

LIVE VIRTUAL EVENT

**FRIDAY**

**APRIL 17**

**9 AM - 12 PM**

**COMMUNITY  
ENGAGEMENT  
& RESEARCH DAY**

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**ZOOM IN**

**AS STUDENTS SHOWCASE  
A YEAR OF OUTSTANDING  
ACHIEVEMENTS**

# Welcome & Program Overview

Hi all and welcome to the 2020 Community Engagement & Research Day (CERD) event. This year we are holding this event virtually using the Zoom meeting platform to help prevent the spread of Covid-19. We greatly appreciate the contributions of all of the students, faculty, and staff that came together to make this event possible.

If you have any questions please login to the Zoom help room:

<https://zoom.us/j/94053675415> (live from 8am to 12pm on Friday April 17th),

Or contact your Grants and Research Team Representative (for Research Day participants) or the Office of Service Learning (for Community Engagement Day participants).

**Zoom Guide for Host:** [youtu.be/6kTvT-SQW9E](https://youtu.be/6kTvT-SQW9E)

**Zoom Guide for Presenters:** [youtu.be/3dmdvEMJzco](https://youtu.be/3dmdvEMJzco)

If you are looking for a specific session, presenter, or presentation, please use the “find” feature, usually with the ctrl+f or command+f functions on your keyboard.

Each session & room has a unique zoom meeting, links are given in the program below.

All sessions should use the **password: CERD2020**

GO EAGLES!

## Research Day Program

**Research Day Session 1: 9am - 10am** **pg. 2-8**

**Research Day Session 2: 10am - 11am** **pg. 10-15**

**Research Day Session 3: 11am - 12pm** **pg. 17-22**

## Community Engagement Day Program

**Community Engagement Day Session 1: 9am - 10am** **pg. 8-9**

**Community Engagement Day Session 2: 10am - 11am** **pg. 15-16**

**Community Engagement Day Session 3: 11am - 12pm** **pg. 23**

**RD101: 9am - 10am (<https://us02web.zoom.us/j/89133043652>)**

College of Arts & Sciences, Department of Biological Sciences

Host: Lyndsay Rhodes, Judges: Lyndsay Rhodes & Matt Swearingen

- **Fungus In The Air and Everywhere**  
Savannah Walter & Alexandra Ruiz, Faculty Mentor: Clifford Renk
- **Sick Building Syndrome: A Comparison of Fungal Air Samples at Florida Gulf Coast University** Sahira Aguilar-Ramirez, Faculty Mentor: Clifford Renk
- **A Look at Site Fidelity and Home Range of The Ornate Diamondback Terrapin**  
Nicholas Tucker, Faculty Mentor: Sherri Emer

**RD102: 9am - 10am (<https://us02web.zoom.us/j/87120934966>)**

College of Arts & Sciences, Department of Biological Sciences

Host: Mustafa Mujtaba, Judges: Mustafa Mujtaba & Robert Humphries

- **Assessing the Antifungal Effects of Five Plant Essential Oils on *Aspergillus fumigatus*** Emily McLean, Faculty Mentor: Matthew Swearingen
- **Imaging of Ag Nanoparticle Optical Probe Penetration in Breast Cancer Tumor Spheres** Lorenzo Sintamour, Joshua Ehlers, Danielle Reddie, Jenna Freeman, Faculty Mentor: Kerry Lee
- **The Role of Predator Urine as a Source of Enrichment in Geriatric Captive Cheetahs** Maddison Armand, Faculty Mentor: Charles Gunnels

**RD103: 9am - 10am (<https://zoom.us/j/96098077408>)**

College of Arts & Sciences, Department of Biological Sciences

Host: billy Gunnels, Judges: billy Gunnels & Nora Demers

- **Seasonal Variation in Species Composition of Tree Frogs in Southwest Florida**  
Makayla Episcopo, Faculty Mentor: Phillip Allman
- **Gopher Tortoise (*Gopherus polyphemus*) Home Range in Coastal Sune Habitat: A Sex and Seasonal Comparison**, Nonnel Galaviz-Johnson, Faculty Mentor: Phillip Allman
- **Testing Species Boundaries in *Stillingia* (Euphorbiaceae) of the North American Coastal Plain**, Norman Jabouin, Matthew Erb, Faculty Mentor: Jay Horn

**RD104: 9am - 10am (<https://us02web.zoom.us/j/84937218206>)**

College of Arts & Sciences, Department of Mathematics

Host: Tanya Huffman, Judges: Tanya Huffman & Brian Johnson

- **Placement of Solar Panels to Provide Enough Electricity for an Average House in Florida**, Viktoriya Bardenova, Faculty Mentor: Erik Insko
- **Limited Attention Domination**  
Alyson Baumgardner, Brooklyn Crum, Faculty Mentor: Katherine Johnson
- **Randomly Generated Minimal Dominating Sets and Their Connection to Real-World Housing and Networks**  
Andrew Smith, Faculty Mentor: Erik Insko

**RD105: 9am - 10am (<https://zoom.us/j/93731630274>)**

College of Arts & Sciences, Department of Mathematics

Host: Katie Johnson, Judges: Katie Johnson & Dan Kern

- **Saddle Points of Analytic Matrix-Valued Functions**  
Caden Ryals-Luneburg, Faculty Mentor: Alberto Condori
- **WiFi Routers, Power Plants, and Social Media: An Explanation of (t,r) Broadcast Domination**, Tom Shlomi, Faculty Mentor: Erik Insko
- **A Statistical Analysis of the Learning Assistant Program at FGCU**  
Blake Gilliland, Faculty Mentor: Galen Papkov

