2019 Spring
Fiat Lux

A Showcase of Florida Southern College
Student Scholarship, Creative Works, and Research

Wednesday, April 24, 2019
12:00pm–6:30pm

Branscomb 201 & 202
Christoverson Humanities
Honeyman Pavilion

Sponsored by the Florida Southern College Chapter of the Honor Society of Phi Kappa Phi

Room	Time	Type	First Name	Last Name	Major	Title
Christoverson 209	1:15-1:45	Oral	Eric	**Alonso**	Chemistry	Metal-Organic Frameworks (MOFs) for Hydrogen Storage
Christoverson 112	12:00-12:20	Oral	Christian	**Anderson**	Political Science	Syrian Solution
Honeyman Pavilion		Biology poster competition	Gabrielle	**Angel**		Antibiotic Resistance and Production in Bacteria from Soil Collected in Developing West Africa
Christoverson 112	12:20-12:40	Oral	Connor	**Angell**	Political Science	Police, Policy, Procedures, and Problems: How Everyone's Favorite "P's" Can Affect Lives and Communities
Honeyman Pavilion		Biology poster competition	Catherine	**Arena**		A Survey of Arachnids in Different Habitats in North Andros Island in the Bahamas
Christoverson 109	2:30-2:50	Oral	Jenna	**Baillie**	Political Science	Gang Violence in the United States: The Dangers of MS-13
Christoverson 206	5:50-6:10	Oral	Natalie	**Barton**	Nursing	The Lived Experience of a NICU Father: A Descriptive-Phenomenological Study
Honeyman Pavilion	2:30-3:30	Poster	Sarah	**Barton**	Elementary Education	Express Yourself! Teaching a Student with Dyslexia About Fluency
Honeyman Pavilion		Biology poster competition	Aubriana	**Benedetto**		Effects of Roundup and Glyphosate on the Natural Mutation Rate of *Saccharomyces cerevisiae*
Branscomb 202	12:00-12:20	Oral	Alyssa	**Bergeman**	Business Administration	The Evolution of Don Juan and Introduction of the Post-Don Juan Era
Christoverson 207	2:30-2:50	Oral	Alec	**Bigness**	Chemistry	The Design of Metal Organic Materials for Biomedical Drug Delivery
Honeyman Pavilion	1:15-2:15	Poster	Alexandra	**Bittinger**	Exercise Science	The Effects of Concurrent Activation Potentiation on Average and Peak Power During Submaximal Deadlift Exercise
Branscomb 202	2:30-2:50	Live Performance	Christine	**Bjornstad**	Theatre Arts: Theatre Performance	*Graceland*
Christoverson 207	1:15-1:35	Oral	Andrew	**Boesenberg**	Mathematics	The Flaws of the Black-Scholes Pricing Model
Christoverson 112	4:15-4:45	Oral	Daniel	**Bolding**	Biochemistry & Molecular Biology	Green Synthesis of Cholic-acid Derivatives as Novel Antimicrobials
Honeyman Pavilion		Biology poster competition	Malique	**Bowen**		Characterizing the Microbiota on the Subcaudal Gland of the Owl Monkey (*Aotus nancymaae*)
Honeyman Pavilion		Biology poster competition	Cassandra	**Brown**		The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress

Room	Time	Type	First Name	Last Name	Major	Title
Honeyman Pavilion		Biology poster competition	Emily	**Brown**		Parasitic Survey of Invasive Red Lionfish *Pterois volitans* in Andros Island
Christoverson 206	2:30-2:50	Oral	Erin	**Burrows**	Business Administration	An Exploration of the Relationship Between Brand Endorsement of Political Candidates/Causes and Consumer Attitudes and Behaviors Toward the Brand
Christoverson 207	2:50-3:10	Oral	Armando	**Campos**	Athletic Training	Less is More: An Investigation of Biomechanical Diagnosis Methods in Division II Women's Basketball Players
Branscomb 202	2:50-3:10	Live Performance	Emily	**Carbo**	Music: Performance	Allegretto from *Quintet in E Minor*
Honeyman Pavilion	2:30-3:30	Poster	Nicholas	**Carlino**	Psychology	Influence of Social Media on Social Adjustment to College
Christoverson 207	4:15-4:35	Oral	Sara	**Carlton**	Psychology	Evaluating Implicit Biases and Hostile Behaviors Against Gender Nonconforming Individuals
Honeyman Pavilion		Biology poster competition	Jordan	**Carr**		Assessing Antimicrobial Activity of Neem Extracts on Oral Bacteria Associated with Various forms of Periodontitis
Christoverson 112	2:30-2:50	Oral	Carly	**Cheatham**	Political Science	Lack of Stability in the Education System: School to Prison Pipeline
Honeyman Pavilion		Biology poster competition	Mercedez	**Claybrone**		Survival and Urease Activity of *Helicobacter cetorum* under Environmental Stress Conditions
Honeyman Pavilion	1:15-2:15	Poster	Sarah	**Collins**	Nursing	Skin-to-skin Contact on Newborns
Honeyman Pavilion		Biology poster competition	Colette	**Crone**		How Interspecies Competition with the Asian Clam (*Corbicula fluminea*) Affects Freshwater Invertebrate Populations
Christoverson 206	4:15-4:35	Oral	Corinne	**Cuddeback**	Philosophy	Problems with Happiness
Honeyman Pavilion		Biology poster competition	Carolyn	**Cureton**		Relationships Between Leaf Chlorophyll Content, Fertilizer Application Rates, and Visual Grades of Greenhouse-grown *Homalomena* 'Emerald gem'
Honeyman Pavilion	2:30-3:30	Poster	Laurin	**Davis**	Nursing	Windshield Survey; Mulberry Florida
Branscomb 201	12:00-12:20	Oral	Kara	**Donnelly**	Communication: Multimedia Journalism	Human Trafficking: Modern Slavery in Central Florida
Honeyman Pavilion		Biology poster competition	Alexis	**Dulkoski**		Exploring the Relationship Between Cortisol Levels and Foraging Behaviors in Owl Monkeys (*Aotus nancymaae*)

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Honeyman Pavilion		Biology poster competition	Samantha	**Dumala**		Clay Flocculation Efficacy in Removing *Amphidinium carterae*
Honeyman Pavilion	2:30-3:30	Poster	Emma	**Edgar**	Communication: Interpersonal & Organizational Communication	The Process of Processing
Christoverson 208	1:15-1:35	Oral	Peter	**Edgar**	English	Who Lives, Who Dies, Who Tells Your Story? : A Literary Analysis of Popularly-Marketed Narratives of U.S. History
Honeyman Pavilion	2:30-3:30	Creative art display	Peter	**Edgar**	English	Frank Lloyd When: Visualizing FSC's Archived Blueprints
Honeyman Pavilion	1:15-2:15	Poster	Amber	**Elsenheimer**	Psychology	Effects of Makeup Application on Hiring Decisions and Employer Attributions
Christoverson 112	4:45-5:15	Oral	Kacey	**Engler**	Biochemistry & Molecular Biology	Designing an Extraction and Purification Method to Work Towards the Correct Characterization of Secondary Metabolites from an Unknown Strain of Bacteria
Christoverson 208	5:50-6:10	Oral	Gloria	**Fierro**	Criminology	Perceptions of Verbally Aggressive Behaviors in Platonic and Romantic Relationships
Christoverson 209	12:00-12:30	Oral	Guernide	**Fils-aime**	Chemistry	The Removal of Atrazine from Water Using a Valent Metal Mixture of Iron and Zinc
Honeyman Pavilion		Biology poster competition	Alexis	**Flenniken**		The Effects of A Potentially Novel Antibiotic, JD-17, on A Human Continuous Cell Line
Honeyman Pavilion	1:15-2:15	Creative art display	Emily	**Fournier**	English	Knights of the Crusades
Christoverson 209	5:50-6:10	Oral	Emily	**Fournier**	English	Trust the Process: Transcribing Ann Twice
Christoverson 208	12:00-12:20	Oral	Zachary	**Fralish**	Biochemistry & Molecular Biology	Generation of Vancomycin-Gelatin Conjugates for the Prevention of Surgical Site Infections
Branscomb 201	2:30-2:50	Oral	Anja	**Fuchs-Robetin**	Exercise Science	Early Sport Specialization: An Exploration of Youth Athletes' Sports Specialization Patterns, Associated Risks of Injury and Correlations with Future Athletic Success
Christoverson 206	1:15-1:35	Oral	Lillian	**Furey**	Elementary Education	How Can Intervention Benefit Students with a Double Deficit?
Branscomb 202	1:15-1:35	Oral	Mateo	**Garcia Guerra**	Music: Performance	Spanish Civil War
Branscomb 202	3:10-3:30	Live Performance	Mateo	**Garcia Guerra**	Music: Performance	O Mimi tu piu non torni
Christoverson 208	4:15-4:35	Oral	Erin	**Gehrdes**	Philosophy	Shifting the Paradigm: Ethics in Cosmic Pessimism
Branscomb 201	1:15-1:35	Oral	Jaydon	**Gibbs**	Biology	Analyzing the Evolutionary Relationships of Rosa varieties by DNA Barcoding and RAPD

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Honeyman Pavilion	2:30-3:30	Poster	Danielle	**Giblin**	Nursing	The Effect of Parental Presence in Pediatric Trauma Procedures
Christoverson 112	2:50-3:10	Oral	Brandon	**Giczewski**	Political Science	AirBnb: Market Disruptor or Natural Progression
Christoverson 208	2:30-2:50	Oral	Nicole	**Glatz**	Chemistry	Towards the Synthesis of Stachybotrin D: A Potential Anti-HIV Drug
Honeyman Pavilion	2:30-3:30	Poster	Madeline	**Gonzalez**	Psychology	"Hunger for Games": Video Game Influences on Understanding of Cancer
Christoverson 206	6:10-6:30	Oral	Charles	**Gotsch**	Accounting	Nontraditional Business Investment: An Examination of Investor Risk Perception and Regulation
Branscomb 201	2:50-3:10	Oral	Diana (Anna)	**Griessler**	Exercise Science	Reducing Barriers to Paratriathlon Participation Among Adults with Physical and Visual Impairments
Christoverson 206	5:30-5:50	Oral	Jake	**Griner**	Biochemistry & Molecular Biology	The Possible Role for Histone Deacetylase Inhibition as a Radiosensitizer in Chordoma
Christoverson 109	5:30-5:50	Pre-recorded Performance	Amanda	**Grisanti**	Communication: Film Studies	Thank You Art People
Christoverson 109	5:50-6:10	Panel	Amanda	**Grisanti**	Communication: Film Studies	My Florida Home
Honeyman Pavilion		Biology poster competition	Ysabella	**Guerra**		Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*
Christoverson 112	1:15-1:35	Oral	Mikaela	**Guido**	Political Science	Policy That's Out of this World: An Analysis on the Policy Regarding Private Space Exploration
Christoverson 206	12:00-12:20	Oral	Samantha	**Hamontree**	Marine Biology	Analysis of the Microbiome Within the Nasal Cavity of Florida Manatees, *Trichechus manatus latirostris*
Honeyman Pavilion	2:30-3:30	Poster	Melissa	**Hansard**	Accounting	Personality and Sexual Misconduct: Predicting Proclivity to Sexually Harass
Honeyman Pavilion		Biology poster competition	Danielle	**Harrington**		Presence of Parasites Among Bahamian Snails of Andros Island
Honeyman Pavilion	1:15-2:15	Poster	Kylie	**Hartzell**	Psychology	Memory Benefits of Graphic Novelization Exposure in Children with Dyslexia
Honeyman Pavilion	2:30-3:30	Poster	Kylie	**Hartzell**	Psychology	"Why Can't We Be Friends?": The Relationship Between Narcissism and Facial Biases
Christoverson 208	12:20-12:40	Oral	Mark	**Haver**	Environmental Studies	Assessing the Greenhouse Gas Emissions of Florida Southern
Honeyman Pavilion		Biology poster competition	Sabrina	**Hendrick**		Characterizing the Interaction between Annexin Family Members and α-Synuclein, a Parkinson's Disease Associated Protein
Christoverson 206	12:20-12:40	Oral	Gabriella	**Hesse**	Communication: Interpersonal & Organizational Communication	The Voices of the People: Speechmaking and Constituencies in the US Congress

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Christoverson 209	2:30-2:50	Oral	Gabriella	**Hesse**	Communication: Interpersonal & Organizational Communication	Women in the Arts
Christoverson 209	2:50-3:10	Oral	Elizabeth	**Hicks**	Economics & Finance	How Inequality and Corruption Affects Growth in Terms of GDP
Christoverson 208	12:40-1:00	Oral	Rebecca	**Hill**	Philosophy	The Parts that Make Up the Whole: How Society Impacts its Citizens
Christoverson 206	4:35-4:55	Oral	Sarah	**Hofer**	Marine Biology	Protein Expression in Response to Oil in a Marine Hydrocarbon Degrading Bacterium Isolated from Tampa Bay, Florida
Christoverson 207	12:00-12:20	Oral	Thomas	**Horton**	Biology	An Analysis of Sexual Dimorphism in the Dermis of Elasmobranches During Ontogeny
Christoverson 208	4:35-4:55	Oral	Allie	**Howard**	Religion	The Significance of Contemplation in Christian Living
Christoverson 207	5:50-6:10	Oral	Jordan	**Howard**	Psychology	Apocalypse How? Exploring the Use of Graphic Novelization in Neuroscience Pedagogy
Honeyman Pavilion	1:15-2:15	Poster	Kenzie	**Hurley**	Psychology	More than a Game: The Use of Intergroup Monopoly as a Pedagogical Tool
Christoverson 206	1:35-1:55	Oral	Sydney	**Johnson**	Nursing	The Impact of Peer Support Group Involvement on Self-Management Habits and Perceptions in College Students with Type 1 Diabetes
Honeyman Pavilion	2:30-3:30	Poster	Ann	**Kast**	Elementary Education	"Art-Full" Writing: Integrating the Visual Arts to Increase Writing Proficiency
Honeyman Pavilion	2:30-3:30	Creative art display	Natalie	**Kennedy**	Dance	Importance of Dance in Early Childhood
Christoverson 207	12:20-12:40	Oral	Hannah	**Kiester**	English	Women and the Gothic: Exploring Female Roles in *Wuthering Heights*, The *Tenant of Wildfell Hall*, and *Frankenstein*
Honeyman Pavilion	1:15-2:15	Poster	Chloe	**Kindell**	Psychology	Color My World: Memory Effects in Graphic Novel Learning
Christoverson 207	4:35-4:55	Oral	Jordan	**King**	Psychology	Women in STEM: Effects of Gender and Occupation in Biased Perception of Professionals
Honeyman Pavilion		Biology poster competition	Kyle	**Kirsten**		Quantifying Variations of LOPB2 Expression in *Daphnia magna* Due to Exposure to Different Wavelengths of Visible Light
Honeyman Pavilion		Biology poster competition	Hannah	**Kistler**		Comparison of Antimicrobial Resistance in the Fecal Microbiome of Horses Living in Herd Communities Versus Individual Stalls
Honeyman Pavilion		Biology poster competition	Vanessa	**Kizza-George**		The Effects of Silver Diamine Fluoride on *Streptococcus mutans* and *Streptococcus salivarius* K12 at Different Sugar Concentrations

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Christoverson 207	1:35-1:55	Oral	Jacqueline	**Krantz**	Biotechnology	Identifying Convergence of ShK Toxins for the Treatment of Autoimmune Diseases
Honeyman Pavilion		Biology poster competition	Celine A.	**Kumarsingh**		Protein Expression Analysis of Bacteria Cultured in the Presence of Nylon
Honeyman Pavilion	2:30-3:30	Poster	Alicia	**Lader**	Psychology	The Relationship Between Transactional and Transformational Leadership in Different Types of Work
Christoverson 207	1:55-2:15	Oral	Mara	**Lameyer**	Biology	Everybody was Fungus Fighting: Examining the Symbiotic Interactions Between Roots and the Beneficial Fungi that Partner with Them
Christoverson 112	3:10-3:30	Oral	Nicole	**Lenkel**	Political Science	Political Engagement of Young People in the United States
Honeyman Pavilion		Biology poster competition	Anthony	**Lettera**		Stony Coral Distribution and Assessment of the Andros Island Fringing Reef System
Honeyman Pavilion	1:15-2:15	Poster	Hannah	**Lockey**	Nursing	Trauma Focused Cognitive Behavioral Therapy versus Therapy as Usual
Honeyman Pavilion	1:15-2:15	Poster	Driyanna	**Lynch**	Nursing	Culturally Competent Interventions for African-American Women
Christoverson 207	4:55-5:15	Oral	Risley	**Mabile**	Chemistry	Misconceptions in Special Relativity: Why You Should Never Trust an Overly Confident Physicist
Christoverson 209	1:45-2:15	Oral	Risley	**Mabile**	Chemistry	Development of an Inexpensive Reflectance Spectrophotometer for Detection of Iodine Concentrations in Drinking Water
Honeyman Pavilion	1:15-2:15	Poster	Alexis	**Mace**	Exercise Science	The Effects of Concurrent Activation Potentiation on Bat Swing Velocity of Division II College Softball Athletes
Honeyman Pavilion		Biology poster competition	Grace	**Maganzini**		The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress
Branscomb 202	12:20-12:40	Oral	Grace	**Maganzini**	Biology	The Magical Realism in *Like Water for Chocolate* Presented Through Dimensions of Liminality
Christoverson 209	3:10-3:30	Oral	Marcos	**Martins**	Theatre Arts	Murder Mystery Dinner: 90th Birthday Murder
Christoverson 206	2:50-3:10	Oral	Robert	**Marusko**	Biology	Biomedical Applications of Metal Organic Frameworks
Christoverson 208	1:35-1:55	Oral	Inga	**Mauzy**	Biology	Characterization of Possible Novel Bacteria
Christoverson 206	3:10-3:30	Oral	James	**McKenna**	English	*Hostland*, Poems by James McKenna
Christoverson 109	2:50-3:10	Oral	Devon	**Mederos**	Political Science	Dying State: Analyzing the Multifaceted Crisis in Yemen

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Honeyman Pavilion		Biology poster competition	Nicholas	**Metheny**		Testing *Cuscuta reflexa*, *Rosa damascena*, and *Gynura procumbens*: Potential as Antifungals Against *Zygosaccharomyces bailii*, *Candida krusei*, and *Brettanomyces bruxellensis*
Christoverson 207	3:10-3:30	Oral	William	**Meyer**	Communication: Interpersonal & Organizational Communication	Effects of Nonverbal Mirroring on Persuasion and Agreement
Christoverson 109	4:15-4:35	Oral	Sera	**Milavetz**	Communication: Film Studies	The Light Lives On
Branscomb 201	1:35-1:55	Oral	Carly	**Miles**	Environmental Studies	Patterns of Subcaudal Scent Marking in Captive Owl Monkeys (*Aotus nancymaae*)
Honeyman Pavilion	1:15-2:15	Poster	Taylor	**Moats**	Elementary Education	Can You Say that Again?: Using Retelling to Increase Comprehension
Christoverson 208	6:10-6:30	Oral	Rebecca	**Monroe**	Criminology	Student Perception on Sexual Assault, Consent, and Alcohol Use
Honeyman Pavilion		Biology poster competition	Charles	**Morrison**		Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*
Christoverson 109	1:15-1:35	Oral	Reymond	**Munson**	Political Science	Majoring in Economic Disaster: How the Increasing Student Loan Debt Could Negatively Affect the Economy
Honeyman Pavilion	1:15-2:15	Poster	Brandy	**Nelson**	Elementary Education	#SOS: Parental Involvement
Honeyman Pavilion		Biology poster competition	Mackenzie	**Odenwald**		Daphnia's Developmental Changes After an Acute Exposure to Nicotine
Christoverson 112	5:15-5:45	Oral	Usonwanne	**Okonkwo**	Biochemistry & Molecular Biology	Synthesis and Antimicrobial Studies of Metal-Organic Frameworks Containing a 4,4'-Dipyridine Derivative
Christoverson 206	1:55-2:15	Oral	Anna-Brook	**Opalinski**	English	An Honors Thesis Proposal: Re-Considering Masculinities in Ernest Hemingway's *In Our Time*, Neil Simon's *Biloxi Blues*, and Ron Kovic's *Born on the Fourth of July*
Honeyman Pavilion		Biology poster competition	Hunter	**Parker**		How The Sea Urchin, *Arbacia punctulata*, Moves in Response to Variations in Light Intensities
Christoverson 109	1:35-1:55	Oral	Taylor	**Paulin**	Political Science	Title Loading… An Examination of Public Policy, Big Data Mining, and Your Right to Online Privacy
Honeyman Pavilion		Biology poster competition	McKayla	**Petrie**		Presence of *Cercariae* Among Bahamian Snails
Honeyman Pavilion		Biology poster competition	McKayla	**Petrie**		Presence of Parasites Among Bahamian Snails of Andros Island

Room	Time	Type	First Name	Last Name	Major	Title
Honeyman Pavilion	1:15-2:15	Creative art display	Ryan	**Pitcher**	Computer Science	Trebuchet
Honeyman Pavilion	2:30-3:30	Poster	Luka	**Planinc**	Biochemistry & Molecular Biology	Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties
Christoverson 112	5:45-6:15	Oral	Luka	**Planinc**	Biochemistry & Molecular Biology	Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties
Branscomb 201	12:20-12:40	Oral	Megan	**Price**	Communication: Multimedia Journalism	Florida Citrus: The Industry
Christoverson 109	4:35-4:55	Oral	Michael	**Proch**	Communication: Film Studies	*The Entertainer*
Christoverson 206	12:40-1:00	Oral	Caitlin	**Quaempts**	Biology	Evolutionary Conservation of Annexins in *Petromyzon marinus, sea lamprey*, a Parkinson's Disease Model
Branscomb 202	12:40-1:00	Oral	Stephanie	**Ramirez**	Psychology	Virgins and Sluts: Looking at Female Archetypes in Two Works of Gabriel Garcia Marquez, *100 Years of Solitude* and *Memories of My Melancholy Whores*
Honeyman Pavilion	2:30-3:30	Poster	Emily	**Ready**	Psychology	Getting the Message: The Influence of Setting on Perceptions of Sexual Harassment
Honeyman Pavilion	2:30-3:30	Poster	Erika	**Recanzone**	Exercise Science	Concurrent Activation Potentiation Improves Barbell Velocity During Submaximal Deadlift Exercise
Christoverson 209	5:30-5:50	Oral	Jordan	**Reed**	English	The Art of Transcription: Uncovering a Hidden Talent
Christoverson 109	3:10-3:30	Oral	Gianny	**Rexach**	Political Science	Addressing the Opioid Crisis: The Ohio Model
Christoverson 209	4:15-4:35	Oral	Nevali	**Rexach**	Political Science	Contami-Nation: The Prevention of Food Borne Illnesses
Christoverson 112	1:35-1:55	Oral	Joshua	**Rivera**	Political Science	A Comparative Analysis of US Immigration Policy
Honeyman Pavilion	2:30-3:30	Creative art display	Joshua	**Rivera**	Political Science	Trebuchet
Honeyman Pavilion		Biology poster competition	Emely	**Rodriguez**		The Effect of an Antioxidant Flavonoid on Viability of Oxidatively Stressed Cardiac Heart Muscle Cells in Culture
Christoverson 209	4:35-4:55	Oral	Allen	**Rogers**	Political Science	Rebuilding the Soviet Union? How to Address Russian Expansion into Eastern Europe
Christoverson 208	5:30-5:50	Oral	Jaimee	**Rudick**	Criminology	An Investigation of the Relationship between Personal Appearance, Exercise Practices, and Exposure to Social Media among College Students
Christoverson 208	4:55-5:15	Oral	Megan	**Rutherford**	Religion	The Purpose of the Law in Christianity
Honeyman Pavilion	2:30-3:30	Poster	Carole Ann	**Salb**	Elementary Education	Breaking the Cycle of Test Anxiety

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Branscomb 201	12:40-1:00	Oral	Victoria	**Salvatore**	Communication: Multimedia Journalism	Ghost Towns: The Forgotten Towns of America
Honeyman Pavilion	2:30-3:30	Creative art display	Alexa	**Scinicariello**	History	Book of Hours Parody: The Crusades
Honeyman Pavilion		Biology poster competition	Pauline	**Selle**		Qualitative Screening for Biosurfactant Production and Antimicrobial Activity of Hydrocarbonoclastic *Oceanobacillus sp.*
Honeyman Pavilion		Biology poster competition	Jenna	**Simpson**		Distribution and Assessment Analysis of Juvenile Fish of the Bays and Lagoons of the East Coast of Andros Island
Christoverson 206	4:55-5:15	Oral	Emma	**Skiba**	Psychology	"Pieces of the Puzzle": The Effect of Autism Awareness on Altruistic Motivation
Christoverson 109	4:55-5:15	Creative art display	Ryder	**Skipper**	Communication: Film Studies	*Cerebral*
Honeyman Pavilion	2:30-3:30	Poster	Hannah	**Smith**	Psychology	The Relationship Between Homonegativity and Perceptions of Severity on Same-Sex and Opposite-Sex Sexual Harassment Scenarios
Branscomb 201	3:10-3:30	Oral	Rebecca	**Smith**	Mathematics	Risk Stratification Index to Predict Complications and Mortality in Elective Procedures
Christoverson 209	4:55-5:15	Oral	Christine	**Soulier**	Political Science	Preventing Flooding in Southeastern Louisiana: Man vs. Nature
Honeyman Pavilion	2:30-3:30	Poster	Katarina	**Sperduto**	Computer Science	Algorithmic Approaches to Solving the Traveling Salesman Problem
Honeyman Pavilion		Biology poster competition	Savanna	**Spirt**		Effects of Two Different Concentrations and Sizes of Microsphere Plastics on *Palaemonetes paludosus*
Honeyman Pavilion	2:30-3:30	Poster	Danielle	**Stakes**	Nursing	Ventricular Assist Device Quality of Life
Honeyman Pavilion	2:30-3:30	Poster	Danielle	**Stakes**	Nursing	Windshield Survey: A Trip Down State Road 64
Honeyman Pavilion	1:15-2:15	Poster	Kimberly	**Stakes**	Nursing	Effects of Shift Length on Quality of Patient Care and Patient Safety
Christoverson 207	6:10-6:30	Oral	Alexandra	**Stark**	Marine Biology	Human Foot Traffic and its Effect on Limpkin (*Aramus guarana*) Foraging, Social Behavior, and Population Density
Branscomb 201	1:55-2:15	Oral	Anthony	**Stefan**	Mathematics	Differential Equations Beyond the Classroom
Honeyman Pavilion	2:30-3:30	Creative art display	Anthony	**Stefan**	Mathematics	Twelfth Century Arabic Manuscript
Christoverson 208	2:50-3:10	Oral	Benjamin	**Sund**	Biology	Determining the Expression of a Newly Discovered Photoreceptive Protein in a Freshwater Microcrustacean, *Daphnia*

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Honeyman Pavilion		Biology poster competition	Ashlee	**Tavernier**		Predator-specific Alarm Calls in Nocturnal Owl Monkeys (*Aotus nancymaae*)
Honeyman Pavilion	1:15-2:15	Poster	Macey	**Taylor**	Psychology	Go With the Flow: The Relationship between Mood and Music Experience on Flow, Group Resilience, and Mood Change in a Group Drumming Intervention
Honeyman Pavilion		Biology poster competition	Jared	**Thompson**		Structural and Biotic Habitat Preferences of *Pomacanthus paru*, *Pomacanthus arcuatus*, *Holacanthus ciliaris*, and *Holacanthus tricolor*
Honeyman Pavilion	1:15-2:15	Creative art display	James	**Toy**	Political Science	Demonstration of Medieval Siege Weaponry
Christoverson 209	12:30-1:00	Oral	Thomas (Bernie)	**Tyson**	Chemistry	Functionalizing the Pores of tbo-MOF for Carbon Dioxide Gas Sorption
Christoverson 207	12:40-1:00	Oral	Medhini	**Urs**	Psychology	The Influence of Personality and Money Priming on Outcomes in the Prisoner's Dilemma
Honeyman Pavilion	2:30-3:30	Poster	Medhini	**Urs**	Psychology	Too Much on My Mind: Cognitive Load, Working Memory, and Framing Effects
Honeyman Pavilion		Biology poster competition	Shruti	**Vaghasia**		Determination of Arthropsin Photosensitivity in *Daphnia magna*
Honeyman Pavilion	2:30-3:30	Poster	Kyler	**Volakos**	Computer Science	Traveling Salesman Problem: Sample Implementations of Metric and Non-Metric Solutions
Christoverson 208	3:10-3:30	Oral	Amanda	**Wagler**	Biochemistry & Molecular Biology	The Extraction, Purification, and Characterization of a Possible Prodigiosin
Christoverson 109	1:55-2:15	Oral	Kassidy	**Watkins**	Political Science	Let States Decide: A Proposal for Allowing States to Have their Own Immigration Policies
Honeyman Pavilion	2:30-3:30	Poster	Brianna	**Welsh**	Psychology	Branded II: Attitudes About LGBTQ+ Community Issues Influences Consumer Behavior
Honeyman Pavilion	1:15-2:15	Creative art display	Colin	**Wertz**	History	Medieval Battering Ram
Honeyman Pavilion	2:30-3:30	Poster	Karalyn	**Williams**	Nursing	Effect of Parent Interventions on Autistic Children's Social Interaction
Christoverson 112	1:55-2:15	Oral	Morgan	**Woodle**	Political Science	Born Addicted: The Opioid Epidemic and Childbirth
Christoverson 208	1:55-2:15	Oral	Morgan	**Yates**	Biology	Classification and Antibiotic Properties of Chromobacterium
Christoverson 207	5:30-5:50	Oral	Sean	**Yumul**	Biology	Determination of Heterocyclic Aromatic Amines at Different Depths of Meat Samples
Christoverson 112	12:40-1:00	Oral	Ava	**Zisman**	Political Science	An Exit from Brexit? Examining Immigration and Border Security Issues

Fiat Lux Oral Presentations – By Room and Time

Branscomb 201

Time	First Name	Last Name	Major	Title
12:00-12:20	Kara	Donnelly	Communication: Multimedia Journalism	Human Trafficking: Modern Slavery in Central Florida
12:20-12:40	Megan	Price	Communication: Multimedia Journalism	Florida Citrus: The Industry
12:40-1:00	Victoria	Salvatore	Communication: Multimedia Journalism	Ghost Towns: The Forgotten Towns of America
1:15-1:35	Jaydon	Gibbs	Biology	Analyzing the Evolutionary Relationships of Rosa varieties by DNA Barcoding and RAPD
1:35-1:55	Carly	Miles	Environmental Studies	Patterns of Subcaudal Scent Marking in Captive Owl Monkeys (Aotus nancymaae)
1:55-2:15	Anthony	Stefan	Mathematics	Differential Equations Beyond the Classroom
2:30-2:50	Anja	Fuchs-Robetin	Exercise Science	Early Sport Specialization: An Exploration of Youth Athletes' Sports Specialization Patterns, Associated Risks of Injury and Correlations with Future Athletic Success
2:50-3:10	Diana (Anna)	Griessler	Exercise Science	Reducing Barriers to Paratriathlon Participation Among Adults with Physical and Visual Impairments
3:10-3:30	Rebecca	Smith	Mathematics	Risk Stratification Index to Predict Complications and Mortality in Elective Procedures

Branscomb 202

Time	First Name	Last Name	Major	Title
12:00-12:20	Alyssa	Bergeman	Business Administration	The Evolution of Don Juan and Introduction of the Post-Don Juan Era
12:20-12:40	Grace	Maganzini	Biology	The Magical Realism in Like Water for Chocolate Presented Through Dimensions of Liminality
12:40-1:00	Stephanie	Ramirez	Psychology	Virgins and Sluts: Looking at Female Archetypes in Two Works of Gabriel Garcia Marquez, 100 years of Solitude and Memories of my Melancholy Whores
1:15-1:35	Mateo	Garcia Guerra	Music: Performance	Spanish Civil War
2:30-2:50	Christine	Bjornstad	Theatre Arts: Theatre Performance	Graceland
2:50-3:10	Emily	Carbo	Music: Performance	Allegretto from Quintet in E Minor
3:10-3:30	Mateo	Garcia Guerra	Music: Performance	O Mimi tu piu non torni

Fiat Lux Oral Presentations – By Room and Time

Christoverson 109 (Moc Theater)

Time	First Name	Last Name	Major	Title
1:15-1:35	Reymond	Munson	Political Science	Majoring in Economic Disaster: How the Increasing Student Loan Debt Could Negatively Affect the Economy
1:35-1:55	Taylor	Paulin	Political Science	Title Loading… An Examination of Public Policy, Big Data Mining, and Your Right to Online Privacy
1:55-2:15	Kassidy	Watkins	Political Science	Let States Decide: A Proposal for Allowing States to Have their Own Immigration Policies
2:30-2:50	Jenna	Baillie	Political Science	Gang Violence in the United States: The Dangers of MS-13
2:50-3:10	Devon	Mederos	Political Science	Dying State: Analyzing the Multifaceted Crisis in Yemen
3:10-3:30	Gianny	Rexach	Political Science	Addressing the Opioid Crisis: The Ohio Model

Break

4:15-4:35	Sera	Milavetz	Communication: Film Studies	The Light Lives On
4:35-4:55	Michael	Proch	Communication: Film Studies	The Entertainer
4:55-5:15	Ryder	Skipper	Communication: Film Studies	Cerebral
5:30-5:50	Amanda	Grisanti	Communication: Film Studies	Thank You Art People
5:50-6:10	Amanda	Grisanti	Communication: Film Studies	My Florida Home

Fiat Lux Oral Presentations – By Room and Time

Christoverson 112

Time	First Name	Last Name	Major	Title
12:00-12:20	Christian	Anderson	Political Science	Syrian Solution
12:20-12:40	Connor	Angell	Political Science	Police, Policy, Procedures, and Problems: How Everyone's Favorite "P's" Can Affect Lives and Communities
12:40-1:00	Ava	Zisman	Political Science	An Exit from Brexit? Examining Immigration and Border Security Issues
1:15-1:35	Mikaela	Guido	Political Science	Policy That's Out of this World: An Analysis on the Policy Regarding Private Space Exploration
1:35-1:55	Joshua	Rivera	Political Science	A Comparative Analysis of US Immigration Policy
1:55-2:15	Morgan	Woodle	Political Science	Born Addicted: The Opioid Epidemic and Childbirth
2:30-2:50	Carly	Cheatham	Political Science	Lack of Stability in the Education System: School to Prison Pipeline
2:50-3:10	Brandon	Giczewski	Political Science	AirBnb: Market Disruptor or Natural Progression
3:10-3:30	Nicole	Lenkel	Political Science	Political Engagement of Young People in the United States

Break

4:15-4:45	Daniel	Bolding	Biochemistry & Molecular Biology	Green Synthesis of Cholic-acid Derivatives as Novel Antimicrobials
4:45-5:15	Kacey	Engler	Biochemistry & Molecular Biology	Designing an Extraction and Purification Method to Work Towards the Correct Characterization of Secondary Metabolites from an Unknown Strain of Bacteria
5:15-5:45	Usonwanne	Okonkwo	Biochemistry & Molecular Biology	Synthesis and Antimicrobial Studies of Metal-Organic Frameworks Containing a 4,4'-Dipyridine Derivative
5:45-6:15	Luka	Planinc	Biochemistry & Molecular Biology	Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties

Fiat Lux Oral Presentations – By Room and Time

Christoverson 206

Time	First Name	Last Name	Major	Title
12:00-12:20	Samantha	Hamontree	Marine Biology	Analysis of the Microbiome Within the Nasal Cavity of Florida Manatees, Trichechus manatus latirostris
12:20-12:40	Gabriella	Hesse	Communication: Interpersonal & Organizational Communication	The Voices of the People: Speechmaking and Constituencies in the US Congress
12:40-1:00	Caitlin	Quaempts	Biology	Evolutionary Conservation of Annexins in Petromyzon marinus, sea lamprey, a Parkinson's Disease Model
1:15-1:35	Lillian	Furey	Elementary Education	How Can Intervention Benefit Students with a Double Deficit?
1:35-1:55	Sydney	Johnson	Nursing	The Impact of Peer Support Group Involvement on Self-Management Habits and Perceptions in College Students with Type 1 Diabetes
1:55-2:15	Anna-Brook	Opalinski	English	An Honors Thesis Proposal: Re-Considering Masculinities in Ernest Hemingway's In Our Time, Neil Simon's Biloxi Blues, and Ron Kovic's Born on the Fourth of July
2:30-2:50	Erin	Burrows	Business Administration	An Exploration of the Relationship Between Brand Endorsement of Political Candidates/Causes and Consumer Attitudes and Behaviors Toward the Brand
2:50-3:10	Robert	Marusko	Biology	Biomedical Applications of Metal Organic Frameworks
3:10-3:30	James	McKenna	English	Hostland, Poems by James McKenna

Break

4:15-4:35	Corinne	Cuddeback	Philosophy	Problems with Happiness
4:35-4:55	Sarah	Hofer	Marine Biology	Protein Expression in Response to Oil in a Marine Hydrocarbon Degrading Bacterium Isolated from Tampa Bay, Florida
4:55-5:15	Emma	Skiba	Psychology	"Pieces of the Puzzle": The Effect of Autism Awareness on Altruistic Motivation
5:30-5:50	Jake	Griner	Biochemistry & Molecular Biology	The Possible Role for Histone Deacetylase Inhibition as a Radiosensitizer in Chordoma
5:50-6:10	Natalie	Barton	Nursing	The Lived Experience of a NICU Father: A Descriptive-Phenomenological Study
6:10-6:30	Charles	Gotsch	Accounting	Nontraditional Business Investment: An Examination of Investor Risk Perception and Regulation

Fiat Lux Oral Presentations – By Room and Time

Christoverson 207

Time	First Name	Last Name	Major	Title
12:00-12:20	Thomas	Horton	Biology	An Analysis of Sexual Dimorphism in the Dermis of Elasmobranches During Ontogeny
12:20-12:40	Hannah	Kiester	English	Women and the Gothic: Exploring Female Roles in Wuthering Heights, The Tenant of Wildfell Hall, and Frankenstein
12:40-1:00	Medhini	Urs	Psychology	The Influence of Personality and Money Priming on Outcomes in the Prisoner's Dilemma
1:15-1:35	Andrew	Boesenberg	Mathematics	The Flaws of the Black-Scholes Pricing Model
1:35-1:55	Jacqueline	Krantz	Biotechnology	Identifying Convergence of ShK Toxins for the Treatment of Autoimmune Diseases
1:55-2:15	Mara	Lameyer	Biology	Everybody was Fungus Fighting: Examining the Symbiotic Interactions Between Roots and the Beneficial Fungi that Partner with Them
2:30-2:50	Alec	Bigness	Chemistry	The Design of Metal Organic Materials for Biomedical Drug Delivery
2:50-3:10	Armando	Campos	Athletic Training	Less is More: An Investigation of Biomechanical Diagnosis Methods in Division II Women's Basketball Players
3:10-3:30	William	Meyer	Communication: Interpersonal & Organizational Communication	Effects of Nonverbal Mirroring on Persuasion and Agreement

Break

4:15-4:35	Sara	Carlton	Psychology	Evaluating Implicit Biases and Hostile Behaviors Against Gender Nonconforming Individuals
4:35-4:55	Jordan	King	Psychology	Women in STEM: Effects of Gender and Occupation in Biased Perception of Professionals
4:55-5:15	Risley	Mabile	Chemistry	Misconceptions in Special Relativity: Why You Should Never Trust an Overly Confident Physicist
5:30-5:50	Sean	Yumul	Biology	Determination of Heterocyclic Aromatic Amines at Different Depths of Meat Samples
5:50-6:10	Jordan	Howard	Psychology	Apocalypse How? Exploring the Use of Graphic Novelization in Neuroscience Pedagogy
6:10-6:30	Alexandra	Stark	Marine Biology	Human Foot Traffic and its Effect on Limpkin (Aramus guarana) Foraging, Social Behavior, and Population Density

Fiat Lux Oral Presentations – By Room and Time

Christoverson 208

Time	First Name	Last Name	Major	Title
12:00-12:20	Zachary	Fralish	Biochemistry & Molecular Biology	Generation of Vancomycin-Gelatin Conjugates for the Prevention of Surgical Site Infections
12:20-12:40	Mark	Haver	Environmental Studies	Assessing the Greenhouse Gas Emissions of Florida Southern
12:40-1:00	Rebecca	Hill	Philosophy	The Parts that Make Up the Whole: How Society Impacts its Citizens
1:15-1:35	Peter	Edgar	English	Who Lives, Who Dies, Who Tells Your Story? : A Literary Analysis of Popularly-Marketed Narratives of U.S. History
1:35-1:55	Inga	Mauzy	Biology	Characterization of Possible Novel Bacteria
1:55-2:15	Morgan	Yates	Biology	Classification and Antibiotic Properties of Chromobacterium
2:30-2:50	Nicole	Glatz	Chemistry	Towards the Synthesis of Stachybotrin D: A Potential Anti-HIV Drug
2:50-3:10	Benjamin	Sund	Biology	Determining the Expression of a Newly Discovered Photoreceptive Protein in a Freshwater Microcrustacean, Daphnia
3:10-3:30	Amanda	Wagler	Biochemistry & Molecular Biology	The Extraction, Purification, and Characterization of a Possible Prodigiosin

Break

4:15-4:35	Erin	Gehrdes	Philosophy	Shifting the Paradigm: Ethics in Cosmic Pessimism
4:35-4:55	Allie	Howard	Religion	The Significance of Contemplation in Christian Living
4:55-5:15	Megan	Rutherford	Religion	The Purpose of the Law in Christianity
5:30-5:50	Jaimee	Rudick	Criminology	An Investigation of the Relationship between Personal Appearance, Exercise Practices, and Exposure to Social Media among College Students
5:50-6:10	Gloria	Fierro	Criminology	Perceptions of Verbally Aggressive Behaviors in Platonic and Romantic Relationships
6:10-6:30	Rebecca	Monroe	Criminology	Student Perception on Sexual Assault, Consent, and Alcohol Use

Fiat Lux Oral Presentations – By Room and Time

Christoverson 209

Time	First Name	Last Name	Major	Title
12:00-12:30	Guernide	Fils-aime	Chemistry	The Removal of Atrazine from Water Using a Valent Metal Mixture of Iron and Zinc
12:30-1:00	Thomas (Bernie)	Tyson	Chemistry	Functionalizing the Pores of tbo-MOF for Carbon Dioxide Gas Sorption
1:15-1:45	Eric	Alonso	Chemistry	Metal-Organic Frameworks (MOFs) for Hydrogen Storage
1:45-2:15	Risley	Mabile	Chemistry	Development of an Inexpensive Reflectance Spectrophotometer for Detection of Iodine Concentrations in Drinking Water
2:30-2:50	Gabriella	Hesse	Communication: Interpersonal & Organizational Communication	Women in the Arts
2:50-3:10	Elizabeth	Hicks	Economics & Finance	How Inequality and Corruption Affects Growth in Terms of GDP
3:10-3:30	Marcos	Martins	Theatre Arts	Murder Mystery Dinner: 90th Birthday Murder

Break

4:15-4:35	Nevali	Rexach	Political Science	Contami-Nation: The Prevention of Food Borne Illnesses
4:35-4:55	Allen	Rogers	Political Science	Rebuilding the Soviet Union? How to Address Russian Expansion into Eastern Europe
4:55-5:15	Christine	Soulier	Political Science	Preventing Flooding in Southeastern Louisiana: Man vs. Nature
5:30-5:50	Jordan	Reed	English	The Art of Transcription: Uncovering a Hidden Talent
5:50-6:10	Emily	Fournier	English	Trust the Process: Transcribing Ann Twice

Honeyman Pavilion – Creative Arts Presentations

Time	First Name	Last Name	Major	Title
1:15-2:15	Emily	Fournier	English	Knights of the Crusades
1:15-2:15	Ryan	Pitcher	Computer Science	Trebuchet
1:15-2:15	James	Toy	Political Science	Demonstration of Medieval Siege Weaponry
1:15-2:15	Colin	Wertz	History	Medieval Battering Ram
2:30-3:30	Peter	Edgar	English	Frank Lloyd When: Visualizing FSC's Archived Blueprints
2:30-3:30	Natalie	Kennedy	Dance	Importance of Dance in Early Childhood
2:30-3:30	Joshua	Rivera	Political Science	Trebuchet
2:30-3:30	Alexa	Scinicariello	History	Book of Hours Parody: The Crusades
2:30-3:30	Anthony	Stefan	Mathematics	Twelfth Century Arabic Manuscript

Fiat Lux Poster Presentation Schedule – By Student Last Name

All poster presentations take place in Honeyman Pavilion

Time	First Name	Last Name	Major	Title
2:30-3:30	Sarah	Barton	Elementary Education	Express Yourself! Teaching a Student with Dyslexia About Fluency
1:15-2:15	Alexandra	Bittinger	Exercise Science	The Effects of Concurrent Activation Potentiation on Average and Peak Power During Submaximal Deadlift Exercise
2:30-3:30	Nicholas	Carlino	Psychology	Influence of Social Media on Social Adjustment to College
1:15-2:15	Sarah	Collins	Nursing	Skin-to-skin Contact on Newborns
2:30-3:30	Laurin	Davis	Nursing	Windshield Survey; Mulberry Florida
2:30-3:30	Emma	Edgar	Communication: Interpersonal & Organizational Communication	The Process of Processing
1:15-2:15	Amber	Elsenheimer	Psychology	Effects of Makeup Application on Hiring Decisions and Employer Attributions
2:30-3:30	Danielle	Giblin	Nursing	The Effect of Parental Presence in Pediatric Trauma Procedures
2:30-3:30	Madeline	Gonzalez	Psychology	"Hunger for Games": Video Game Influences on Understanding of Cancer
2:30-3:30	Melissa	Hansard	Accounting	Personality and Sexual Misconduct: Predicting Proclivity to Sexually Harass
1:15-2:15	Kylie	Hartzell	Psychology	Memory Benefits of Graphic Novelization Exposure in Children with Dyslexia
2:30-3:30	Kylie	Hartzell	Psychology	"Why Can't We Be Friends?": The Relationship Between Narcissism and Facial Biases
1:15-2:15	Kenzie	Hurley	Psychology	More than a Game: The Use of Intergroup Monopoly as a Pedagogical Tool
2:30-3:30	Ann	Kast	Elementary Education	"Art-Full" Writing: Integrating the Visual Arts to Increase Writing Proficiency
1:15-2:15	Chloe	Kindell	Psychology	Color My World: Memory Effects in Graphic Novel Learning
2:30-3:30	Alicia	Lader	Psychology	The Relationship Between Transactional and Transformational Leadership in Different Types of Work
1:15-2:15	Hannah	Lockey	Nursing	Trauma Focused Cognitive Behavioral Therapy versus Therapy as Usual
1:15-2:15	Driyanna	Lynch	Nursing	Culturally Competent Interventions for African-American Women
1:15-2:15	Alexis	Mace	Exercise Science	The Effects of Concurrent Activation Potentiation on Bat Swing Velocity of Division II College Softball Athletes
1:15-2:15	Taylor	Moats	Elementary Education	Can You Say that Again?: Using Retelling to Increase Comprehension
1:15-2:15	Brandy	Nelson	Elementary Education	#SOS: Parental Involvement
2:30-3:30	Luka	Planinc	Biochemistry & Molecular Biology	Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties
2:30-3:30	Emily	Ready	Psychology	Getting the Message: The Influence of Setting on Perceptions of Sexual Harassment

Fiat Lux Poster Presentation Schedule – By Student Last Name

Time	First Name	Last Name	Major	Title
2:30-3:30	Erika	Recanzone	Exercise Science	Concurrent Activation Potentiation Improves Barbell Velocity During Submaximal Deadlift Exercise
2:30-3:30	Carole Ann	Salb	Elementary Education	Breaking the Cycle of Test Anxiety
2:30-3:30	Hannah	Smith	Psychology	The Relationship Between Homonegativity and Perceptions of Severity on Same-Sex and Opposite-Sex Sexual Harassment Scenarios
2:30-3:30	Katarina	Sperduto	Computer Science	Algorithmic Approaches to Solving the Traveling Salesman Problem
2:30-3:30	Danielle	Stakes	Nursing	Ventricular Assist Device Quality of Life
2:30-3:30	Danielle	Stakes	Nursing	Windshield Survey: A Trip Down State Road 64
1:15-2:15	Kimberly	Stakes	Nursing	Effects of Shift Length on Quality of Patient Care and Patient Safety
1:15-2:15	Macey	Taylor	Psychology	Go With the Flow: The Relationship between Mood and Music Experience on Flow, Group Resilience, and Mood Change in a Group Drumming Intervention
2:30-3:30	Medhini	Urs	Psychology	Too Much on My Mind: Cognitive Load, Working Memory, and Framing Effects
2:30-3:30	Kyler	Volakos	Computer Science	Traveling Salesman Problem: Sample Implementations of Metric and Non-Metric Solutions
2:30-3:30	Brianna	Welsh	Psychology	Branded II: Attitudes About LGBTQ+ Community Issues Influences Consumer Behavior
2:30-3:30	Karalyn	Williams	Nursing	Effect of Parent Interventions on Autistic Children's Social Interaction

Biology Poster Competition – By Student Last Name

All poster presentations take place in Honeyman Pavilion

Presenter(s)	Title
Angel, Gabrielle; Christopher Murphy	Antibiotic Resistance and Production in Bacteria from Soil Collected in Developing West Africa
Arena, Catherine; Nikita Pearson	A Survey of Arachnids in Different Habitats in North Andros Island in the Bahamas
Benedetto, Aubriana; Haley DeGrace	Effects of Roundup and Glyphosate on the Natural Mutation Rate of *Saccharomyces cerevisiae*
Bowen, Malique; Clay Anderson	Characterizing the Microbiota on the Subcaudal Gland of the Owl Monkey (*Aotus nancymaae*)
Brown, Cassandra; Grace Maganzini	The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress
Brown, Emily; Nicole Gulch, Sarah Henry	Parasitic Survey of Invasive Red Lionfish *Pterois volitans* in Andros Island
Carr, Jordan; Arjeet Tipirneni	Assessing Antimicrobial Activity of Neem Extracts on Oral Bacteria Associated with Various forms of Periodontitis
Claybrone, Mercedez; Alexis Flenniken	Survival and Urease Activity of *Helicobacter cetorum* under Environmental Stress Conditions
Crone, Colette; Taylor Derrico, Alondra Rodriguez	How Interspecies Competition with the Asian Clam (*Corbicula fluminea*) Affects Freshwater Invertebrate Populations
Cureton, Carolyn; Morgan Ashley Jones, Adam Cruz	Relationships Between Leaf Chlorophyll Content, Fertilizer Application Rates, and Visual Grades of Greenhouse-grown *Homalomena* 'Emerald gem'
Dulkoski, Alexis; Sara Lautermilch	Exploring the Relationship Between Cortisol Levels and Foraging Behaviors in Owl Monkeys (*Aotus nancymaae*)
Dumala, Samantha; Ryan Harris	Clay Flocculation Efficacy in Removing *Amphidinium carterae*
Flenniken, Alexis; Sarah Hofer, Anthony Iboy, Jacqueline Krantz, Celine A. Kumarsingh, Emely Rodriguez	The Effects of A Potentially Novel Antibiotic, JD-17, on A Human Continuous Cell Line
Guerra, Ysabella; Charles Morrison	Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*
Harrington, Danielle; McKayla Petrie	Presence of Parasites Among Bahamian Snails of Andros Island
Hendrick, Sabrina; Emily Glidden, Addison Cantor	Characterizing the Interaction between Annexin Family Members and α-Synuclein, a Parkinson's Disease Associated Protein
Kirsten, Kyle; Sherone White	Quantifying Variations of LOPB2 Expression in *Daphnia magna* Due to Exposure to Different Wavelengths of Visible Light
Kistler, Hannah; Andrew Slaga	Comparison of Antimicrobial Resistance in the Fecal Microbiome of Horses Living in Herd Communities Versus Individual Stalls
Kizza-George, Vanessa; Alvin Puri	The Effects of Silver Diamine Fluoride on *Streptococcus mutans* and *Streptococcus salivarius* K12 at Different Sugar Concentrations
Kumarsingh, Celine; Mackenzie Blevins	Protein Expression Analysis of Bacteria Cultured in the Presence of Nylon
Lettera, Anthony; Nicole Brown, Rose Bjerken	Stony Coral Distribution and Assessment of the Andros Island Fringing Reef System
Maganzini, Grace; Cassandra Brown	The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress
Metheny, Nicholas	Testing *Cuscuta reflexa*, *Rosa damascena*, and *Gynura procumbens*: Potential as Antifungals Against *Zygosaccharomyces bailii*, *Candida krusei*, and *Brettanomyces bruxellensis*

Biology Poster Competition – By Student Last Name

Presenter(s)	**Title**
Morrison, Charles; Ysabella Guerra	Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*
Odenwald, Mackenzie; Carly McGuire	Daphnia's Developmental Changes After an Acute Exposure to Nicotine
Parker, Hunter; Serena Manzi	How The Sea Urchin, *Arbacia punctulata*, Moves in Response to Variations in Light Intensities
Petrie, McKayla; Danielle Harrington	Presence of *Cercariae* Among Bahamian Snails
Petrie, McKayla; Danielle Harrington	Presence of Parasites Among Bahamian Snails of Andros Island
Rodriguez, Emely	The Effect of an Antioxidant Flavonoid on Viability of Oxidatively Stressed Cardiac Heart Muscle Cells in Culture
Selle, Pauline; Martin Makenna	Qualitative Screening for Biosurfactant Production and Antimicrobial Activity of Hydrocarbonoclastic *Oceanobacillus sp.*
Simpson, Jenna; Ryan Hegseth	Distribution and Assessment Analysis of Juvenile Fish of the Bays and Lagoons of the East Coast of Andros Island
Spirt, Savanna; Carlos Javier Penzo, Sam Foley	Effects of Two Different Concentrations and Sizes of Microsphere Plastics on *Palaemonetes paludosus*
Tavernier, Ashlee	Predator-specific Alarm Calls in Nocturnal Owl Monkeys (*Aotus nancymaae*)
Thompson, Jared; Jennings Moore	Structural and Biotic Habitat Preferences of *Pomacanthus paru*, *Pomacanthus arcuatus*, *Holacanthus ciliaris*, and *Holacanthus tricolor*
Vaghasia, Shruti; Hannah Patel	Determination of Arthropsin Photosensitivity in *Daphnia magna*

Student: Alonso, Eric **Major:** Chemistry
Faculty Mentor: Eubank, Jarrod
Presentation Type: Oral
Presentation Time: 1:15-1:45 **Room:** Christoverson 209

Title: Metal-Organic Frameworks (MOFs) for Hydrogen Storage

Abstract: Metal-organic frameworks (MOFs) are newly emerged competitors in the field of functionalized materials, and have been of significant interest due to their seemingly limitless potential for applications (e.g. gas separations and storage, catalysis, drug delivery) in addition to their unmatched surface area/porosity, modularity, mild synthesis conditions, and thermal stability. These functionalized materials consist of inorganic components (i.e. transition metal ions, clusters, chains, sheets, etc.) connected by organic ligands, whose design are only limited by the bounds of organic chemistry. Both the inorganic and organic components can be designed to introduce desired properties into the framework, creating materials for targeted applications. Presented here is a design approach to create functionalized metal-organic frameworks, specifically for applications in drug delivery and catalysis. Using existing frameworks that contain multinuclear metal clusters as a template, we decided to modify these structures by introducing multiple types of metals into a framework. One way this was done, was by using a metalloligand to bridge metal nodes in the framework. The metalloligand has a structural functionality equivalent to that of an organic ligand, except the metalloligand introduces a catalytically active palladium(II) metal site anchored into the pores of the framework, which allows for guest molecules in the pores of the framework to interact with the open metal site.

Student: Anderson, Christian **Major:** Political Science
Faculty Mentor: Anderson, Christian
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Christoverson 112

Title: Syrian Solution

Abstract: This paper will cover the predicament that Syria has been faced with for the better part of the past decade. I wrote this paper by exploring these problems through multiple sources. Among those sources I found many variables deteriorating Syria such as a corrupt government and revolts throughout the Middle East region. I will give a brief oversight into the civil war caused by the oppressive government and the effect it continues to have on the country. I will also cover what living in present day Syria entails. Along with the problems I will outline, I will also cover what key players in the area have done in the past successful and unsuccessful. Syria has found itself in a vulnerable position. It could fall into the hands of a dangerous radical rebel group, or remain under control by the oppressive ruler President Assad. I will outline policy solutions on what I believe the best course of action would be, along with what efforts have been made in the past. Key Words: Civil War, Oppression, Policy Solution.

Student: Angel, Gabrielle
Faculty Mentor: Langford, Melanie
Co-presenter: Christopher Murphy
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Antibiotic Resistance and Production in Bacteria from Soil Collected in Developing West Africa

Abstract: Antibiotic resistant bacteria have become increasingly prevalent as a result of antibiotic overprescription and agricultural practices. It is imperative that new antibiotics be found, and existing resistance be monitored, regardless of location. We sought to determine the prevalence of antibiotic resistance and production in a region of West Africa: The Gambia. Ten soil samples were collected from various ecosystems, including beaches, farmland, guinea savanna, and scrubland, in The Gambia and returned to the United States. The samples were plated using a serial dilution method on LB and AIA media. We screened isolated colonies for antibiotic production. We also determined the percent resistance to tetracycline and ampicillin. Antibiotic resistance to tetracycline and ampicillin in The Gambia was found to be approximately 35% and 3% respectively, while evidence of antibiotic producing bacteria was not clearly found. This data suggest that what little information there is on resistance levels in The Gambia has not been adequately studied, as is shown when compared to a previous study where resistance was found to be 74.5% for ampicillin. Further research into the usage of antibiotics, as well as potentially undiscovered ones, would be valuable in continued efforts to combat the spread of resistant pathogens.

Student: Angell, Connor **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Christoverson 112

Title: Police, Policy, Procedures, and Problems: How Everyone's Favorite "P's" Can Affect Lives and Communities

Abstract: Trayvon Martin, Eric Garner, and Michael Brown are all names of individuals whose lives were taken over the past few years at the hands of police officers and sparked a discussion of police tactics. Conversation around police and the way they execute their roles in the community can lead to progression or recession depending on how things are handled. Different types of police policy can affect lives and communities in a variety of different ways and it is important to understand the causes and effects of these policies in order to decrease the amount of fatalities by police as well as too improve relations between communities and their police departments. In one study, 80% of police agencies have in place some form of use of force policy. That leaves roughly 20% of agencies without a clear framework for their officers to respond to scenarios that require physical force. In particular, there are two schools of thought regarding police reform that deserve further analysis and examination: internal policy changes within police departments and external policy changes outside of police departments. Proponents of internal policy changes within police departments contend that policing issues can be solved by putting policy into place that gives officers clear and specific guidelines and instructions.

Those who support external policy changes outside of police departments believe that policy that works to fix external factors in the community rather than internally in a police department. Both of these theories have their share of strengths and weakness but both strive for a healthier relationship between police and the people they serve.

Student: Arena, Catherine
Faculty Mentors: Kjellmark, Eric; Gabriel Langford
Co-presenter: Nikita Pearson
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: A Survey of Arachnids in Different Habitats in North Andros Island in the Bahamas

Abstract: Species diversity is essential to maintaining a balanced ecosystem because it ensures that natural sustainability, for all life forms, occurs. Unique species diversity found in differing ecosystems provide many natural services, resources, and topics of research. Species diversity within spiders in the Bahamas has been previously studied, however in recent years, there has not been updated surveys. In this study, our aim was to survey the abundance of arachnids and species diversity within different habitats in North Andros Island of the Bahamas. To achieve this, eight different locations, with varying vegetation types, were surveyed. From the eight different locations, we searched in two coastal environments, four tropical hardwood stands, one high scrub area, and one abandoned human settlement. These very different habitats did consist of different vegetation and other organisms coexisting within the ecosystems. We will determine the variation in species diversity among each individual location and within each habitat type. We will study the differences in diversity based on observations made in the field that could have increased or decreased the diversity and abundance observed. We predict that there will be a greater species diversity and abundance in the tropical hardwood stands than in the other habitat types.

Student: Baillie, Jenna **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Christoverson 109 (Moc Theater)

Title: Gang Violence in the United States: The Dangers of MS-13

Abstract: There is an alarming amount of gang violence occurring across the world and it is making its way into the United States. Specifically, the notoriously violent gang, MS-13, has thousands of members that are committing crimes within the US. The members are mostly based in suburban and urban areas ranging from New York City and the surrounding suburbs, to the streets of Los Angeles. These violent members are infiltrating the US public school system, brutally murdering harmless citizens, and trafficking illegal drugs throughout the country as well. Another aspect that makes this topic more of a national discussion is that a majority of MS-13 members are also illegal immigrants. This paper will

analyze the problems that MS-13 is causing within the country, and various ways the local and federal government can aid citizens and offer policy solutions on how to best combat this ongoing problem.

Student: Barton, Natalie **Major:** Nursing
Faculty Mentors: Hall, Carrie; Judy Risko
Presentation Type: Oral
Presentation Time: 5:50-6:10 **Room:** Christoverson 206

Title: The Lived Experience of a NICU Father: A Descriptive-Phenomenological Study

Abstract: In the United States, one out of every nine babies born is premature, many of which are admitted to the Neonatal Intensive Care Unit (NICU). Additionally, admission rates for normal-birth-weight infants continue to rise. These infants often require a long-term stay due to their many medical issues and complications. Early separation from the infant due to the NICU stay is associated with high levels of distress in mothers, but there is limited research on the fathers' experiences. The purpose of this descriptive-phenomenological study was to explore the paternal experience of having a child admitted to the NICU. Five participants were purposefully recruited based on their unique understanding of the phenomenon of interest. Participants completed an audio-recorded semi-structured interview. Interviews were transcribed using a pseudonym of choice. Thematic analysis is underway. Results from the analysis will be shared during the oral session. This information will help health care professionals in the development of interventions that promote family-centered care and developmentally supportive care.

Student: Barton, Sarah **Major:** Elementary Education
Faculty Mentors: Rakes, Lori; Rebecca Powell
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Express Yourself! Teaching a Student with Dyslexia About Fluency

Abstract: The goal of this case study was to determine if weekly interventions on fluency, more specifically reading rate and expression, would improve a student's ability to read aloud at a more accurate rate and with more expression, therefore increasing the level of comprehension. By researching and conducting interventions to find an appropriate way to teach students with difficulties, educators are better equipped to know how to adapt their curriculum to meet the needs of these students. The participant in this study was a sixth grader at a 3.5-4.0 reading level. I met with her weekly for 30-40 minutes over the course of 12 weeks. Introductory assessments over the components of reading were given to the student to identify where she struggled. Once fluency was determined to be the impeding factor, I began weekly assessments and interventions to improve her reading rate and expression. The interventions consisted of repeated and choral reading, independent level texts that she could practice repeatedly, and timing the student to chart improvement. I asked the student to match her voice and intonations and had the student practice reading a passage with a certain emotion, such as sadness or excitement. The student's overall fluency improved tremendously at the end of the 12-week research

period. At the beginning of the interventions, the student read 71 words per minute and ended reading 80 words per minute. Her expression during individual reading, simultaneous reading, and repeated reading improved at a consistent rate as well.

Student: Benedetto, Aubriana
Faculty Mentors: Brandon, Christopher; Melanie Langford
Co-presenter: Haley DeGrace
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Effects of Roundup and Glyphosate on the Natural Mutation Rate of *Saccharomyces cerevisiae*

Abstract: Glyphosate is the main ingredient in the world's most popular herbicide Roundup. Little is known on the effects glyphosate may have on humans. This is concerning due to the number of people who ingest crops that have been covered with Roundup, or for farmers who have directly worked with the herbicide. Glyphosate and Roundup are often seen as synonymous, however, in this research they were tested separately on *Saccharomyces cerevisiae*, bakers yeast, a model eukaryotic organism. Both the glyphosate and the Roundup were seen to cause mutation rates in *S. cerevisiae* that were not seen in a negative control. By performing a genetic screening, phloxine B was used to indicate mutated yeast cells. Both chemicals showed mutations that proved more severe than seen in the positive control that used UV radiation. Further testing should be done on more complex eukaryotes in order to determine how detrimental glyphosate is for humans.

Student: Bergeman, Alyssa **Major:** Business Administration
Faculty Mentor: Garr, Melissa
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Branscomb 202

Title: The Evolution of Don Juan and Introduction of the Post-Don Juan Era

Abstract: Don Juan is an iconic character in Hispanic literature. Don Juan is a young, attractive, master of control and manipulation. There are three aspects that classify characters as a 'Don Juan': relationship with society, control over women and their reputation. However, if one or more of these aspects are taken away, one will enter a post-Don Juan era. Through the works El Burlador de Sevilla, Don Juan Tenorio and Nada this paper will highlight the evolution of the character Don Juan and introduce the post-Don Juan era. The destiny of Don Juan is dependent on the character's actions, these actions determine their divine justice and/ or their fate in the post-Don Juan era.

Student: Bigness, Alec **Major:** Chemistry
Faculty Mentors: Gauthier, Carmen; Jason Montgomery
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Christoverson 207

Title: The Design of Metal Organic Materials for Biomedical Drug Delivery

Abstract: Novel zinc metal-organic materials (MOMs) have been successfully synthesized and characterized. Metal-organic materials are hybrid materials that contain metal to organic ligand bonds and exhibit high surface area and porosity. This novel zinc 5-hydroxyisopthalate metal-organic framework (MOF) was characterized via single crystal x-ray diffraction, powder x-ray diffraction, and other methods. Optimized methods ranging from solvent layering room-temperature reactions to microwave synthesis are reported with ideal reagent ratios, solvent, and template molecules. The MOF was then evaluated for its use in up-taking the model drug compound ibuprofen to increase its therapeutic effect and reduce adverse effects. Density functional theory (DFT), a computational method, was used to understand the binding interaction of ibuprofen with the zinc MOM carriers.

Student: Bittinger, Alexandra **Major:** Exercise Science
Faculty Mentor: Allen, Charles
Co-author: Erika Recanzone
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: The Effects of Concurrent Activation Potentiation on Average and Peak Power During Submaximal Deadlift Exercise

Abstract: The purpose of this study was to examine the effects of maximal jaw clenching and maximal jaw opening on average and peak power output during the deadlift exercise against a submaximal resistance. Eight male and nine females, considered intermediate to advanced resistance trained athletes, visited the lab on two occasions. The first visit involved provision of written consent, one repetition maximum (1RM) deadlift assessment, and familiarization with subsequent data collection procedures. The second visit consisted of submaximal deadlifts at 65% of 1RM performed under three experimental conditions: jaw maximally clenched, jaw maximally opened, and jaw relaxed (control condition). Subjects initiated the experimental condition simultaneously with maximal force application to the bar, and completed the concentric phase of the deadlift as fast as possible. Average and peak power output was recorded with a Tendo Power & Speed Analyzer. Three trials were performed under each condition, and measurements from each trial were averaged. A 1x3 repeated measures ANOVA was used to determine differences between experimental conditions. Pairwise comparisons with Bonferroni adjustment determined specific differences between groups. There was a statistically significant difference between conditions for both average and peak power. Maximum jaw clenching and maximum jaw opening significantly improved peak power output when compared to the jaw relaxed condition. Additionally, maximal jaw clenching and maximum jaw opening improved average power output in comparison to the jaw relaxed condition, however, only the maximal jaw opening condition was

statistically significant. Both clenching and opening the jaw maximally, enhances power output during submaximal resistance exercise.

Student: Bjornstad, Christine
Major: Theatre Arts: Theatre Performance
Faculty Mentor: Bawek, Paul
Co-presenter: Julie Weber
Presentation Type: Live Performance
Presentation Time: 2:30-2:50
Room: Branscomb 202

Title: *Graceland*

Abstract: I will be presenting my Senior Project which is entitled *Graceland*. *Graceland* is an approximately 30-45 minute long one act play written by Ellen Byron. The play follows two women fighting to be the first person to set foot on the grounds of Elvis Presley's Nashville mansion, Graceland. The play explores themes of domestic abuse and the relationship the two women have with the men in their lives including the most important man of all, Elvis. For the presentation, I will describe the rehearsal and research process for the project. In this portion I will explain the importance of character research in the development of a production using some examples from the process for this show. I will conclude the presentation with the performance of approximately 5-10 minutes of the play with Julie Weber, who will be acting as the second woman in the production.

Student: Boesenberg, Andrew
Major: Mathematics
Faculty Mentor: Elsinger, Jason
Presentation Type: Oral
Presentation Time: 1:15-1:35
Room: Christoverson 207

Title: The Flaws of the Black-Scholes Pricing Model

Abstract: This project will examine the shortcomings associated with the assumptions of the Black-Scholes pricing model, which is a mathematical model designed to predict the fair price of an option. In finance, an option refers to a contract in which the buyer could sell that option's underlying asset at a fixed price prior to a specific date. It has been well-documented that the Black-Scholes model, despite being used as a "common language" among those in the finance industry, has several flawed assumptions. In particular, this model assumes that price volatility—a measure of how likely an option will have a large price change—will never change over the option's lifetime. Previous research has shown that this is almost never the case in real world situations. However, the Black-Scholes model continues to hold this assumption to make it more convenient and accessible for use. Using real world data, this research project will examine whether this flawed assumption has a significant impact on option pricing accuracy by comparing it to more sophisticated yet complex models such as the binomial model.

Student: Bolding, Daniel **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Bromfield Lee, Deborah; Brittany Gasper
Presentation Type: Oral
Presentation Time: 4:15-4:45 **Room:** Christoverson 112

Title: Green Synthesis of Cholic-acid Derivatives as Novel Antimicrobials

Abstract: The relationship between antibiotic-resistant bacteria and healthcare-associated infections, coupled with the current lack of novel antibiotics, prompts new avenues of research into original antibiotics. Exploratory derivation of cholic-acid using green chemistry techniques may provide various novel antimicrobial compounds with low financial cost and minimal environmental impact. Addition to the hydrophobic back-bone of cholic-acid was achieved using esterifications with methanol and octanol, amide coupling with various Boc-protected amino acids, and deprotection with cyclopentyl methyl ether as a green substitute for dioxane. The antimicrobial properties of these derivatives will be evaluated using Minimum Inhibitory Concentrations (MICs) of Gram negative and Gram positive ESKAPE safe pathogens. Results can be compared to commonly used antibiotics, azithromycin and penicillin, and the combined effect of the derivatives and antibiotics will be evaluated. The hypothesis is that the cholic-acid derivatives will perform better against the outer membrane of Gram negative bacteria than the thick peptidoglycan layer of Gram positive bacteria. The development of new antibacterial compounds by means of a high-yielding green synthesis may be useful to decrease the risk of healthcare-associated infections.

Student: Bowen, Malique
Faculty Mentors: Wolovich, Christy; Melanie Langford
Co-presenter: Clay Anderson
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Characterizing the Microbiota on the Subcaudal Gland of the Owl Monkey (*Aotus nancymaae*)

Abstract: Chemical signals are used by mammals to identify conspecifics between individuals. Chemical signals, specifically those from scent marking, can convey information regarding sex, kinship, and social status. Recent work in bats, meerkats, and hyenas suggests that the microbiota on scent glands contributes to the variability of the chemical signatures. Despite previous research into olfactory communication of primates, few studies have tried to identify the microbiota associated with primate scent glands. *Aotus nancymaae*, a truly nocturnal and monogamous primate, regularly scent marks using a subcaudal gland. The chemical composition of the subcaudal gland secretions differs between sexes and varies with age and kinship. Our goal is to identify the bacteria present on the subcaudal gland of owl monkeys and determine if bacterial communities vary in a similar manner. We collected samples from the subcaudal gland of adult male and female (male = 12; female = 12) monkeys (mean = 6 swabs/monkey; n = 141 total swabs) at the DuMond Conservancy (Miami, FL). We isolated bacteria from these samples and identified individual species by sequencing the 16S rRNA gene. We were able to identify several species of bacteria present on the subcaudal gland of different individuals. This is the

first study to analyze the bacteria present on the subcaudal gland of owl monkeys and one of few studies to analyze bacteria on a scent gland of a primate.

Student: Brown, Cassandra
Faculty Mentor: Langford, Melanie
Co-presenter: Grace Maganzini
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress

Abstract: *Helicobacter cetorum* has been isolated from many marine mammals throughout the world, such as cetaceans (dolphins, whales, porpoises) and pinnipeds (seals, walruses), and appears to cause gastric symptoms in marine mammals that are very similar to pathology caused by *Helicobacter pylori*, such as inflammation and ulceration. Thus far, there is limited laboratory work involving *H. cetorum*, as most research has focused on detection methods rather than the biology of the bacterium itself. Here we tested the viability of *H. cetorum* in response to oxidative stress over time. We also plan to examine the expression of napA, which is a gene hypothesized to be involved in the oxidative stress response. The oxidative stress response is proposed to enhance *H. cetorum*'s survival and colonization in the host. Our project is novel because it is the first study that examines the response of *H. cetorum* to oxidative stress, and having a better understanding of the bacterial stress response may ultimately lead to potential curative therapies for marine mammals infected with *H. cetorum*.

Student: Brown, Emily
Faculty Mentors: Langford, Gabriel; Eric Kjellmark
Co-presenters: Nicole Gulch, Sarah Henry
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Parasitic Survey of Invasive Red Lionfish *Pterois volitans* in Andros Island

Abstract: We conducted a parasitic survey within red lionfish, *Pterois volitans*, of the east coastal reefs of North Andros Island, Bahamas. Our hypothesis states that due to lionfish being invasive to Bahamian waters for over 30 years, they should display parasitic infections from native parasites. Specimens were collected at three different reef sites. All specimens were speared by Forfar Field Station staff. Fifteen of the 16 specimens studied were frozen prior to our arrival and one was freshly caught during our stay. All 16 lionfish were systematically dissected. Mouths, gills, and GI tracts were checked thoroughly for parasites. No parasites were found in any of the specimens. The lack of parasitic infection rejects our hypothesis. The parasite release hypothesis, which states an invasive species will lose its parasites in a new environment, is supported.

Student: Burrows, Erin **Major:** Business Administration
Faculty Mentor: Bernthal, Matt
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Christoverson 206

Title: An Exploration of the Relationship Between Brand Endorsement of Political Candidates/Causes and Consumer Attitudes and Behaviors Toward the Brand

Abstract: Though there has been extensive exploration into the multiple facets of brands, such as identity, there has been little research into the influence of a brand's support of a political candidate or cause on consumers' brand approach or avoidance. This exploratory study will gather information through individual semi-structured interviews, focusing on consumer perceptions of brands supporting or opposing political candidates or causes, as well as the consumer's self-reported behavioral responses to brands based on their own political views. As research has shown that consumers choose brands that represent their self-concept, it is hypothesized that consumers will be more likely to have positive attitudes toward brands and support brands most closely aligning with their personal political identities. Participants will be diverse in age, gender, race, and political beliefs. The interviews will be analyzed for themes on consumer tendencies.

Student: Campos, Armando **Major:** Athletic Training
Faculty Mentors: Lynch, James; Andre Gonzalez, Zach Wallace
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Christoverson 207

Title: Less is More: An Investigation of Biomechanical Diagnosis Methods in Division II Women's Basketball Players

Abstract: This is a thesis on the application of the Landing Error Scoring System (LESS) for a Division II women's basketball team. The LESS is designed to identify biomechanical deficiencies in athletes by analyzing several different stages of a box jump. The jumps were videotaped as a drop from a 12 inch box. Using the scores obtained from the LESS, both Athletic Training and Strength and Conditioning staff collaborated to help design individual plans for each athlete to optimize athletic performance and reduce injury risk. The data obtained for this thesis was gathered from Florida Southern's women's basketball team. LESS scores were compared to each individual's power index, and injury records throughout the season.

Student: Carbo, Emily **Major:** Music: Performance
Faculty Mentor: Jossim, Jo
Co-presenters: Alana Gonzalez, Paul Rigolini, Zoe Perkins, Madison Schmidt
Presentation Type: Live Performance
Presentation Time: 2:50-3:10 **Room:** Branscomb 202

Title: Allegretto from *Quintet in E Minor*

Abstract: The FSC woodwind quintet will be performing the allegretto movement of *Quintet in E Minor* by Franz Danzi. The woodwind quintet contains a flute, oboe, clarinet, bassoon, and French horn. However, we have substituted the bassoon for the cello for sonority purposes. The allegretto movement starts off with the oboe stating the melody, followed by the cello, clarinet, and French horn with supporting harmony. The melody then switches off between flute and clarinet. Overall, it is a quite energetic piece.

Student: Carlino, Nicholas **Major:** Psychology
Faculty Mentor: Law, Melanie
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Influence of Social Media on Social Adjustment to College

Abstract: The purpose of this study is to examine the influence of social media on students' social adjustment to college. The majority of college-aged individuals use social media to connect with others. Studies show that a sense of connection is important to students' decisions to remain enrolled in college. The researchers directly measured three types of first-year students' social media use and their scores on the Student Adaptation to College Questionnaire. Responsive social media use was the most common. The results did not indicate a relationship between social media use and social adjustment, but suggest a possible curvilinear relationship may exist between social media use and overall student adaptation. Future research will expand on the pilot study.

Student: Carlton, Sara **Major:** Psychology
Faculty Mentor: Law, Charlie
Presentation Type: Oral
Presentation Time: 4:15-4:35 **Room:** Christoverson 207

Title: Evaluating Implicit Biases and Hostile Behaviors Against Gender Nonconforming Individuals

Abstract: Gender nonconformity is characterized by individuals who express characteristics outside of the gender binary in which they are expected to conform, such as men expressing feminine traits and women expressing masculine traits. Gender nonconformity is common amongst members of the LGBT+ community, but transgender individuals are the most subject to hostile treatment for presenting as a gender opposed to the one assigned at birth. Transgender individuals are frequently misidentified as gender nonconforming rather than the gender with which they identify, which leads to them being the targets for a variety of discriminatory behaviors. Most people wish to believe themselves free of

discriminatory tendencies, but the fact remains that everyone holds stereotypes about groups to which they do not belong. These stereotypes manifest in the form of implicit biases, or discriminatory behaviors that an individual may be unaware they are displaying. The purpose of the current study to was to observe the role of both explicit and implicit biases in regards to discriminatory behaviors directed at gender nonconforming individuals in a cooperative task setting. Results indicated that participants tended to react more positively to gender nonconforming females and more negatively to gender nonconforming males when providing a partner evaluation.

Student: Carr, Jordan
Faculty Mentors: Gasper, Brittany; Melanie Langford, Christopher Brandon
Co-presenter: Arjeet Tipirneni
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Assessing Antimicrobial Activity of Neem Extracts on Oral Bacteria Associated with Various forms of Periodontitis

Abstract: Periodontitis (PD) currently affects roughly 50% of the American population. If untreated, this condition can lead to more serious health issues associated with an individual's cardiovascular and respiratory systems. Study into more preventive measures is warranted as PD results from the harboring of the both gram positive and gram negative bacteria in the oral cavity. In ancient India roughly 4,000 years ago, the Neem tree was utilized for oral hygiene due to its varied medicinal properties. Research into the antimicrobial characteristics of the Neem tree shows promise in the prevention of *Streptococcus mutans* associated periodontitis and has potential to aid in the prevention of more aggressive forms caused by *Aggregatibacter actinomycetemcomitans*. Aerobic and anaerobic Kirby Bauer disk assays will be employed to the test the antimicrobial activity of Neem tree extracts against *S. mutans*, *A. actinomycetemcomitans*, and *S. salivarius*. Due to previous research completed in the field with Neem extracts and *S. mutans* it is expected that the bacteria in this study will be susceptible to the antimicrobial compounds within the prepared Neem extracts. Further research with Neem extracts and members of the oral community can provide a natural avenue to tackle PD.

Student: Cheatham, Carly **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Christoverson 112

Title: Lack of Stability in the Education System: School to Prison Pipeline

Abstract: The increased use of police force to subdue school children for non-violent juvenile infractions has become a mark against the education system within the United States. This paper seeks to examine the current legislature and socioeconomic culture that surrounds the intake of persons into the juvenile justice system and how that leads to the incarceration of many students. The increasing rate of police officers within schools can be seen as a forward gesture against those who wish to do harm to

students, but they are not seen as they are from a student's perspective - these officers are not always working in the best interest of the student. In conclusion, I would like to offer three different policy options to help ensure that American students can succeed and are given the proper guidance and encouragement to achieve their goals. A more in-depth training for teachers and administrators on how to effectively reduce the stress and aggressiveness would be the first policy change, the second option includes the creation, maintenance, and sustenance of family relationships that provide the structure and support system that the school system doesn't have the resources to provide while the third would be maintaining the current system and legislation.

Student: Claybrone, Mercedez
Faculty Mentor: Langford, Melanie
Co-presenter: Alexis Flenniken
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Survival and Urease Activity of *Helicobacter cetorum* under Environmental Stress Conditions

Abstract: Helicobacter species are microaerophilic, gram-negative bacteria that are genetically diverse amongst the twenty known species of that have been discovered thus far. *Helicobacter* species have been isolated from humans (*Helicobacter pylori*), terrestrial species such as cats, dogs, and mice (*Helicobacter felis*), and marine mammals such as dolphins and whales (*Helicobacter cetorum*). In marine mammals, *Helicobacter cetorum* is suspected to cause gastritis, inflammation of the lining of the stomach. Urease is an important enzyme for most *Helicobacter* species, as it works to increase the local pH within the stomach, and while *H. cetorum* tested positive for urease activity, no studies have been published thus far that examine the regulation of this important enzyme. The purpose of our project was to measure the survival and urease activity in *H. cetorum* under stress conditions, such as low pH and high salinity. A better understanding of urease regulation will provide valuable information about the basic biology of *H. cetorum* and may provide important information for veterinary care providers in the future.

Student: Collins, Sarah **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Skin-to-skin Contact on Newborns

Abstract: After birth, a newborn is immediately parted from the direct connection to the mother. This is a stressful transition period for the newborn. Being on the mothers' chest stabilizes infants more quickly and reliably than an incubator would. For my research, I wanted to explore the concept of how in newborns, how does the use of skin-to-skin contact affect their overall well-being? Evidence on skin-to-skin care in newborns indicated benefits like earlier infant thermoregulation, strengthening in patterns of interaction and bonding between mother-newborn, decrease in pain response during painful procedures,

and decrease in newborn stress. In addition, mother's were more satisfied. Overall, early skin to skin contact, also known as kangaroo care, is beneficial to the newborns well-being.

Student: Crone, Colette
Faculty Mentor: Kjellmark, Eric
Co-presenters: Taylor Derrico, Alondra Rodriguez
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: How Interspecies Competition with the Asian Clam (*Corbicula fluminea*) Affects Freshwater Invertebrate Populations

Abstract: Asian Clams (*Corbicula fluminea*) are a freshwater invasive species that have proven to negatively alter ecosystems in various conditions. This experiment set out to observe interactions among the Asian clams and several freshwater species native to Florida lakes within a controlled environment. The native freshwater organisms used were fiddler crabs, ramshorn snails, grass shrimp, and blue ghost crayfish. Using a predetermined scale, each of organisms was treated individually with four Asian Clams in each condition. This study showed results of more intensive interactions between the fiddler crabs and the Asian clams, as compared to other native species, such as the shrimp and the crayfish. The population of the Asian clams present in the fiddler crab tank decreased due to the interactions between the species. Through data analysis, the use of the interaction scale proved that interspecies competition did occur between the invasive species and the native residents.

Student: Cuddeback, Corinne **Major:** Philosophy
Faculty Mentors: Nethery, H. A.; Brian Hamilton
Presentation Type: Oral
Presentation Time: 4:15-4:35 **Room:** Christoverson 206

Title: Problems with Happiness

Abstract: This project is primarily concerned with the problem of human unhappiness. I explore the philosophical history of happiness and its relationship to other concepts such as freedom, reason, and human nature in general. By putting various optimistic and pessimistic approaches into conversation with each other, I illustrate a complicated and rich dialogue about some of the biggest questions philosophy, namely: is it actually possible to be a happy person, and if so, how? While I will be arguing more from a pessimistic perspective, I do not reject the entire non-pessimistic canon, and there are many pessimistic conclusions that I do not agree with. Rather, I will suggest a possible synthesis of various arguments from both schools of thought to provide a different account of happiness. I argue that reimagining foundational philosophical concepts such as human nature and reason might provide the grounds for an approach to the human condition in which the possibility of happiness is not based in illusion or denial.

Student: Cureton, Carolyn
Faculty Mentors: Kjellmark, Eric; Malcolm Manners, John Griffis
Co-presenters: Morgan Ashley Jones, Adam Cruz
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Relationships Between Leaf Chlorophyll Content, Fertilizer Application Rates, and Visual Grades of Greenhouse-grown *Homalomena* 'Emerald gem'

Abstract: The focus of this experiment is to measure the chlorophyll levels in *Homalomena* plants and to determine which of the three meters gives the most accurate reading. The meters being used are the CCM-300, the SPAD 502 and the Nix Mini Color Sensor. At the same time, the *Homalomena* plants were grown under different light conditions, 30% and 60% shade, and fertilizer conditions, low, medium and high, to determine the best growth conditions for the *Homalomena*. The outcome of this experiment hopefully will show that the inexpensive chlorophyll meters are just as accurate as the expensive meters. We hope to find the ideal light and fertilizer levels to grow the *Homalomena* to its best appearance. If the best growing conditions for light is established, then local growers would have methods proven to work to grow the *Homalomena* plant. They would be able to adjust their current practices accordingly in order to maximize their production. Our preliminary results indicate that 30% shade presents a better visual quality. The low, medium and high fertilizer levels haven't shown any distinct differences among the treatment groups.

Student: Davis, Laurin **Major:** Nursing
Faculty Mentor: Marc, Nancy
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Windshield Survey; Mulberry Florida

Abstract: This project was done using an assessment tool called a "Windshield Survey." This tool is done while driving through a predetermined area and notes the communities strengths and weaknesses. After determining the assets and needs of this area a community diagnosis is made. After determining the diagnosis a plan and interventions are created to help better the community and improve quality of life for the residents. Primary and secondary data is used in determining the community diagnosis. These factors include, cleanliness of the area, schools, grocery stores, crime rates, access to public transportation, and many other variables.

Student: Donnelly, Kara **Major:** Communication: Multimedia Journalism
Faculty Mentor: Trice, Mike
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Branscomb 201

Title: Human Trafficking: Modern Slavery in Central Florida

Abstract: In 2018, there were 5,147 human trafficking cases reported to the National Human Trafficking Hotline. Of these calls, 367 took place in Florida. There are two kinds of human trafficking: labor trafficking and sex trafficking; each of these is more common than perceived and they are happening right here in Central Florida. Since the recognition of human trafficking, efforts have been initiated to stop it before it even begins as well as assisting in victims' recovery, such as the creation of task forces and rehabilitative facilities. Anyone can be a victim of trafficking, but the best way to prevent this is through educating ourselves and the community. In this project, we will review our community's efforts to eliminate this form of modern slavery as well as break down the myths and the facts given to us by Polaris and the National Human Trafficking Hotline.

Student: Dulkoski, Alexis
Faculty Mentors: Langford, Melanie; Christy Wolovich
Co-presenter: Sara Lautermilch
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Exploring the Relationship Between Cortisol Levels and Foraging Behaviors in Owl Monkeys (*Aotus nancymaae*)

Abstract: Stress affects animals by altering their health, metabolism, and behavior. Cortisol is the primary stress hormone released from the hypothalamus-pituitary-adrenal (HPA) axis in response to a disruption of homeostasis in the body. Although owl monkeys are insectivorous, because they are nocturnal, little is known about their foraging efforts and success. Here we aimed to determine if there is a relationship between foraging motivation (attempts to capture), successful captures, and their stress (measured via urinary cortisol) in owl monkeys (*Aotus nancymaae*). Urine samples were collected from 8 females and 3 males during the summer of 2017 from the DuMond Conservancy for Primates (Miami, FL). The attempts and success of each monkey as they tried to capture provisioned beetles were observed and recorded during the same period. We used an enzyme immunoassay kit (Arbor Assays) to estimate the concentration of urinary cortisol from 3 different collection dates. The relationship between foraging efforts and cortisol levels was examined. Our study's findings offer insight into a relatively unstudied species, and will add to the growing body of literature that examines the effect of stress on foraging effort.

Student: Dumala, Samantha
Faculty Mentor: Kjellmark, Eric
Co-presenter: Ryan Harris
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Clay Flocculation Efficacy in Removing *Amphidinium carterae*

Abstract: Harmful algal blooms (HABs) contain toxins that critically disturb natural resources and public health. Such HABs are caused by a wide variety of organisms, one of which is *Karenia brevis*. *K. brevis* is a toxic dinoflagellate that has widespread, adverse effects on the Florida Gulf Coast biodiversity. However, due to its toxicity to humans, we are experimenting with the dinoflagellate *Amphidinium carterae* because it is morphologically, and metabolically similar to *K. brevis*, while it is less harmful to handle. The purpose of this research is to determine the effects of two different types of clay's efficiency to remove *A. carterae* from a seawater solution throughout two weeks. Such method of clay flocculation is a standard procedure to treat contaminated water, and it has even shown success in removing other HABs species from water. With the addition of two different types of clay to our *A. carterae* cultures, we hope to find a solution to reduce HABs from Florida's waters. The first type of clay tested, bentonite clay, showed a significant decrease in cell count by almost 50% in two weeks.

Student: Edgar, Emma **Major:** Communication: Interpersonal & Organizational Communication

Faculty Mentor: Schaad, Gerrianne
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: The Process of Processing

Abstract: As part of my experience as a Citrus Fellow, learning more about archives, I helped with the rearrangement, description, and housing of The Florida Bandmasters Association collection. These papers were processed in order to make them available for researchers to access to learn the history of bands in secondary schools across Florida. This poster serves as a visual representation of the thought process behind the arrangement of documents of this collection at the McKay Archives.

Student: Edgar, Peter **Major:** English
Faculty Mentor: Bravard, Rebecca
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Christoverson 208

Title: Who Lives, Who Dies, Who Tells Your Story?: A Literary Analysis of Popularly-Marketed Narratives of U.S. History

Abstract: In a world where our perceptions about our past and future are polarized, it is vital to study the narratives surrounding our nation's history, not just to study history itself. This is especially true when narratives are marketed for popular consumption. Even when writing histories, authors must make decisions about which voices, events, and stories to center on; this affects the tone of the work and, by extension, the way that their works are received and understood. Furthermore, the political circumstances of the author's life have bearing on the lens through which that author views history. Interrogating the lenses and voices an author uses and the methods with which they present historical data can reveal an author's intentions and biases. My research will perform a critical and rhetorical analysis of Howard Zinn's seminal work from 1980, A People's History of the United States, and Larry Schweikart and Michael Allen's 2008 book A Patriot's History of the United States.

Student: Edgar, Peter **Major:** English
Faculty Mentor: Schaad, Gerrianne
Presentation Type: Creative art display
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Frank Lloyd When: Visualizing FSC's Archived Blueprints

Abstract: Florida Southern College is perhaps best known globally for its Frank Lloyd Wright architecture. At the McKay Archives Center, a vault houses the blueprints for some of Wright's most iconic FSC buildings, like the Polk Science Building and the Lucius Pond Ordway Industrial Arts Building. However, there are buildings that FSC never built, like a music building. At the Archives, we believe that students and the FSC community at large should be able to experience the blueprints for Frank Lloyd Wright-designed buildings that never saw the light. My presentation will make connections between the music building Frank Lloyd Wright designed, a 3-D model of it, and letters between Mr. Wright and President Ludd Spivey.

Student: Elsenheimer, Amber **Major:** Psychology
Faculty Mentor: Quinlivan, Deah
Co-presenter: Stephanie Ramirez
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Effects of Makeup Application on Hiring Decisions and Employer Attributions

Abstract: This poster discusses research that I have been working on for a year and a half. The objective of this study is to measure how the amount of makeup females apply affects hiring decisions

and presumptions about the applicant. We discuss whether or not "beauty" makes one more desirable in an initial meeting. We then delve into whether or not a female is likely to get a job based on how "beautiful" she appears to be.

Student: Engler, Kacey **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Bromfield Lee, Deborah; Brittany Gasper
Presentation Type: Oral
Presentation Time: 4:45-5:15 **Room:** Christoverson 112

Title: Designing an Extraction and Purification Method to Work Towards the Correct Characterization of Secondary Metabolites from an Unknown Strain of Bacteria

Abstract: Antibiotics are the world's first line of defense against bacterial infections. Antibiotic resistance occurs when these antibiotics are no longer effective in fighting off the bacteria they were designed to kill. Antibiotic resistance is a growing problem and continues to increase in severity as antibiotics are continued to be used improperly or due to mutations. As resources for new antibiotics decrease, the need to discover potential sources of antibiotics greatly increases. The purpose of this study is to extract and purify secondary metabolites produced by bacteria, MI-3, from plant material. Due to the characteristic pink color of the compounds produced, we speculate that at least one secondary metabolite is in the family of molecules known as prodigiosin or prodigiosin-like. Many of these compounds are known to possess antimicrobial characteristics. Unlike previous work in this group, MI3 also has a distinctive green sheen, which could imply other metabolites being produced or potentially the characteristics of a new molecule. The extract has shown similar characteristics in preliminary UV-Vis analysis, but thus far the mass spectra data is unlike other known structures. Production, extraction, and characterization of the metabolites will be discussed.

Student: Fierro, Gloria **Major:** Criminology
Faculty Mentor: Blankenship, Chastity
Co-presenters: Kierra Hickombottom, Cristian Velez
Presentation Type: Oral
Presentation Time: 5:50-6:10 **Room:** Christoverson 208

Title: Perceptions of Verbally Aggressive Behaviors in Platonic and Romantic Relationships

Abstract: Previous research focuses heavily on aggressive behaviors or domestic violence in romantic relationships. From a range of articles on the effect of childhood abuse on current relationships now and the prevalence of dating in different school settings. Other research on relationship violence focused on comparing aggressive behaviors often toward women, some of which engage in cultural comparisons by describing differences based on nationality. Seeing that we are going to be surveying a wide variety of college students, we include a survey question to establish if they are an international student to see if we find similar support for the impact nationality can have on perceptions of acceptable behaviors within relationships. Our study includes platonic relationships. In the limited research on casual or platonic relationships one study focused on personal experience with aggressive behaviors. This

research did not include perceptions of what is actually acceptable, just what they personally experienced.

Student: Fils-aime, Guernide **Major:** Chemistry
Faculty Mentor: Le, An-Phong
Presentation Type: Oral
Presentation Time: 12:00-12:30 **Room:** Christoverson 209

Title: The Removal of Atrazine from Water Using a Valent Metal Mixture of Iron and Zinc

Abstract: Herbicides and pesticides are used worldwide, and atrazine is one of the most common herbicides. Atrazine is also one of the most common contaminants found in groundwater and is acutely toxic to aquatic life. It also may cause reproductive harm and developmental problems at high concentrations. Zero valent metals (ZVM), such as iron, are often used in water remediation to degrade persistent compounds, such as atrazine to less harmful byproducts. This study investigates the ability of other ZVM, such as zinc, and mixtures of zinc with iron to improve the remediation of atrazine in batch and column experiments. Atrazine is extracted from treated water samples using solid phase extraction, and analyzed using gas chromatography-mass spectroscopy. The relative performance of these ZVM systems will be presented.

Student: Flenniken, Alexis
Faculty Mentor: Banks, Susan
Co-presenters: Sarah Hofer, Anthony Iboy, Jacqueline Krantz, Celine A. Kumarsingh, Emely Rodriguez
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: The Effects of A Potentially Novel Antibiotic, JD-17, on A Human Continuous Cell Line

Abstract: In recent years, scientists have come to the realization that bacteria are becoming increasingly resistant to currently available antibiotics. Antibiotics are produced by a wide variety of bacteria and a large percentage of these antibiotics have not yet been described. A possibly new Zooshikella bacterial species is known to produce a pigment, JD-17, that exhibits antibiotic properties, but its effects on mammalian cells is unknown. To become an effective antibiotic treatment, JD-17 must not cause damage to a patient's cells at concentrations necessary for antibacterial activity. JD-17 was tested for its effects on the human continuous cell line, HEK293T, when administered during initial cell seeding as well as 24 hours post-seeding. Results suggest that JD-17 caused the decline in number of cells in culture over time as compared to untreated cells and a known antibiotic control. Previous experiments suggest JD-17 may inhibit cell division, but crystal violet staining was inconclusive. However, the staining did indicate cells were undergoing apoptosis. These results imply that JD-17 shows promise as an antibiotic treatment, but further research is necessary to understand the extent of its cytotoxic properties.

Student: Fournier, Emily **Major:** English
Faculty Mentor: Caney, Anne
Co-presenter: Jean Howell
Presentation Type: Creative art display
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Knights of the Crusades

Abstract: When we think of the crusades, we have a basic idea of what knights looked like. However, our idea of what they wore is skewed by the media and literature. "Knights of the Crusades" will work against those distorted representations by presenting their traditional garb. This will include handmade capes, tunics, helmets and shields, all formed to accurately represent how knights dressed for the crusades. By hand sewing each piece of clothing, our presentation precisely represents the time taken to construct these pieces. The creative display will not only present what they wore, but why it was worn; each piece of clothing was there for a purpose, and this presentation works to display that. By understanding what the knights wore on this journey, it will provide clarity on the trials and tribulations they endured on the crusades. The display represents how each knight used their clothing to prepare for the potential dangers of the crusades.

Student: Fournier, Emily **Major:** English
Faculty Mentor: Eskin, Cat
Presentation Type: Oral
Presentation Time: 5:50-6:10 **Room:** Christoverson 209

Title: Trust the Process: Transcribing Ann Twice

Abstract: Literary works provide a glimpse into the past. Yet while reading those texts are challenging, because the piece of literature is written in an outdated handwriting, like Secretary hand or Italian script, researchers must step outside the familiar. "Trust the Process: Transcribing Ann Twice," approaches the issue, examining the steps necessary to transcribe a seventeenth century music miscellany, *Ann Twice, Her Book* (Drexel 4175). In my British Literature I (ENG 3313) class we worked together and with students and faculty from Stetson University, to uncover a piece of literature from a manuscript. The students took specific steps to translate, collate, and interpret a lyric song. My presentation will detail each of the steps, showing how the lyric poem transformed throughout the process. The presentation will include reflections - on the process and on my attitudes towards it and how my negative viewpoint shifted by the end of the project. This presentation works to represent how the Twice project provided students with knowledge that does not just relate to the course, but is helpful in other aspects of my academic life.

Student: Fralish, Zachary **Major:** Biochemistry & Molecular Biology
Faculty Mentor: Shelby, Shameka
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Christoverson 208

Title: Generation of Vancomycin-Gelatin Conjugates for the Prevention of Surgical Site Infections

Abstract: Surgical site infections (SSIs) following major surgery are a growing concern in the healthcare industry. These infections lead to lengthened hospital stays, additional surgical procedures, prolonged antibiotic use, and increased patient morbidity. Despite standard practices of antimicrobial prophylaxis, it is estimated that SSIs occur in up to 13% of spinal surgeries. In addition, by 2030, periprosthetic joint infections will occur in up to 80,000 patients per year in the United States creating a cost burden up to $4 billion annually. Vancomycin is often the last line of defense against strains of staphylococcal and streptococcal bacteria that are resistant to beta-lactam antibiotics. As such, vancomycin is often administered topically in postoperative prevention of MRSA-induced SSIs. This proposed study seeks to conjugate vancomycin to gelatin to create an antibiotic-linked hemostatic agent that efficiently and efficaciously reduces the occurrence of SSIs following orthopaedic surgery. Preliminary studies have attempted to link vancomycin and gelatin through solution-phase peptide bond formation. On-going work will investigate the use of zero-linker conjugates to optimize synthetic approaches for generation of antibiotic-linked hemostatic agents.

Student: Fuchs-Robetin, Anja **Major:** Exercise Science
Faculty Mentor: Terrell, Sara
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Branscomb 201

Title: Early Sport Specialization: An Exploration of Youth Athletes' Sports Specialization Patterns, Associated Risks of Injury and Correlations with Future Athletic Success

Abstract: Sport specialization amongst youth athletes is a common phenomenon as athletes hope to increase their chances of earning a college scholarship or professional contract. This practice, however has been doomed by professionals as it is associated with a higher risk of injury and burnout and has not proven to show higher success rates in elite athletes. The focus in youth training should be on the development of correct movement patterns rather than on sport-specific skills to ensure long-term athletic development and promote a life time of healthy physical activity. The purpose of this presentation is to: summarize recent research findings on sports specialization patterns in youth athletes; explain how sport specialization contributes to increased injury risk in youth athletes; discuss common sites and mechanisms of injury; discuss recommended approaches to training and retrospectively look at long-term athletic success of early specialized versus non-specialized athletes.

Student: Furey, Lillian **Major:** Elementary Education
Faculty Mentor: Senzamici, Judy
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Christoverson 206

Title: How Can Intervention Benefit Students with a Double Deficit?

Abstract: In elementary schools across the country there is a rise in students with a double deficit disorder. This means that there is a rise in students with dyslexia and students with attention deficit disorder or attention deficit hyperactivity disorder. I am looking at how interventions can help students with dyslexia versus how interventions can help students with dyslexia and attention deficit hyperactivity disorder. I will be comparing how interventions can help improve the students reading level through work with fluency, decoding, or comprehension.

Student: Garcia Guerra, Mateo **Major:** Music: Performance
Faculty Mentors: Garr, Melissa; Gerrianne Schaad, Marina Morgan
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Branscomb 202

Title: Spanish Civil War

Abstract: The story of the Spanish Civil War is unforgettable, but there are many things about the conflict that are generally unknown outside of Spain, or those who study Spanish history. In this talk I will explain how my digital archive project collects information from the Spanish Civil War, based on the graphic novel *La Guerra Civil Española* by Paul Preston. I am collecting realia to explain the story from a more humane point of view. The collection includes newspapers reflecting diverse political beliefs; testimony videos of people that were involved in the war itself, and how this war affected their lives; propaganda that promotes the points of view from both sides of the conflict; and explanatory videos of the history itself for better understanding. I'm doing this project to promote the history of Spain, and to create a digital archive for the use of students at Florida Southern and the general public. My talk will also discuss ways in which a digital archive project such as this enhances student learning.

Student: Garcia Guerra, Mateo **Major:** Music: Performance
Faculty Mentors: Thomsen, Mark; Scott Ziegler
Co-presenter: James Mancuso
Presentation Type: Live Performance
Presentation Time: 3:10-3:30 **Room:** Branscomb 202

Title: O Mimi tu piu non torni

Abstract: O Mimi tu piu non torni is a duet from the opera *La Boheme*, by Giacomo Puccini. This duet is the very beginning of Act IV in the opera. The opera talks is based on Henri Murger's novel, *Scènes de la Vie de Bohème.* This novel talks about the life of bohemians living in the Latin Quarter of Paris. In this scene we find Rodolfo and Marcello having a conversation about their days. While they are both in love with Mimi and Musetta, respectively, they are trying to convince themselves, and each other,

otherwise. Their effort is useless, as they burst in singing about their feelings in an amazing duet that shows both pasion, and effort. We decided to do this duet since it is one of the most famous duets in the world of the opera. The duet has several challenges tonically, rhythmicallhy, and technically. We want to demonstrate that opera can be fun, and that even if it is in a language some of us might not understand, we can demonstrate what we are trying to convey with out singing. We will be singing this duet that we have been practicing with world reknowned tenor Mark Thomsen, and will be accompanied by our new artist in residence Scott Ziegler.

Student: Gehrdes, Erin **Major:** Philosophy
Faculty Mentors: Hamilton, Brian; H. A. Nethery
Presentation Type: Oral
Presentation Time: 4:15-4:35 **Room:** Christoverson 208

Title: Shifting the Paradigm: Ethics in Cosmic Pessimism

Abstract: When searching for answers to a problem we tend to think back to past experiences or seek guidance from those who've dealt with the issues before. But what happens when the past can no longer guide us because the issue at present was previously unthinkable? In my presentation I will argue that we're faced with such a problem today: the real possibility of human extinction. I will argue that in order for humanity to flourish well into the future we must expand beyond our current anthropocentric worldview to a cosmological frame of reference. This enables a pessimistic, which is to say realistic, recognition of the fact that Earth is our only home in the infinite cosmos. Confronting the idea that the backdrop of humanity is unknowable black space is at the core of the new paradigm I want to defend. I will synthesize philosophies of environmental ethics and cosmic pessimism to make the point that humans have a responsibility, a moral obligation, to care for the non-human Earth. If we continue treating it as a means to some end, there will be nothing left to take from it and we will be stranded in the cosmos.

Student: Gibbs, Jaydon **Major:** Biology
Faculty Mentors: Gasper, Brittany; Malcolm Manners
Co-presenter: Quinlan Harsch
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Branscomb 201

Title: Analyzing the Evolutionary Relationships of *Rosa* varieties by DNA Barcoding and RAPD

Abstract: The lineage of the genus *Rosa* can be traced mostly to Asia with some species originating in North America, Europe, and Northern Africa. Rosarians across the world have crossed and hybridized from their original form, called antiques, into their multiply-double modern variants. Though some rose lineages were thoroughbred, open-air pollination has led to the discovery of unintended and commercially viable species. Often with open-air fertilization the mother is known, while the pollinator is not. Various antique roses are so similar they could be considered the same species but are referred to by different names by their respective breeders. There is ambiguity over the exact number of *Rosa*

species because of this. This study looked to understand the phylogenetic relatedness of 25 different varieties of roses currently found in North America. PCR-amplified rbcLand matK gene fragments were sequenced and compiled with bioinformatics software for comparison between species with perceived relatedness. A combination of the DNA barcoding and RAPD techniques were used to generate a phylogenetic tree and a better understanding of the 25 varieties, which will be discussed.

Student: Giblin, Danielle **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: The Effect of Parental Presence in Pediatric Trauma Procedures

Abstract: Parental presence during pediatric traumatic procedures, specifically invasive procedures and cardiopulmonary resuscitation (CPR), is a controversial topic in the healthcare field. The reason for controversy, is that there are several risks involved including, the potential for emotional trauma, and fear of parents intervening with care. Opponents primarily consist of physicians and healthcare providers because of the potential for it to disrupt the care of the patient. There are numerous benefits that presence can provide to parents and their children. Proponents of family presence primarily include parents and nurses and they tend to agree that the therapeutic effect of presence during traumatic procedures outweigh the risks involved. Parental presence has the ability to ease anxieties within the whole family by creating a better understanding of the patient's condition and gives parents the ability to support their child or initiate the grieving process. This literature review assessed health care providers' opinions and evaluations, observations of parents actions and their opinions, and the efficiency of care with parents present during traumatic pediatric procedures.

Student: Giczewski, Brandon **Major:** Political Science
Faculty Mentors: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Christoverson 112

Title: AirBnb: Market Disruptor or Natural Progression

Abstract: AirBnb is experiencing accelerated growth causing disruption on the long established hospitality industry. The industry of sharing services may seem minute on the surface but when you consider the impact continued growth could have on the millions of stakeholders in the current hospitality system it becomes apparent that the impact of said services are far from minute. The majority of the recent research on AirBnb is based around handicapping its growth. However, Political Scientists, John Locke and Adam Smith's theories would staunchly advise against regulating a growing industry. This Paper will analyze the effects that AirBnb is having on the hospitality industry by looking at the view points of both recent and historical literature to best provide policy solutions for the rampant growth AirBnb is undergoing.

Student: Glatz, Nicole **Major:** Chemistry
Faculty Mentor: Bromfield, Deborah
Presentation Type: Oral
Presentation Time: 2:30-2:50 **Room:** Christoverson 208

Title: Towards the Synthesis of Stachybotrin D: A Potential Anti-HIV Drug

Abstract: Stachybotrin D is a secondary metabolite from a sponge-derived fungus with potential applications as an anti-HIV drug. Human immunodeficiency virus (HIV) affects 36.9 million people worldwide and is prone to developing drug resistance. While there are currently several approved HIV therapies, the tendency for mutation requires that we constantly find new anti-HIV drugs, especially those with different binding abilities. Stachybotrin D has several structural features that may promote different binding properties than the drugs currently on the market. This is important with the increase of drug resistance to current drugs used in existing therapeutic cocktails for HIV. Since fungi are unsustainable drug sources, this research focuses on the application of sustainable resources and greener techniques to the chemical synthesis of Stachybotrin D. Retrosynthetic analysis performed on Stachybotrin D revealed the molecule can be synthesized from three segments. This research is focused on the synthesis of one segment composed of a bicyclic ring fused to a furanyl ring as well as its stereochemically specific substituents.

Student: Gonzalez, Madeline **Major:** Psychology
Faculty Mentors: Smith, Patrick; Leilani Goodmon-Riley
Co-presenters: Heath Rutledge-Jukes, Jordan Martin
Co-authors: Jordan Howard, Katie Lowe
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: "Hunger for Games": Video Game Influences on Understanding of Cancer

Abstract: A frustration among cancer patients occurs when physicians attempt to explain the physiological mechanisms of the disease and its potential treatment options. The common community does not have the medical background that enables them to understand complex terminology. Our lab previously demonstrated that video game usage enhanced memory of how cancer spreads and can be treated; however, long term retention of the content was not analyzed. The present study attempts to explore whether the video game Re-Mission 2 is effective in teaching patients about cancer physiology, while also looking at the long-term memory effects of the content. Forty-one students participated in this study. All participants completed a pre-test to assess their current understanding of cancer. The participants were then divided into two conditions: a.) game-based condition where participants played Re-Mission 2 and b.) text-based condition where participants read information about cancer physiology and treatment. Participants then completed a post-test and were given a questionnaire two weeks later to measure long- term retention. Results demonstrated that while participants in the text-based condition scored significantly higher on short-term testing ($p < .05$), there were no significant differences between the groups at the long-term interval ($ps > .05$). There was a significantly higher memory reduction for participants in the text-based condition when compared to participants in the game-based condition

($p < .05$). These results suggest that the use of video games may provide a longer, more sustained comprehension of cancer-based materials.

Student: Gotsch, Charles **Major:** Accounting
Faculty Mentors: Falcon, Silviana; William Quilliam
Co-author: Silviana Falcon
Presentation Type: Oral
Presentation Time: 6:10-6:30 **Room:** Christoverson 206

Title: Nontraditional Business Investment: An Examination of Investor Risk Perception and Regulation

Abstract: The expansion of nontraditional equity investing platforms and peer-to-peer lending platforms has created a financial disruption the private sector's financial services industry. As the practice and number of platforms continue to expand, so do the associated concerns and reservations about supply-side investor risk, fraud, and money laundering. This paper is written for the purpose of conceptualizing and scrutinizing online equity crowdfunding and peer-to-peer lending utilizing data about investor perception of risk. This analysis will quantify investor risk perception about the different conceptual spaces within the business life cycle in addition to the ease of entry and convenience associated with the practices. Also, it will explore the current regulatory environment and use the critical application of accounting principles for an examination of fraud and culpability concerns within online equity crowdfunding and peer-to-peer (P2P) lending structures. This paper intends to promote academic and pragmatic discussion around the topic of online equity crowdfunding and peer-to-peer (P2P) business lending, especially as it pertains to investor risk, funded company accountability, and potential gaps in federal regulatory compliance and oversight.

Student: Griessler, Diana (Anna) **Major:** Exercise Science
Faculty Mentor: Terrell, Sara
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Branscomb 201

Title: Reducing Barriers to Paratriathlon Participation Among Adults with Physical and Visual Impairments

Abstract: It has been estimated that over half of the adult population with a disability do not participate in sports. Paratriathlon sport, however, is highly adaptive allowing adults with diverse impairments to be active. The sprint distance is commonly raced by parathletes. This event is composed of three elements: a 750 meter swim, 20 kilometer bike ride, and a 5 kilometer run. The purpose of this presentation will be to describe paratriathlon sport, identify common barriers to sport participation, and discuss strategies to adapt physical activity so as to increase sport participation for all populations.

Student: Griner, Jake
Major: Biochemistry & Molecular Biology
Faculty Mentor: Gasper, Brittany
Presentation Type: Oral
Presentation Time: 5:30-5:50
Room: Christoverson 206

Title: The Possible Role for Histone Deacetylase Inhibition as a Radiosensitizer in Chordoma

Abstract: Chordoma is a rare primary spinal cancer which affects one in one million people and has an average survival time of seven years. Despite advances in surgical techniques and radiation therapy, approximately 30% of chordomas metastasize at some point. Local recurrence is a significant issue for cases where the tumor cannot be completely removed, and this may appear as quickly as only a few months post-surgery. For this reason, there is great clinical interest in finding effective therapies that can prevent or treat recurrence or metastases. This project aims to evaluate the role of HDAC6 (Histone deacetylase 6) in radiation repair in chordoma. HDAC6 is the most prevalently expressed HDAC in chordoma and has been shown in other cancers to mediate response to DNA damage through one of its target proteins, Hsp90. The HDAC6/Hsp90 interaction has been implicated in cellular response to radiation induced damage, and radiation therapy is a standard-of-care treatment commonly used for chordoma patients. Vorinostat is an FDA approved inhibitor of all HDACs, including HDAC6. This presentation project will cover the role that HDAC6 plays in chordoma's response to DNA damage, and present data regarding the possibility of using vorinostat as a radiosensitizer in chordoma treatment.

Student: Grisanti, Amanda
Major: Communication: Film Studies
Faculty Mentor: Allen, William
Co-presenters: Meg Thompson, Jillian Kurtz
Presentation Type: Pre-recorded Performance
Presentation Time: 5:30-5:50
Room: Christoverson 109 (Moc Theater)

Title: Thank You Art People

Abstract: This is a story about an art student who pushes her personal boundaries in order to further develop her creative technique. Tiffany, in her second year of college, has aspirations to become a graphic designer. In this short observational documentary, she is faced with the task of completing a still life oil painting. Tiffany is captured in the process of composing her class assignment aimed at creating an academic painting with a medium she has little experience using. She prepares her supplies which include a blank canvas, oil paints, brushes, among other tools, in order to begin the application process; but she built the foundation of her work from a pencil sketch to ensure success before converting it to her final vessel. The hopeful artist leaves her artistic process with a final product that achieves her goal of academic painting while challenging herself to become familiar with oil paints as a primary medium.

Student: Grisanti, Amanda **Major:** Communication: Film Studies
Faculty Mentors: Herbertz, Matthew; William Allen
Co-presenter: Dean McGregor
Presentation Type: Panel
Presentation Time: 5:50-6:10 **Room:** Christoverson 109 (Moc Theater)

Title: My Florida Home

Abstract: Over the summer Amanda Grisanti and Dean McGregor had the opportunity to take part in a local professional short film from pre-production through production. The entire process took around four months to complete and was a part of the student/faculty collaboration grant at the college. Grisanti and McGregor acted as Associate Producers, monitoring and managing a budget of around $15,000, serving as liaisons for potential donors to the film, becoming familiar with production management software such as basecamp and studio binder to create and maintain production schedules, and delegating tasks to the crew. Thanks to the mentorship of industry professionals on set, Grisanti and McGregor were able to further develop their skills and expand their network. As members of the production team they were exposed to the various facets of the film industry including casting, location scouting, set designing, and more. Grisanti and McGregor will screen the finished film and discuss how this experience has shaped their professional aspirations and encourage future support of these kinds of hands on learning experiences at Florida Southern.

Student: Guerra, Ysabella
Faculty Mentors: Kjellmark, Eric; Susan Serrano
Co-presenter: Charles Morrison
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*

Abstract: *Physarum polycephalum*, the plasmodial slime mold, is unique in that it is an acellular organism with no brain or nervous system, yet it has the capacity to learn using spatial memory. Previous research has addressed spatial memory over time, light interactions, and response to stimuli. This research is focused on the slime mold's reactivity to different chemical stimuli, such as chemo-deterrents and chemo-attractants. Different concentrations of chemo-deterrents and chemo-attractants will be placed in front of slime mold in order to determine which stimuli has a greater directional growth effect on the organism. The experiment will be conducted on plain agar within simple T and compound T agar configurations in order to ensure direct contact with the stimuli. If a chemo-deterrent is placed in between the organism and its chemo-attractive source of food, we predict it will pass through the chemo-deterrent if the organism is under enough stress and the nutrient level of the chemo-attractant is sufficient.

Student: Guido, Mikaela **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Christoverson 112

Title: Policy That's Out of this World: An Analysis on the Policy Regarding Private Space Exploration

Abstract: As technology develops and space travel becomes more common and feasible, policy revolving around space exploration must be expanded upon. As seen in popular media, private space exploration has become increasingly more prevalent, largely in part due to technology moguls like Elon Musk. There are many different ways in which to approach the policy around private space exploration, and who should maintain jurisdiction over territory that is unclaimed in space. The three main schools of thought regarding this issue are as follows: 1) jurisdiction of space remains under the United Nations and it operate under the same international maritime laws as international waters (this is also the current policy regarding space), 2) space is treated as the "final frontier" and is open to any private space exploration without regulation of any organized government, and 3) private space explorations should only occur in conjunction with space travel and development as directed by government organizations. This paper will analyze the growing need for an expansion on policy regarding private space exploration, because of the rapid increase and popularization in space technology.

Student: Hamontree, Samantha **Major:** Marine Biology
Faculty Mentor: Langford, Melanie
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Christoverson 206

Title: Analysis of the Microbiome Within the Nasal Cavity of Florida Manatees, *Trichechus manatus latirostris*

Abstract: Florida manatees, *Trichechus manatus latirostris*, are threatened under the Endangered Species Act, and they are found in coastal waters along Florida. Identification of the normal microbiome is a recent area of focus for marine mammals, but very little is known about the microbiome of manatees. One study identified microbes in the nasal cavities of Antillean manatees, using only culture-based methods, which likely underrepresented the bacterial genera present. A second study evaluated the microbiome of Florida manatee hindguts, but there are no publications describing the microbiome within Florida manatees' nasal cavities. Therefore, we propose to identify the bacteria and archaea inhabiting 10 captive Florida manatees' nasal cavities. We will collaborate with local manatee rehabilitation centers to obtain nasal swab samples, which will be used for DNA extraction. Through 16S rRNA gene sequencing, bacteria and archaea will be identified from each manatee. Using statistical analyses, we will compare the microbiome of the manatees based on age and sex. This will be the first study of its kind to describe the normal microbiome of the manatee nasal cavity. Since the composition of the microbiome has been linked to health in other mammals, this research project may provide important information to veterinary care providers.

Student: Hansard, Melissa **Major:** Accounting
Faculty Mentor: Law, Charlie
Co-presenter: Stephanie Ramirez
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Personality and Sexual Misconduct: Predicting Proclivity to Sexually Harass

Abstract: Sexual Harassment continues to be an issue of concern in the United States. McLaughlin et al. (2012) found that over 50% of women and 30% of men have experienced sexual harassment, and some estimates indicate that approximately 50% of women will experience sexual harassment at least once during their working lives. Research also shows that sexual harassment is prevalent on college campuses. In fact, research in the 1990s found that over 60% of women and 60% of men experienced sexual harassment while in college. A recent large study conducted by the AAC&U found that more than 150,000 students experienced nonconsensual sexual contact by coercion. Less research has addressed the factors that may predict sexual harassment. However, researchers are beginning to recognize the importance in identifying individuals who are likely to sexually harass. Research suggests that a positive relationship exists between the personality traits of narcissism, psychopathy and Machiavellianism and proclivity to sexually harass. The current study investigated a number of personality traits as predictors of sexual harassment proclivity for college students. Participants from a small, private, liberal arts college in the southeastern United States completed an online questionnaire which measured several personality traits as well as their sexual harassment proclivity. We did not find a positive relationship between any of the tested traits and the likelihood to sexually harass. We did find negative relationships between conscientiousness and sexual harassment proclivity, indicating that those who were higher in conscientiousness were less likely to sexually harass. We found a similar relationship between trait levels of compassion and sexual harassment. The results of this study indicate that organizations might be able to decrease instances of sexual harassment by selecting employees who score higher in conscientiousness and compassion.

Student: Harrington, Danielle
Faculty Mentors: Langford, Gabriel; Eric Kjellmark
Co-presenter: McKayla Petrie
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Presence of Parasites Among Bahamian Snails of Andros Island

Abstract: Marine, herbivorous snails play a vital role in intertidal communities as they exert control on the abundance and diversity of algae present in the intertidal zone, which in turn impacts intertidal community composition. Indeed, changes to snail abundance and distribution can have cascading impacts through these shallow marine ecosystems. Parasites are known to function as ecological engineers when they depress marine snail numbers or alter host behavior, thus it is important to test the health of snail communities to better understand how parasitic organisms affect ecosystems functions. To our knowledge, no parasitological studies have been conducted on any species of intertidal snail in

the Bahamas. Our study focused on Andros Island, the largest Bahamian island, which has a variety of intertidal communities throughout its extensive shorelines. We selected the common cerethid snail *Cerithium lutosum* as a sentinel host species to assess the prevalence of trematode infections in intertidal snails from multiple locations on Andros Island. Snails were collected and placed into seawater for ~12hrs to observe for cercariae, an intermediate stage of trematode parasites. Our results found a difference in presence of cercariae among the different collection sites, but all showed positive results of parasitic presence. Future studies can further address and identify the cercariae for their roles in relation to different host species and how the relationship with each host adds to a functional community.

Student: Hartzell, Kylie **Major:** Psychology
Faculty Mentors: Smith, Patrick; Leilani Goodmon-Riley
Co-authors: Jordan Howard, Kylie Torres
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Memory Benefits of Graphic Novelization Exposure in Children with Dyslexia

Abstract: The recent focus on science, technology, engineering, and mathematics (STEM) elementary school systems are implementing has become more complex than in past years, yet children with learning disabilities struggle with these concepts. Graphic novelization, a process in which pictorial metaphors are incorporated to tell a comprehensive story, has previously been shown to enhance general comprehension of these abstract concepts. Our lab previously showed dyslexic children benefiting from receiving pictorial metaphors when recognizing structure name and function in short-term memory, but lack of long-term memory benefits prompted us to find if repeated exposures to such materials further benefit children with similar learning disabilities. The current study was a 3x2x2 design where the between subjects variable are the type of exposure (1. structure's name paired with a simple definition of the structure's function; 2. structure's name paired with pictorial image that describes the structure's function; or 3. structure's name with an image of the structure's function and a definition of the structure's function) and number of exposure (single or multiple), and a pre-test/post-test within-subject variable. The experiment involved 48 Roberts Academy students, all diagnosed with a form of dyslexia. Results suggest that, at least in children with dyslexia, visual imagery is an effective tool in comprehending basic anatomy of the nervous system.

Student: Hartzell, Kylie **Major:** Psychology
Faculty Mentor: Goodmon-Riley, Leilani
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: "Why Can't We Be Friends?": The Relationship Between Narcissism and Facial Biases

Abstract: In extreme forms, narcissism is a personality disorder characterized by an exaggerated sense of self-importance and uniqueness, including an unreasonable sense of entitlement, craving for admiration, exploitative tendencies toward others, and arrogance (*Diagnostic and Statistical Manual of*

Mental Disorders). More contemporary views of its less extreme form define narcissism not as a personality disorder, but as a trait that varies within the general population. In addition, those high in narcissism disregard others and lack concern for others. Thus, narcissism in its various forms is related to specific views of the self and of others. The current purpose of this research is to explore if children with who are higher narcissism, perceive the personality characteristics of another based on the other's facial characteristics, differently from those who are lower in narcissism. It is hypothesized that children lower and higher in narcissism will prefer and report greater likability for children who "look" like themselves, but those higher in narcissism will report even greater positive perceptions of other children who look like them compared to those who do not. If the results support the hypotheses, educators could use the information to better understand the biases that drive certain social interactions within classrooms and perhaps help those higher in narcissism to challenge their own biases. Results will be discussed in terms of the possible connection between narcissism and biases related to common facial characteristics between the targets and the perceiver. The results may also have implications for marketing techniques.

Student: Haver, Mark **Major:** Environmental Studies
Faculty Mentors: Kjellmark, Eric; Terry Dennis, Gabriel Langford
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Christoverson 208

Title: Assessing the Greenhouse Gas Emissions of Florida Southern

Abstract: Across North American universities and colleges, coalitions have been developed to estimate how higher education institutions contribute to climate change. Considering that emissions from colleges and universities account for more than 1.5% of US total annual emissions, understanding how individual institutions can become more sustainable is critical in tackling the existential threat of global climate change. Through programs like the Sustainability Indicator Management and Analysis Platform (SIMAP), colleges are now able to estimate their carbon footprint based on a number of emissions sources. This study seeks to compile institutional, university fleet, fertilizer application, and electricity consumption data to calculate Florida Southern College's carbon footprint from fiscal year 2016 to present. Developing a greenhouse gas emissions inventory for the school will provide a basic foundation for the school to develop plans and policies that aim to reduce FSC's contribution to climate change. Through assessment of ways in which FSC can approach greater energy efficiency under consultation of literature and recommendations of local and national energy organizations including Lakeland Electric, this study suggests pragmatic steps this institution can take to join a rapidly growing coalition of higher education institutions who prioritize sustainable development.

Student: Hendrick, Sabrina
Faculty Mentors: Banks, Susan; Christopher Brandon
Co-presenters: Emily Glidden, Addison Cantor
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Characterizing the Interaction between Annexin Family Members and α-Synuclein, a Parkinson's Disease Associated Protein

Abstract: Parkinson's Disease (PD) is a neurodegenerative motor disease with slowly developing symptoms that include tremors, bradykinesia, gait abnormalities, and limb rigidity. However, once symptoms occur, treatment options are limited because of neuronal loss in the brain. Few proteins have been linked to the development of PD and the molecular mechanisms behind this disease are not well understood. One small, synaptic protein, α-synuclein, has been linked to PD. When α-synuclein is mutated or overexpressed, it has been found to impair communication between neurons. However, the normal function and mechanisms by which α-synuclein disrupts neuronal transmission are not well understood. Preliminary data has shown Annexin family members to have the ability to interact with α-synuclein. The Annexin family of proteins are calcium-dependent, membrane-binding proteins that regulate neuronal transmission. The extent of this interaction between the two proteins will be studied through the use of protein binding assays. It will also be tested using competition binding assays in the presence of lipid membranes. Taken together, these results will contribute to our understanding of the role α-synuclein plays normally and under conditions that mimic PD.

Student: Hesse, Gabriella **Major:** Communication: Interpersonal & Organizational Communication

Faculty Mentor: Anderson, Bruce
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Christoverson 206

Title: The Voices of the People: Speechmaking and Constituencies in the US Congress

Abstract: Every state is different, including in how they represent themselves in Congress. I predict that floor speeches will give us an insightful look into how a state's Congresspersons choose to represent their constituents. I will analyze factors such as the size, GDP, urban/rural ratio, and the region that a state is in, and implement a content analysis of floor speeches, taking into account the party, state, and leadership position of a Congressperson, as well as the direction and strength of the positioning he or she takes on contentious issues. By looking at a variety of different periods over the past 50 years, I intend to gain insight into how representation in the government has changed or stayed the same over time. I expect to find that over time, there will be differences in the type and kind of speeches made by states in the southern region due to its declining exceptionality.

Student: Hesse, Gabriella
Major: Communication: Interpersonal & Organizational Communication
Faculty Mentor: Bernheim, Erica
Presentation Type: Oral
Presentation Time: 2:30-2:50
Room: Christoverson 209

Title: Women in the Arts

Abstract: I will be discussing women that have created poetry, films, or other works of art, analyzing it through a feminist lens, and describing its impact on the culture.

Student: Hicks, Elizabeth
Major: Economics & Finance
Faculty Mentor: Hall, Joshua
Presentation Type: Oral
Presentation Time: 2:50-3:10
Room: Christoverson 209

Title: How Inequality and Corruption Affects Growth in Terms of GDP

Abstract: The authors of the paper explore how several factors including corruption and culture dimensions influence gender inequality in developing nations. The Gender Inequality Index (GII), provided by the United Nations Development Program, will be utilized to measure gender differences in developing countries. The measure pulls several important agencies of inequality including reproductive health (maternal mortality and birth rates), empowerment (proportion of parliamentary seats occupied by females and education) and economic status (labor force participation). In order to account for gaps in the GII measure, the authors will focus on data set year 2015. In addition, The Hofstede's dimension will be used to measure the stability of culture as it relates to gender. These measures include: power distance (CULT 1), individualism vs. collectivism (CULT 2), masculinity vs. femininity (CULT 3), uncertainty avoidance (CULT 4), long-term orientation vs. short-term orientation (CULT 5), indulgence vs. restraint (CULT 6). The findings support our hypothetical speculation: our social support and corruption measures are strong predictors of gender inequality.

Student: Hill, Rebecca
Major: Philosophy
Faculty Mentor: Nethery, H. A.
Presentation Type: Oral
Presentation Time: 12:40-1:00
Room: Christoverson 208

Title: The Parts that Make Up the Whole: How Society Impacts its Citizens

Abstract: There have been many philosophical theories on how society should function in order for its individuals to thrive. But how much concern is given to each individual in the society versus concern for the society as a whole? On the conservative side, there are efforts to make abortion illegal, while on the progressive side there are efforts to make veiling of Muslim women illegal. While these examples are opposites on the political spectrum, they both show how each side is acting in what they believe to be the best interest of society as a whole. The underlying question from these examples is how much control society should exert over the citizens that live within it. In my senior thesis I will look into the

relationship between individual agents that live in a society and their relationship to society as a whole. I will research and compare different political theories on how society should function. Next, I will differentiate between positive and negative freedom and test how each of the political theories researched leave room for these types of freedoms. This thesis will examine the individual's relationship to society as a whole and how it impacts the life of the individual.

Student: Hofer, Sarah **Major:** Marine Biology
Faculty Mentor: Langford, Melanie
Presentation Type: Oral
Presentation Time: 4:35-4:55 **Room:** Christoverson 206

Title: Protein Expression in Response to Oil in a Marine Hydrocarbon Degrading Bacterium Isolated from Tampa Bay, Florida

Abstract: Bacteria that are capable of oil degradation play a large role in bioremediation of hydrocarbon based pollutants in their environment. After the Deepwater Horizon oil spill, there has been a push to discover the species of hydrocarbon-degrading bacteria naturally present in an area and their precise role in bioremediation in a hydrocarbon-degrading bacterial consortium. As part of our preliminary data, we cultured, isolated, and identified through 16S rRNA gene sequencing, marine oil degrading bacteria from the coastlines of Central Florida. We selected a species of *Oceanobacillus* from this screen for further study, because other *Oceanobacillus* species are known to degrade hydrocarbons. However, the proteins utilized for hydrocarbon metabolism in *Oceanobacillus* and other facultative oil degraders are currently unknown. Our study focused on the differences in protein expression when an opportunistic oil-degrading bacterium, *Oceanobacillus sp.*, was exposed to an oil enriched or unaltered marine growth medium. These differences can provide insight into proteins that may be critical for oil degradation in *Oceanobacillus sp.* and other facultative oil degrading bacteria. Understanding the mechanism behind hydrocarbon degradation in this and other facultative hydrocarbon degrading species will provide insight into how a complex marine bacterial consortium can metabolize naturally occurring and pollutant hydrocarbons.

Student: Horton, Thomas **Major:** Biology
Faculty Mentor: Habegger, Laura
Presentation Type: Oral
Presentation Time: 12:00-12:20 **Room:** Christoverson 207

Title: An Analysis of Sexual Dimorphism in the Dermis of Elasmobranches During Ontogeny

Abstract: Among fishes, sharks and rays have evolved internal fertilization. During mating, male elasmobranches (sharks and rays), have been shown to bite females at varying places along the body. Some common areas bitten during copulation include the pectoral and dorsal fins. Prior research has found females of both the catshark (*Scyliorhinus canicular*) and the blue shark (*Prionace glauca*) have greater dermal thickness than males of the same species. It is believed that this sexual dimorphic trait exists to prevent injuries to musculature in females during copulation. Although previous research has

shown this in a few species, no current works have established whether this is an innate characteristic or it appears at sexual maturity. This research will characterize the differences in histological composition of the dermis between females and males of the Atlantic stingray (*Dasyatis sabina*). In addition, histological samples will be evaluated through ontogeny, and dermal thickness measurements will be compared between females and males to assess whether these differences may appear when female rays reach sexual maturity.

Student: Howard, Allie **Major:** Religion
Faculty Mentor: Hamilton, Brian
Presentation Type: Oral
Presentation Time: 4:35-4:55 **Room:** Christoverson 208

Title: The Significance of Contemplation in Christian Living

Abstract: Most American Protestants have given up on contemplation. They think prayer as a means of communication with God is important, but they have abandoned the ancient contemplative practices designed to unify the human will with the divine will. Drawing on the theologies of Thomas Merton and Sarah Coakley, I argue that contemplative practice is essential to Christianity because it offers a way of participating in the divine that reveals our true identity. In order to be the beings we are intended to be by God, we must first understand our identity in relation to God. Contemplation shows us our nothingness without God and leads us to live with a deeper dependence on God. Critics of contemplation have suggested that contemplative practices are isolating, and keep us from acting on the needs of the community. On the contrary, submitting ourselves to contemplation allows us to enter more deeply into the needs of others by uniting us more closely with Jesus.

Student: Howard, Jordan **Major:** Psychology
Faculty Mentor: Smith, Patrick
Co-author: Chloe Kindell
Presentation Type: Oral
Presentation Time: 5:50-6:10 **Room:** Christoverson 207

Title: Apocalypse How? Exploring the Use of Graphic Novelization in Neuroscience Pedagogy

Abstract: The use of graphic novelization is a great tool to aid classroom learning. While previous work has shown that graphic novelization enhances such content, it is uncertain as to whether metaphors must be visually-based, as opposed to being word-based. In addition to exploring the effectiveness of metaphor types, this study looked at whether feedback from a short-term test influenced long-term retention about neurodegenerative diseases (depicted through a metaphor about a zombie apocalypse). The current study demonstrated that both forms of thematic ancillary materials (graphic novel, story) elicited higher recognition scores when compared to control materials. However, the relative effectiveness between conditions was slightly different. Those who received the graphic novel showed a significantly higher memory benefit over the control ($p = .02$), but the same was not found for those who received the story content ($p = .07$). The inclusion of feedback on correct answers led to higher memory

recognition for long-term testing when compared to those who did not receive feedback. Taken together, graphic novelization seems to be a promising method of disseminating information about neurodegenerative disorders.

Student: Hurley, Kenzie **Major:** Psychology
Faculty Mentor: Law, Charlie
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: More than a Game: The Use of Intergroup Monopoly as a Pedagogical Tool

Abstract: Intergroup monopoly was created as a way to teach others about the financial struggles people encounter. