG\_Poster\_65 | Metabolomic Profiling of Bone and Scale Aging: Establishing Baseline Metabolomes in *Oryzias latipes*, a Human Skeletal Model Organism  
Breeonna Stimpson-Leavitt

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UG\_Poster\_66 | Connecting the Culture of a Community to Music and Music Festivals: A Service-Learning Project  
Javon Vela

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UG\_Poster\_67 | Keeping Art Alive for the Next Generation: A Service-Learning Project  
Raegan Koncaba

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UG\_Poster\_68 | Peak Braking and Mediolateral Ground Reaction Forces are Reduced by Footwear, While Vertical and Propulsion GRF are Unchanged  
Samantha Martinez

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UG\_Poster\_69 | The Heart Beats to its Own Drum: No Relationship Between Heart Rate and Oxygen Demand During Bodyweight Circuit Training  
Vincent Narvaez

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UG\_Poster\_70 | "Aging Peacefully": The Relationship Between Age and Heart Rate During Walking and Running  
Mya Gonzalez

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UG\_Poster\_71 | Assessing the Impact of USMCA on U.S. Automotive Trade flows: An Econometric Analysis  
Angel Runkel

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UG\_Poster\_72 | Is Your Beta Itching? The Itchier, The Beta: Beta-Alanine Supplementation Increases Time to Exhaustion in Competitive Distance Runners  
Anna Liaromatis

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UG\_Poster\_73 | Polyipoic Ester Acid Coacervates and Molecular Sponges for Uptake of Environmental Contaminates  
Emily Hall



# Poster Presentations and Art Gallery

UG\_Poster\_74 | The Stress of Salt: Fungal Endophyte Fitness in Various Saline Environments  
Linzee Pacheco

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UG\_Poster\_75 | Gravity Got you Down? The Relationship Between Oxygen Demand and Body Composition During Circuit Training  
Joel Herring

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UG\_Poster\_76 | Characterizing Shark Responses to Magnetic Deterrents in Gulf Commercial and Recreational Reef Fish Fisheries  
Cindy Vaquero

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UG\_Poster\_77 | Static Posture Anteroposterior COP DFA- $\alpha$  is Increased When Carrying a Loaded Backpack  
Becca Henicke

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UG\_Poster\_78 | Using Detrended Fluctuation Analysis to Determine the Effects of Footwear on Postural Dynamics in Children  
Crystal Trevino

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UG\_Poster\_79 | Don't Want to Feel Fat, Don't Do DEXA: A Comparison of Laboratory Methods for Estimating Body Fat Percentage  
Miranda Gonzalez

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UG\_Poster\_80 | BioSense Drive  
Ethan Hughes

# Poster Presentations and Art Gallery

## Graduate Posters

GRD\_\_81 | Attitudes Toward Abortion Rights Among Master's Students: A Cross-Disciplinary Examination  
Yezenia Zoll

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GRD\_\_82 | Using *Vibrio alginolyticus* Isolates to Determine the Efficacy of Plant Tinctures to Inhibit *Vibrio* spp.  
Marysa McAllister

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GRD\_\_83 | A Reinforcement Learning Approach to Preserve Privacy of Images in Connected Autonomous Vehicles  
Abdolazim Rezaei

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GRD\_\_84 | Assessing Monitoring of Living Shoreline Projects  
Narita Ramirez

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GRD\_\_85 | Land Use Change and Implications on Estuarine Health Utilizing GIS Application  
Angelica Ovalle

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GRD\_\_86 | Evaluation of SfM-MVS Apple LiDAR Data for Coastal Monitoring  
Sabin Pandey

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GRD\_\_87 | Drivers of Sessile Invertebrate Community Composition and Vulnerability to Invasion  
Olivia Hughes

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GRD\_\_88 | Measuring Help-Negation  
Michael Devotta

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GRD\_\_89 | Effectiveness of Sepsis Alert and Documentation in Reducing Sepsis-Related Mortality in the Emergency Room  
Eryn Saunders

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GRD\_\_90 | An Ecological Characterization of Juvenile Tarpon and Snook Nursery Habitat  
Isabel Tiller

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GRD\_\_91 | AI for Smart Water Management: Spatio-Temporal Message Passing Networks  
Xingran Huang

## Poster Presentations and Art Gallery

GRD\_\_92 | Analysis of the Neurophysiological Effects of the Psychedelic Psilocin in Invertebrate Neurons

Hannah Yarbrough

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GRD\_\_93 Optimization of Heparin Adsorption Using Amberlite FPA98 Cl Resin: Influence of pH, Dosage, Temperature, and Interaction Time

Daisy Lopez

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GRD\_\_94 | Efficient Heparin Recovery from Porcine Intestinal Mucosa Using Green Adsorbent

Ritu Panta

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GRD\_\_95 | Enhanced Heparin Adsorption for Porcine Mucosa Using Beta Zeolites: Optimization and Kinetic Analysis

Laiba Iftikhar

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GRD\_\_96 | Contributions of Environmental and Genetic Variation in an Adaptive Tradeoff Between Thermal Stress and Predation Avoidance

Keenan Larriviere

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GRD\_\_97 | Development and Characterization of New Fluorescent Surfactant-Based Molecular Sensors for Melatonin Detection in Aqueous Solution

Victoire Delattre

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GRD\_\_98 | Hog Tide: Evaluating Feral Swine Fecal Pollution in Coastal Recreational and Oyster Harvesting Waters

Lydia Cates

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GRD\_\_99 | "I Apologize For Not Understanding Your Policy": Exploring the Specification, Evaluation, and Enforcement of Security Authorization Policies by Emerging AI-Based Virtual Assistants

Jennifer Mondragon

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GRD\_\_100 | Applications of Neural Networks to Estimate Parameter Coefficients of the Stochastic Frontier Model for Panel Data

Zakry Zapata

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GRD\_\_101 | Do Bilinguals Have Two Personalities?

Leticia Villarreal

# Poster Presentations and Art Gallery

GRD\_\_102 | Advanced TrafficGPT: Coordinated AI Agents for Urban Traffic Visualization & Analysis  
Nabil Abdelaziz Ferhat Taleb and Raj Atulkumar Patel

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GRD\_\_103 | Factors Influencing Intrinsic Motivation Among High School Students  
Sidney Siepert

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GRD\_\_104 | What is the Impact of Physical Education Programs on Mental Well-Being in Elementary School Kids?  
Skye Fuentes

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GRD\_\_105 | The Impact of Template-Directed Amphiphile Assembly on the Time-Dependent Behavior of Boundary Tensions  
Dante Morland

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GRD\_\_106 | The Solow-Swan Model and its Spatial Extensions  
Anastasiia Golovatenko

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GRD\_\_107 | Image Denoising Using Nonlinear Diffusion Process  
Aleksei Krasnikov

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GRD\_\_108 | The Power of Movement in Hispanic/Latino Communities  
Dominique Cuellar

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GRD\_\_109 | Identifying to What Extent Dating Violence and Racial Predict Suicidality in American Youth  
Elizabeth Okoye-Ezeoke

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GRD\_\_110 | The Role of the Madden-Julian Oscillation on the Central Tropical Indian Ocean Marine Heatwaves  
Lillian Pedraza

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GRD\_\_111 | Sex, Safety, and Consent: A Comparison of Safe-Sex Behaviors Amongst LGBTQ+ Adolescents  
Kevin Wong

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GRD\_\_112 | Is Anyone Home? The Interaction Between Ethnicity and Parental Monitoring on Youth Sexual Behaviors  
Briana Rodriguez

## Poster Presentations and Art Gallery

GRD\_\_113 | Principal Component Analysis Shows No Differences in Muscle Activation Patterns Between Athletes and Non-Athletes When Landing From Height

Kaleb Luna

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GRD\_\_114 | You Don't Know Squat... or BURPEES... Assessing the Heart Health Differences Between Treadmill-Based Intervals and Circuit Training

Josh Monrad

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GRD\_\_115 | Development of a Rapid Method to Compare Algal Epiphyte Community Compositional Shifts in *Thalassia testudinum*

Samantha Maupin

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GRD\_\_116 | The Impact of Physical Fitness on Marijuana Usage Among Adolescents

David Schwab

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GRD\_\_117 | The Impact of Metformin and Vitamin B12 Co-Supplementation on Human Stomach Epithelial Cell Viability and Oxidative Stress

Subashini Baskar

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GRD\_\_118 | On Finite Element Implementation of a Spatially Adaptive Regularized Phase-Field Model for Quasi-Static Anti-Plane Fracture

Maria Pieo Fernando

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GRD\_\_119 | Understanding How Population-Level Genetic Processes Underpin Broader Biodiversity Patterns

Alessandra Aromin

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GRD\_\_120 | Real-Time Adaptive Multi-Modal Stock Prediction with Temporal Graph Attention and Dynamic Interaction Networks

Abhishek Joshi

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# Poster Presentations and Art Gallery

## Undergraduate Artistic Displays

Table\_1\_UGRD | The Affect of Pollution  
Amber Basaldu

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Table\_2\_UGRD | Vandalized Support  
Cameron Pina

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Table\_3\_UGRD | Journey  
Judy Metcalf

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Table\_4\_UGRD | Exploring Intimacy and Organic Structures in Alternative Process  
Photography  
Caleb Terry

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Table\_5\_UGRD | Echoes  
Misty Gonzales

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Table\_5\_UGRD | The Effects of Soda Fire  
Rebekah Martinez

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Table\_6\_UGRD | He Found You  
Christian Padua

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Table\_6\_UGRD | Art by Adelena  
Adelena Vera

# Poster Presentations and Art Gallery

## Graduate Artistic Displays

Table\_1\_GRD | Metamorphosis  
Emily Roberts

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Table\_7\_GRD | A Grain of Sand  
Ashley Burnett

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Table\_8\_GRD | Regeneration  
Jonathon Garza

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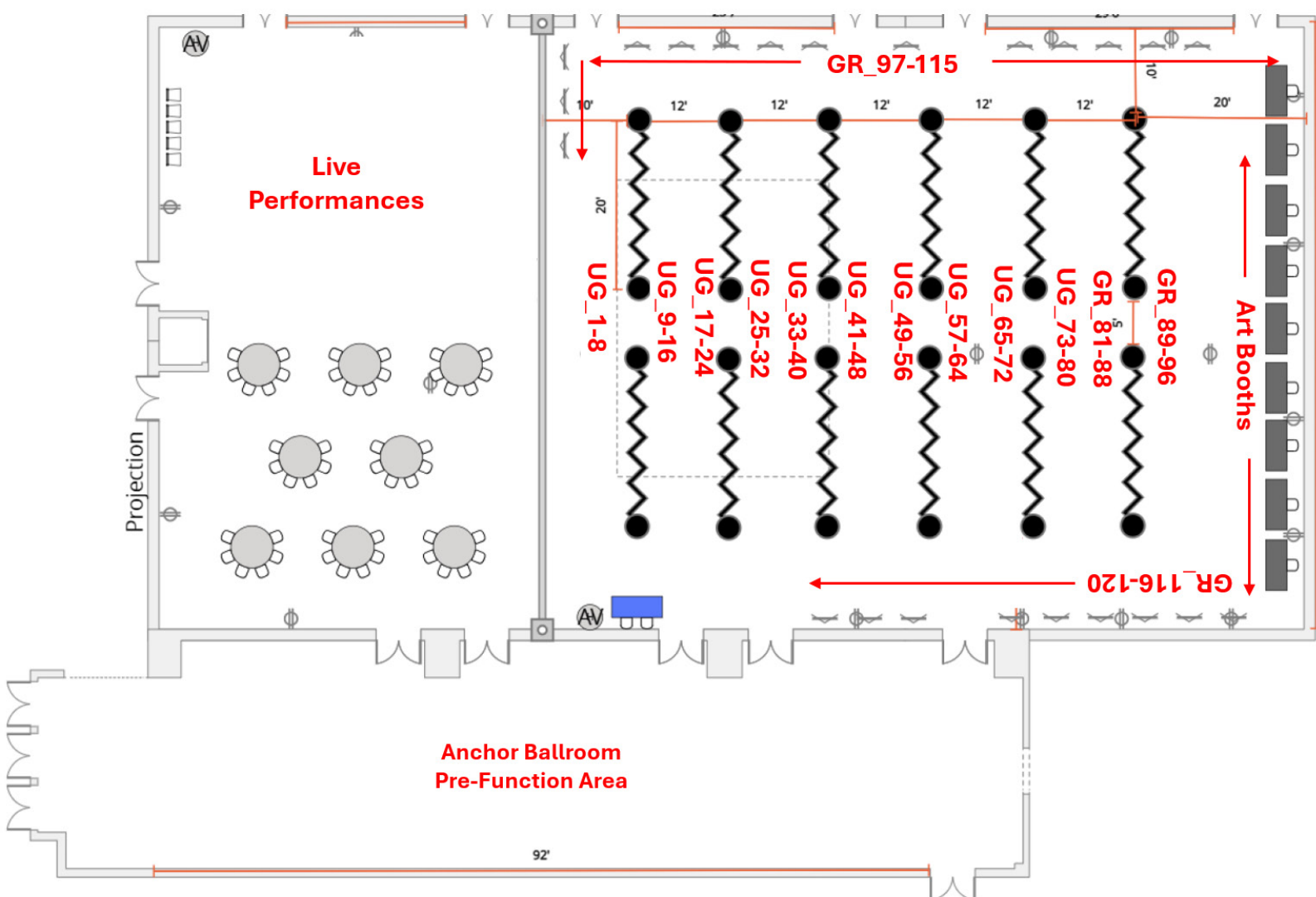
Table\_9\_GRD | Altered Reality  
Ian Manseau

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Table\_10\_GRD | CRUSH: Exploring Performance of Intimacy Through Ceramics  
and Printmaking  
Saffron Williams



## Poster Presentations and Art Gallery



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