**RD106: 9am - 10am (<https://us02web.zoom.us/j/86727938196>)**

College of Arts & Sciences, Department of Biological Sciences

Host: Yainitza Hernandez-Rodriguez, Judges: Yainitza Hernandez-Rodriguez & Kerry Lee

- **Production of Novel Drugs for the Treatment of Type-II Diabetes and PolyCystic Ovary Syndrome**, Sarah Heckman, Faculty Mentor: Takashi Ueda
- **Biodiversity of Formicidae in FGCU Campus Ecosystems**  
Lindsey Ksiazek, Faculty Mentor: Joyce Fassbender
- **An Analysis of Morphological *Gambusia affinis* in Reused Waters that May Contain Endocrine Disrupting Chemicals**  
Brooke Powell, Faculty Mentor: Noral Demers



**RD107: 9am - 10am (<https://us02web.zoom.us/j/82108307973>)**

College of Arts & Sciences, Departments of Anthropology & Social Sciences

Host: Pi Rice, Judges: Pi Rice & Elizabeth Bouldin

- **Kinship, Escapism, and Cyborgs: Material-Semiotic Resonances in a Furry Convention**, Michael Hintz, Faculty Mentor: Kitty Wahlberg
- **Responsibilities of Health: Local Frameworks of Accountability and Accessibility**  
Ahilimis Martos Gato & Michael Hintz, Faculty Mentor: Max Stein
- **Qualitative Assessment of Student Basic Needs Security at Florida Gulf Coast University: Notes from the Field**  
Linda Mazanet, Michael Hintz, & Ahilimis Martos Gato, Faculty Mentor: Max Stein

**RD108: 9am - 10am (<https://us02web.zoom.us/j/86775574250>)**

College of Arts & Sciences, Department of Marine & Earth Sciences

Host: Andrew Durso, Judges: Andrew Durso & Kara Leferve

- **Fish food 2: how does the presence of submerged aquatic vegetation (SAV) impact diversity and abundance of epifaunal invertebrate communities?**  
Kelly Chase, Devin Mathias, Ashley Aszumski, Faculty Mentor: James Douglass
- **A Comparison of Fish Food Abundance in Response to Restoration Efforts and Varying Sampling Methods of Vallisneria in the Caloosahatchee River**  
Devin Mathias, Kelly Chase, Ashley Aszumski, Faculty Mentor: James Douglass
- **Characteristics and Load of Micro-Plastics Input from the Caloosahatchee River to the Gulf of Mexico**, Sarah Newton, Faculty Mentor: Puspa Adhikari

**RD109: 9am - 10am (<https://us02web.zoom.us/j/83854264259>)**

Lutgert College of Business,

Departments of Information Systems & Operations Management, & Economics

Host: Julie Yazici, Judges: Regina Beard & Ashley Mandeville

- **Analysis of Domestic Energy Usage in the United States Within the Last 31 Years**  
Dallis Schaefer, Henderson de Leon, & Joshua Jean-Phillipe  
Faculty Mentor: Hulya Julie Yazici
- **Affordability in Florida: County Median Wage versus Price Index Statistics**  
Emily Kresse, Faculty Mentor: Hulya Julie Yazici
- **Home Runs or Batting Average? Which is more valuable to a MLB team?**  
Griffin Daly, Faculty Mentor: Amir Borges Ferreira Neto

**RD110: 9am - 10am (<https://zoom.us/j/98537405023>)**

U.A. Whitaker College of Engineering

Host: Tanya Kunberger, Judges: Tanya Kunberger & Claude Villiers

- **Structural Design for Office Building W. McDaniel Investment**  
Stephanie Lopez, Daniel Hill, Ted Michel, & Drew Vogel, Faculty Mentor: Ashraf Badir
- **Land Development for a New York based Dollar General store**  
Jacob Alvarado, Kyle Poorman, & Nelson Garcia, Faculty Mentor: Ashraf Badir
- **3D Printing Large Scale Homes**  
Elaina Cooke, Faculty Mentor: Hashem Izadi Moud

**RD111: 9am - 10am (<https://zoom.us/j/96655639885>)**

Marieb College of Health & Human Services, Dep of Nursing and Rehabilitation Sciences

Host: Rob Sillevs , Judges: Rob Sillevs, Ireliam Gaudalupe

- **A Team Approach to Comprehensive Pain Assessment in the Skilled Nursing Facility** Amir Akhavan-Yazdi, Faculty mentor: Lolita Melhoda
- **Body Mass Index Evaluation and Increasing Referrals to Available Resources**  
Jaqueline Battjes, Faculty Mentor: Cheryl Swayne
- **Stevens-Johnson Syndrome in College Volleyball Athlete**  
Kayla Berry, Faculty Mentor: Jason Craddock

**RD112: 9am - 10am (<https://zoom.us/j/4748499750>)**

Marieb College of Health & Human Services, Dep of Nursing and Rehabilitation Sciences

Host: Annemarie Conner , Judges: Annemarie Conner, Lynda Ross

- **360 Glenoid labrum tear in college football player with chronic subluxation**  
Harvey Cajina, Faculty Mentor: Jason Craddock
- **Escaping the Abuse: Nurses as advocates for Victims of IPV**  
Jessica Castano, Manuela Marin, & Manuel Calabrese  
Faculty Mentor: Paula Davis-Huffman
- **L5-S1 Disc Herniation in College Cadet Football Athlete**  
Jaret Clarke, Faculty Mentor: Jason Craddock

**RD113: 9am - 10am (<https://us02web.zoom.us/j/89575315809>)**

Marieb College of Health & Human Services,  
Departments of Nursing and Rehabilitation Sciences

Host: Krista Casazza , Judges: Krista Casazza, Ann Cary

- **Peroneal Retinaculum Repair with Groove Deepening Surgery**  
Taylor Coats, Faculty Mentor: Jason Craddock
- **Reducing Facility Acquired Pressure Injuries in Long-Term Care**  
Beatriz Coccoaro Word, Faculty Mentor: Kelly Goebel
- **Chronic Patellar Tendinitis and Partial Patellar Tendon Tear in a Female Collegiate Soccer Athlete** Kelly Colwell, Faculty Mentor: Jason Craddock

**RD114: 9am - 10am (<https://us02web.zoom.us/j/85089754939>)**

Marieb College of Health & Human Services,  
Departments of Nursing, Rehabilitation Sciences, & Athletic Training

Host: Johanna Newman , Judges: Johanna Newman, Patti Bauer

- **Preventing Readmission: Utilizing a Nurse Practitioner Led Transitional Education Tool in Medicare**, Laurie DeSouza, Faculty Mentor: Tammy Sadighi
- **Femoroacetabular Impingement Among Physically Active Population**  
Sophiste Etienne, Faculty Mentor: Jason Craddock
- **Grade III Lisfranc sprain management in College Football Athlete**  
Tess Fleming, Faculty Mentor: Jason Craddock

**RD115: 9am - 10am (<https://us02web.zoom.us/j/81735911319>)**

Marieb College of Health & Human Services, Department of Nursing

Host: Eric Shamus , Judges: Eric Shamus , Jason Craddock

- **The Healthy Eating and Activity Responsibility Training (HEART) Program**  
Abbey Dean, Faculty Mentor: Loureen Downes
- **Obstructive Sleep Apnea: Quality Improvement Project to Identify Patients at Risk in the Primary Care** Orjena Fisheku, Faculty Mentor: Tammy Sadighi
- **Improving pain in post-orthopedic surgery rehab patients with a non-opioid alternatives' protocol** Harjot Gill, Faculty Mentor: Kelly Goebel

**RD116: 9am - 10am (<https://us02web.zoom.us/j/85325770666>)**

College of Arts & Sciences , Departments of Chemistry & Physics, and Biological Sciences

Host: Daniel Paull, Judges: Daniel Paull & Laura Frost

- **Highly Active Yet Protected Palladium Catalysts for Greener Synthesis of Resveratrol Analogues**  
Jennii Burrell, Faculty Mentor: Daniel Paull
- **Synthesis and Characterization of Gold Nanoparticles Using Green Chemistry**  
Johan Elrubaie, Anakarla Gomez-Hernandez, Natalie Harvey, Faculty Mentor: Ju Chou
- **Stability of Suzuki Catalysts**  
Patricia Louis, Faculty Mentor: Daniel Lambrecht

**RD117: 9am - 10am (<https://zoom.us/j/98008191352>)**

School of Entrepreneurship

Host: Reid Lennertz, Judges: Reid Lennertz & Sandra Kauanui

- **Scratch and Dent Grocery Markets**  
Joshua McIntyre, Faculty Mentor: Kelly Werder
- **Foster Care System and Entrepreneurship**  
Mackenzie Hamblett, Faculty Mentor: Kelly Werder
- **Time for Change**  
Sofia Rodriguez, Faculty Mentor: Kelly Werder

**RD118: 9am - 10am (<https://us02web.zoom.us/j/88336494941>)**

College of Arts & Sciences, Departments of Biological Sciences, and Marine & Earth Sciences

Host: Felicia Goulet-Miller, Judges: Felicia Goulet-Miller & Joyce Fassbender

- **An eDNA Snapshot of Aquatic Communities in Five FGCU Campus Stormwater Retention Ponds**  
Colin McMullen, Taylor Hancock Faculty Mentor: Hidetoshi Urakawa
- **Chicago Ripper Crew**  
Melissa Ng, Faculty Mentor: Caroline Rivera
- **An Examination of Evidence Linked to Endocrine Disruption of Female *Gambusia holbrookie***  
Antonio Nickel, Faculty Mentor: Nora Demers



**RD119: 9am - 10am (<https://zoom.us/j/97875850576>)**

College of Education, Department of Curriculum & Instruction

Host: Megan Atha-Just, Judges: Megan Atha-Just and Dr. Burcu Iczci

- **The Impact of the Opioid Crisis on Zuni, New Mexico**  
Ariel Joel, Faculty Mentor: Dr. Debra Giambo
- **How is the Delivery of Healthcare Impacted by Zuni Culture, Religion, and Lifestyle?**  
Marina Sciancalepore, Faculty Mentor: Dr. Debra Giambo
- **Zuni Government & Constitution vs. U.S. Government & Constitution**  
Robert Silano, Faculty Mentor: Dr. Debra Giambo

**CED101: 9am - 10am (<https://zoom.us/j/93237893586>)**

Host: Jessi Drummond, Judges: Jane Johnston, Kathy Cahill, Lisa Paige

- **Southwest Florida House Rabbit Rescue**  
Alexis Thomas, Faculty Mentor: Jessica Rhea
- **Make a Difference, Change a Life**  
Allison Hawkins, Faculty Mentor: Jessica Rhea

**CED102: 9am - 10am (<https://zoom.us/j/91590723840>)**

Host: Shallyn Sims, Judges: Karen Connetta, Sally Kreuzscher, Ashleigh Droz

- **Diving Deeper into the Culture of Zuni, New Mexico**  
Abigail Sanjuan-Santiago, Faculty Mentor: Dr. Debra Giambo
- **Collaborating with Citizens' Climate Lobby**  
Haley Kraczek

**CED103: 9am - 10am (<https://zoom.us/j/96465579200>)**

Host: Rose Fuller, Judges: Jeannie Sutton, Mike Weston, Adam Schaffer

- **A New Kind of Self**  
Sofia Rodriguez
- **Improvisation and Theater Games as Therapeutic Tools**  
Constance Valli, Faculty Mentor: Dan Bacalzo

**CED104: 9am - 10am (<https://zoom.us/j/96398428133>)**

Host: Mary Larkin, Judges: Caroline Vives-Vietri, Mary Meador, Rafael Villamil

- **Solidarity with Farmworkers**  
Autumn Crosley
  
- **The Food Forest Squad**  
Dimitria Stanisic, Faculty Mentor: Katie O'Connor

**RD201: 10am - 11am (<https://us02web.zoom.us/j/82520214639>)**

College of Arts and Sciences, Department of Biological Sciences

Host: Lyndsay Rhodes, Judges: Lyndsay Rhodes & Joyce Fassbender

- **Determining the Antimicrobial Activity of Hydrosolic Compounds within Single Plant Essential Oils (PEOs) against Staphylococcus aureus and Pseudomonas aeruginosa**, Ana Proenza, Faculty Mentor: Matthew Swearingen
- **Toxicity of Copper-based Herbicides on Exotic Invasive Apple Snail, Pomacea maculata**, Savannah Berger, Ernesto Lasso de la Vega, & Colin Lewis, Faculty Mentor: Nora E. Demers
- **Use of silver nanoparticle antibody-conjugated optical probes for detection of Salmonella in lettuce**, Stephanie Benedict, Logan Horn, Luisa Rodriguez, Ahilimis Martos Gatos, Patricia Louis, Antonio Estrada Mashburn, Faculty Mentor: Kerry J. Lee

**RD202: 10am - 11am (<https://us02web.zoom.us/j/84669166371>)**

College of Arts and Sciences, Department of Biological Sciences

Host: Mustafa Mujtaba, Judges: Mustafa Mujtaba & Nora Demers

- **Assessing Inhibitory Effects of Douglas Fir, Geranium, Grapefruit, Green Mandarin, and Helichrysum P**, Salma Martinez Camacho, Faculty Mentor: Matthew Swearingen
- **The Effect of Loggerhead Nest Site Choice on Hatchling Emergence Success in Southwest Florida**, Sydney Davis, Faculty Mentor: Phil Allman
- **Influences of Social Interactions with People on the Adoptability of Long-Term Resident Dogs**, Chelsea Enright, Faculty Mentor: Charles Gunnels

**RD203: 10am - 11am (<https://zoom.us/j/97776405316>)**

College of Arts and Sciences, Department of Biological Sciences

Host: billy Gunnels, Judges: billy Gunnels & Andrew Durso

- **Monitoring chemicals of emerging concern in our waterways and modeling their environmental fate**, David Montoya, Angela Scine, Ryan Luu, Sarah Liang  
Faculty Mentors: Daniel Paull & Nora Demers
- **Shifting Least Tern Populations: A Study of Nesting Site Preferences in Collier and Lee Counties**, Madison Stevens, Faculty Mentor: Kara Lefevre
- **Prognostic indications of hematology of sea turtles affected by red tide**  
Tristan Colon, Heather Barron, Faculty Mentor: Phillip Allman

**RD204: 10am - 11am (<https://us02web.zoom.us/j/96368161194>)**

College of Arts & Sciences, Department of Mathematics

Host: Kim Reycraft, Judges: Kim Reycraft & Brian Johnson

- **A Mathematical Model for Major Decisions**  
Collin Garofalo, Blake Feiza, Julian Gendron, Faculty Mentor: Erik Insko
- **Origami Mathematical Applications**  
Thuan Huynh, Faculty Mentor: Erik Insko
- **Persistent Homology of Food Deserts**  
Joshua Teeter, Faculty Mentor: Erik Insko

**RD205: 10am - 11am (<https://zoom.us/j/96149927240>)**

College of Arts & Sciences, Department of Mathematics

Host: Erik Insko, Judges: Erik Insko & Dan Kern

- **Singular Values of the Volterra Operator**  
Sandra Ferris, Faculty Mentor: Alberto Condori
- **On the Uniqueness of Ellipses Circumscribing Hyperbolic Triangles**  
Cody Hennessey, Faculty Mentors: Brian Johnson & Katie Johnson
- **The End of Statistical Significance**  
Steven Eggleston, Faculty Mentor: BeeJay

**RD206: 10am - 11am (<https://zoom.us/j/96186360862>)**

College of Arts & Sciences, Departments of Justice Studies & Psychology

Host: Steve Rokusek, Judges: Steve Rokusek & Terumi Rafferty-Osaki

- **The Taphonomic Changes of Skeletal Remains Within the Key West Cemetery**  
Fatima Soto & Chanel Brace, Faculty Mentor: Heather Walsh-Haney
- **Differential Cognitive Interference by Music Stimuli in an Unconscious BCI-Learning Task**, Stephen Vale, Susannah Spoto, & Nicole Rosito,  
Faculty Mentor: John Rossi III
- **College Students' Thoughts on Mortality**  
Connie Valli, Sydney Bostock, Colleen Clay, Ashley Raymond,  
Faculty Mentor: Kelly Schuller

**RD207: 10am - 11am (<https://us02web.zoom.us/j/87682603907>)**

Lutgert College of Business, Department of Information Systems & Operations Management

Host: Julie Yazici, Judges: Amir Borges & Ashley Mandeville

- **Is there a Relationship Between GDP, Personal Income and Birth Rates in US?**  
Macie Ryan, Vanina Speciale, Faculty Mentor: Hulya Julie Yazici

**RD208: 10am - 11am (<https://zoom.us/j/95530020206>)**

Marieb College of Health & Human Services, Department of Rehabilitation Sciences

Host: Rob Sillevs, Judges: Rob Sillevs, Patti Bauer

- **Latarjet Procedure for Anterior Shoulder Instability**  
Yvez Gomez, Faculty Mentor: Jason Craddock
- **PRP Injection for treatment of UCL sprain in Baseball Athlete**  
Conner Grant, Faculty Mentor: Jason Craddock
- **L5/S1 Disc Herniation in Collegiate Football Athlete**  
Corrine Green, Faculty Mentor: Jason Craddock

**RD209: 10am - 11am (<https://zoom.us/j/91362378871>)**

Marieb College of Health & Human Services,

Department of Nursing, Rehabilitation Sciences, Clinical Laboratory Sciences

Host: Mark Erickson , Judges: Mark Erickson, Jason Craddock

- **Graduate Student Success in the Doctor of Physical Therapy Program**  
Nicole Kamin, Faculty Mentor: Rob Sillevs
- **Salivary alpha amylase as a marker for student's stress level before and after exams,** Co Thinzar Maung Maung, Faculty Mentor: Peter Reuter
- **The Use of Medical Marijuana for People Living with Human Immunodeficiency Virus,** Deborah Nicasio, Faculty Mentor: Paula Davis-Huffman



**RD210: 10am - 11am (<https://zoom.us/j/96609002067>)**

U.A. Whitaker College of Engineering

Host: Claude Villiers, Judges: Claude Villiers & Lisa Zidek

- **NeoGenomics Laboratories Building Design**  
Coy Johannning, Shayna Dowling, Rayan Al-Hebshi, & Grady Polk,  
Faculty Mentor: Ashraf Badir
- **Effect of Substrate Stiffness on Muscle Cell Growth**  
Brandon Roche, Faculty Mentor: Jiehong Liao
- **In Search for a Better In Vitro Crohn's Disease Model to Improve Disease Outcomes**, Sydney Edwards, Faculty Mentor: Jiehong Liao

**RD211: 10am - 11am (<https://us02web.zoom.us/j/83495281685>)**

Marieb College of Health & Human Services, Department of Rehabilitation Sciences

Host: Krista Casazza, Judges: Krista Casazza & Ann Cary

- **First Rib Dissection, Scalenectomy, and Pec Release in a Professional Baseball Player**, Allison Jones, Faculty Mentor: Jason Craddock
- **Nonunion Scaphoid Fracture in College Football Player: A Case study Literature Review**, Camille King, Faculty Mentor: Jason Craddock
- **How effective is Percutaneous ultrasonic fasciotomy in treating chronic Plantar Fasciitis?** Ashley Lemond, Faculty Mentor: Jason Craddock

**RD212: 10am - 11am (<https://us02web.zoom.us/j/81036248809> )**

Marieb College of Health & Human Services, Dep of Nursing and Rehabilitation Sciences

Host: Johanna Newman, Judges: Johanna Newman, Ireliam Guadalupe

- **Neuroscience Education and the Effect on the Pupil in Patients with Pain**  
Miguel Repress Jr., Faculty Mentor: Rob Sillevs
- **Femoroacetabular Impingement with Levoscoliosis in a College Soccer Player**  
Anne Sanabria, Faculty Mentor: Jason Craddock
- **Implementing an Advance Care Planning Protocol During the Medicare Annual Wellness Visit**, Julianne Settanni, Faculty Mentor: Lolita Melhado

**RD213: 10am - 11am (<https://us02web.zoom.us/j/83447606898>)**

College of Arts and Sciences, Departments of Ecology & Environmental Studies, & Biological Sciences

Host: Pi Rice, Judges: Pi Rice & Kara Lefevre

- **Water Quality in San Carlos Park**  
Bradley Lavecchia, Faculty Mentor: Nora Demers
- **The Correlation Between the Degree of Wolf-dog Hybridization and Social Interactions with Humans**, Laura Jaaskelainen, Faculty Mentor: Charles Gunnels
- **How Distance Learning at the Naples Zoo Impacts Knowledge and Conservation**  
Kelly Paulus, Faculty Mentor: Heather Skaza-Acosta

**RD214: 10am - 11am (<https://us02web.zoom.us/j/88987304220>)**

College of Arts and Sciences, Department of Biological Sciences

Host: Yai Hernandez, Judges: Yai Hernandez & Laura Frost

- **Gopher Tortoise Activity in the Coastal Dune Ecosystem of Southwest Florida**  
Eugene Pacheco, Faculty Mentor: Phillip Allman
- **Views on Climate Change Between First-Generation and Non-First-Generation College Students**, Samuel Sherman, Faculty Mentor: Molly Nation
- **Comparing Butterfly Populations Along Florida Gulf Coast University's Solar Field and Walking Trail**, Zoe Swanson, Faculty Mentor: Brian Bovard

**RD215: 10am - 11am (<https://us02web.zoom.us/j/88398226073>)**

Marieb College of Health & Human Services, Department of Rehabilitation Sciences

Host: Ellen Donald, Judges: Ellen Donald, Lynda Ross

- **The Power of Flexibility- Examination of Lower Limb Power in Relation to Flexibility**, Christian Harstad, Faculty Member: Patricia Bauer

**RD216: 10am - 11am (<https://zoom.us/j/94123702915>)**

College of Education, Department of Curriculum & Instruction

Host: Megan Atha-Just, Judges: Megan Atha-Just and Dr. Diane Kratt

- **Teacher Candidate Perceptions of Phonological Awareness Instruction on Elementary English Learners**, Kaylee Wells & Tess Becker, Faculty Mentor: Dr. Debra Giambo
- **The Effectiveness of Academic Vocabulary Instruction for Elementary English Learners**, Andrea Bubick and Zach Gibson, Faculty Mentor: Dr. Debra Giambo
- **Phonological Awareness Skills in English Learners**  
Claudia Byrd and Kacie Johnson, Faculty Mentor: Dr. Debra Giambo

**RD217: 10am - 11am (<https://us04web.zoom.us/j/79108036136>)**

College of Education, Department of Curriculum & Instruction

Host: Dr. Onder Koklu, Judges: Dr. Onder Koklu and Dr. Andrew Blatter

- **Zuni Business: Leadership, Values, and Traditions**  
Katia Gutierrez, Faculty Mentor: Dr. Debra Giambo
- **Prevalence and Perception of Disability in the Zuni Native American Tribe**  
Rebekah Rodriguez Faculty Mentor: Dr. Debra Giambo

**CED201: 10am - 11am (<https://zoom.us/j/93237893586>)**

Host: Jessi Drummond, Judges: Kristie Sammons, Kathy Cahill, Lisa Paige

- **Pine Manor Improvement Association ESL Program**  
Gerardo Rodriguez, Faculty Mentor: Jessica Rhea
- **Trails for Tails**  
Ariel Joel, Faculty Mentor: Jessica Rhea

**CED202: 10am - 11am (<https://zoom.us/j/91590723840>)**

Host: Shallyn Sims, Judges: Mary Meador, Theresa Milhizer, Ashleigh Droz

- **JODEK Male Mentorship Program**  
Joseph Adams, Faculty Mentor: Jamie Wilson
- **Dangerous by Design: Using Tactical Urbanism to Create Safer Roadways**  
Autumn Crosley

**CED203: 10am - 11am (<https://zoom.us/j/96465579200>)**

Host: Rose Fuller, Judges: Jeannie Sutton, Mike Weston, Rafael Villamil

- **It Takes A Village**  
Carolina Vasallo, Faculty Mentor: Katie O'Connor
- **Andrews's Anthem: Providing Hope**  
Madelyon Lofton, Faculty Mentor: Katie O'Connor

**CED204: 10am - 11am (<https://zoom.us/j/96398428133>)**

Host: Mary Larkin, Judges: Francyne St. Thomas, Nancy Coker, Caroline Vives-Vietri

- **Little Eagles French Experience**  
Samantha Wood, Faculty Mentor: Delphine Gras
- **Paw Patrol**  
Samantha Roesler, Faculty Mentor: Jamie Wilson

**RD301: 11am - 12pm (<https://us02web.zoom.us/j/85804988322>)**

College of Arts and Sciences, Department of Biological Sciences

Host: Lyndsay Rhodes, Judges: Lyndsay Rhodes & Matt Swearingen

- **Antibiotic activity of mimetic peptides of various cytokines and their receptors**  
Ibtissam Essaghir & Danielle Fletcher-Williams, Faculty Mentor: Mustafa Mujtaba
- **Regulation of FePer1, Gene Encoding 1-Cys Peroxiredoxin in Buckwheat (Fagopyrum esculentum Moench)**  
Kathryn Koiryohann & Shannon Bute, Faculty Mentor: Takashi Ueda
- **Natural Essential Oil Treatment Against Aspergillus fumigatus**  
Matthew Brown, Faculty Mentor: Yainitza Hernandez-Rodriguez

**RD302: 11am - 12pm (<https://us02web.zoom.us/j/82341174733>)**

Lutgert College of Business, Department of Management

Host: Julie Yazici, Judges: Julie Yazici & Amir Borges

- **Issues and Interpretations Of Professional Skepticism And Future Development Opportunities**, Jaime Lancellot, Lana Luckey, & Mark Arnone,  
Faculty Mentor: Arianna Pinello
- **Staffing the New Generation**  
Nina Morice, Faculty Mentor: Ashley Mandeville
- **Five Dysfunctions of a Team in Uber**  
Sara Tirici, Faculty Mentor: Jenny Manegold

**RD303: 11am - 12pm (<https://zoom.us/j/95079572924>)**

Marieb College of Health & Human Services,

Departments of Nurse Anesthesia and Rehabilitation Sciences

Host: Rob Sillevs, Judges: Rob Sillevs & Denise Allen

- **Two Bankart Lesions in One College Football Player**  
Zachary Thiesing, Faculty Mentor: Jason Craddock
- **Medical illustration**  
Faculty Presentation: Valerie Weiss and Students
- **Dural Puncture Epidural Technique**  
Elizabeth Zaldivar, Faculty Mentor: Johanna Newman



**RD304: 11am - 12pm (<https://zoom.us/j/4748499750>)**

Marieb College of Health & Human Services,

Departments of Nursing and Rehabilitation Sciences

Host: Annemarie Conner, Judges: Annemarie Conner & Cindy Farris

- **Shoulder Specific Rehabilitation Protocol Outcome with SLAP tear in Volleyball Player**, Mario Lopez, Faculty Mentor: Jason Craddock
- **The Importance of Screening and Early Identification of Depression in College Students**, Elizabeth Nino, Faculty Mentor: Cheryl Swayne
- **Follow-up Symptom Management and Monitoring Protocol for Colorectal Patients**  
Christopher Espinosa, Faculty Mentor: Elizabeth Murray

**RD305: 11am - 12pm (<https://us02web.zoom.us/j/81099266165>)**

Marieb College of Health & Human Services,

Departments of Nursing and Rehabilitation Sciences

Host: Ellen Donald , Judges: Ellen Donald, Jihan Mahmoud

- **Distal Biceps Brachii Tendon Rupture**  
Cristy Eggers, Faculty Mentor: Jason Craddock
- **Is Pressure-Controlled Preferred Over Volume-Controlled Ventilation as a Lung Protective Strategy?** Diana Levy, Faculty Mentor: Johanna Newman
- **Testicular Rupture in Professional Baseball Outfielder**  
Chelsea Lively, Faculty Member: Jason Craddock

**RD306: 11am - 12pm (<https://us02web.zoom.us/j/82627929367>)**

College of Arts and Sciences, Department of Biological Sciences

Host: Andrew Durso, Judges: Andrew Durso & Joyce Fassbender

- **Full Inhibition of Aspergillus fumigatus Germination on Complete Medium using Lemongrass Oil**, Johan Elrubaie & Matthew Johnson,  
Faculty Mentor: Matthew Swearingen
- **Triggering the Autonomic Nervous System Using Suboccipital Decompression**  
Katie Clark, Barry Walsh, Kaylee Fichthorn, Faculty Mentor: Rob Sillevs
- **Assessing the Inhibitory Effects of Four Essential Oils on Aspergillus fumigatus Germination**, Jessica Rivero,  
Faculty Mentors: Matt Swearingen & Yainitza Hernandez-Rodriguez

**RD307: 11am - 12pm (<https://zoom.us/j/95091230732>)**

College of Arts & Sciences, Bower School of Music & the Arts,  
Departments of Psychology & Social Sciences

Host: Steve Rokusek, Judges: Steve Rokusek & Terumi Rafferty-Osaki

- **Light Scrutinized by Sound: Dr. Cyrus Teed Vs. Motion Theorists**  
Gabrielle Goral, Faculty Mentor: Thomas Cimarusti
- **How does comfort change when tryphobic stimuli are superimposed on skin and animal images?** Emily Martin, KaLynn Bellmore, & Michelle De Angelis,  
Faculty Mentors: R. Nathan Pipitone & Christopher DiMattina
- **Attitudes Towards Casual Sex among College Students: The Role of Gender, STI Contraction Likelihood, and STI Type**  
Sam Miranda, Lesley Cruz, & Mariana Pacheco-Arcaya,  
Faculty Mentor: Nathan Pipitone

**RD308: 11am - 12pm (<https://us02web.zoom.us/j/94875077292>)**

College of Arts and Sciences, Department of Ecology & Environmental Studies

Host: Kim Reycraft, Judges: Kim Reycraft & Kara Lefevre

- **Critical Evaluation of 5E Model Red Tide Education Curriculum for Grades 6-8 in Florida's Public Schools**, Giatonina Wallis, Faculty Mentor: Heather Skaza Acosta
- **Isolation of axenic cultures of cyanobacteria**  
Jeffrey Mechanic & Gregory Lamardi, Faculty Mentor: Hidetoshi Urakawa
- **Using Aquarium Test Strips and a Nix Pro Color Sensor to Determine Nitrate Runoff Concentrations**, Isabella Peedle, Kenneth J. Sweeney, Kayla Howard, & Malcolm M Manners, Faculty Mentor: John L. Griffis Jr.

**RD309: 11am - 12pm (<https://us02web.zoom.us/j/82971059996>)**

College of Arts and Sciences, Department of Ecology & Environmental Studies

Host: Pi Rice, Judges: Pi Rice & Nora Demers

- **Isolation and characterization of filamentous cyanobacteria belong to the Oscillatoria group isolate**, Julia Sereda, Elizabeth R. Schroeder, Elizabeth K. Dahedl, Taylor L. Hancock, Haruka E. Urakawa, Patricia L. Blackwelder, Jose V. Lopez, & Barry H. Rosen, Faculty Mentor: Hidetoshi Urakawa
- **Estero Bay Aquatic Preserve Internship**  
Molly Hunter, Faculty Mentor: Molly Nation

**RD310: 11am - 12pm (<https://zoom.us/j/91895745788>)**

U.A. Whitaker College of Engineering

Host: Craig Capano, Judges: Craig Capano & Claude Villiers

- **Construction Cost Estimation using Predictive Systems**  
Henry Silva Quevedo, Hashem Izadi Moud, & Jeanette Harihara,  
Faculty Mentor: Hashem Izadi Moud
- **Design of I-75 and Vanderbilt Beach Road**  
Marmi Sica, Anthony Arfuso, Jorge Hernandez, & Gabriel Tamayo,  
Faculty Mentor: Ashraf Badir
- **Scotlynn Building Design**  
Connor Van Buren, Jason Hock, Thomas Salyer, & Victor Nguyen,  
Faculty Mentor: Ashraf Badir

**RD311: 11am - 12pm (<https://us02web.zoom.us/j/87279841135>)**

U.A. Whitaker College of Engineering

Host: Danvers Johnson, Judges: Danvers Johnson & Jiehong Liao

- **Development of Virtual Reality-Based Lesson Modules for Solar Energy Education**  
Faculty Presentation: Danvers Johnston
- **Collection and Visualization of Environmental Data with Remotely Controlled Rover**, Brandon Davis & Gage Kettering, Faculty Mentor: Janusz Zalewski
- **Life Cycle Assessment of Anaerobic Digestion of Food Waste**  
Gabrielle Vignet-Williams & Amy He, Faculty Mentor: Simeon Komisar

**RD312: 11am - 12pm (<https://zoom.us/j/93852925997>)**

College of Arts & Sciences, Department of Mathematics

Host: Katie Johnson, Judges: Katie Johnson & Alberto Condori

- **The Mathematics of Gerrymandering**  
Meghan Carlson, Faculty Mentor: Erik Insko
- **Optimizing FGCU's parking garages for safety and parking efficiency**  
Andrew McKay, Carlton Saunderson, & Morgan Bettencourt, Faculty Mentor: Erik Insko
- **Modeling the Cannibalistic Predation of an Invasive Species**  
Javier Centeno-Rincon & Breanna O'Shea, Faculty Mentor: Daniel Kern

**RD313: 11am - 12pm (<https://zoom.us/j/96149927240>)**

College of Arts & Sciences, Department of Mathematics

Host: Erik Insko, Judges: Erik Insko, Rachel Tait

- **Stem Cell Dynamics using Reaction-Diffusion Equations**  
Daniel Stone, Faculty Mentor: Daniel Kern
- **Analyzing Board Games Using Markov Chains: Incan Gold**  
Daniela Villafuerte, Faculty Mentor: Katie Johnson
- **MatLab Simulation of RNA Folding in Secondary Structures**  
Brandon Roche, Faculty Mentor: Katie Johnson

**RD314: 11am - 12pm (<https://us02web.zoom.us/j/88040860219>)**

College of Arts & Sciences, Department of Chemistry & Physics

Host: Greg Boyce, Judges: Greg Boyce & Laura Frost

- **A Quantitative Study of Local Waters for Common Endocrine Disrupting Chemicals**, Ryan Luu, David Montoya, Angela Scine, & Sarah Liang,  
Faculty Mentors: Daniel Paull & Nora Demers
- **Targeting breast cancer through green organic synthesis of resveratrol analogues**  
Jessica Laing, Cortland Reed, Hind Benmerabet, & Jennii Burrell,  
Faculty Mentor: Daniell Paull
- **Implementing green chemistry in laboratory courses: an alternative to the Fischer esterification**, Kelly Walker, Faculty Mentor: Daniel Paull

**RD315: 11am - 12pm (<https://us02web.zoom.us/j/82712648937>)**

College of Arts & Sciences, Department of Biological Sciences

Host: Felicia Goulet-Miller, Judges: Felicia Goulet-Miller & Kerry Lee

- **Literature Review: Septin Roles in the Abnormal Functioning of Neuron Formation and Fungal Cell Branching**, Jake Goguen & Jesse Beacker,  
Faculty Mentor: Yainitza Hernandez-Rodriguez
- **Antimicrobial Effectiveness of 10 Common Essential Oils Against *Aspergillus fumigatus*, an Opportunist**, Aaron Helfeld & Rachel Stewart,  
Faculty Mentor: Matthew Swearingen
- **Thyme essential oil fully inhibits germinations of pathogen *Aspergillus fumigatus* on complete media**, Kendall Watson & Autumn Lyda,  
Faculty Mentor: Matthew Swearingen

**RD316: 11am - 12pm (<https://us02web.zoom.us/j/85184538054>)**

College of Arts & Sciences, Department of Biological Sciences

Host: Yai Hernandez, Judges: Yai Hernandez & Mustafa Mujtaba

- **Can human visual attention be influenced by vocal fertility cues?**  
Krystal Young & Jose Rea, Faculty Mentor: Nate Pipitone
- **Identifying Presence of Extracellular Communication System in Bacteriophage Infecting Mycobacterium smegmatis**, Nicholas Hiers, Faculty Mentor: Sharon Isern
- **The Effect of Natural and Human Development Tidal Restriction on Mangrove Seedlings**, Paola Reyes Serrano & José Rivera Lugo,  
Faculty Mentor: Edwin Everham III

**RD317: 11am - 12pm (<https://zoom.us/j/93240555051>)**

College of Education, Department of Curriculum, Instruction, and Culture/Teacher Education

Host: Megan Atha-Just, Judges: Megan Atha-Just and Dr. Onder Koklu

- **Lived Experiences of Displaced Puerto Rican Students in the USA after Hurricane Maria**, Dr. Hasan Aydin, Dr. Tunde Szecsi, and Dr. Debra Giambo
- **Views of Teachers and Spanish-Speaking Adolescents on Bilingualism and the Heritage Language**, Dr. Debra Giambo, Dr. Tunde Szecsi, and Dr. Hasan Aydin

**RD318: 11am - 12pm (<https://zoom.us/j/99186944387>)**

College of Education, Department of Curriculum, Instruction and Culture/Teacher Education

Host: Dr. Michele Stork, Judges: Dr. Michele Stork and Dr. Dawn Martelli

- **The Life Stories of International Students in a Predominantly White Institution in Southwest Florida**, Clarisse Halpern, Faculty Mentor: Dr. Hasan Aydin
- **Comparing Preschool Principals' Initiatives for STEAM in Southwest Florida**  
Leslie Gallegos, Faculty Mentor: Dr. Burcu Iczci
- **Mathematics Teachers' Beliefs on the Implementation of STEM Education**  
Peter Phan and Dr. Onder Koklu (student-faculty collaboration)



**CED301: 11am - 12pm (<https://zoom.us/j/93237893586>)**

Host: Jessi Drummond, Judges: Stephanie Figueroa, Lori Burke, Lisa Paige

- **Human Trafficking Awareness**  
Brittany Travis, Faculty Mentor: Justin Fitzgerald
- **FGCU Hike for Haiti**  
Bryn Goldsmith, Faculty Mentor: Delphine Gras

**CED303: 11am - 12pm (<https://zoom.us/j/96465579200>)**

Host: Rose Fuller, Judges: Karen Connetta, Sally Kreuzscher, Rafael Villamil

- **Friends for Change**  
Taylor Bass, Faculty Mentor: Dr. Bryan Schaffer
- **Make-A-Wish at FGCU**  
Autumn Gates, Faculty Mentor: Dr. Bryan Schaffer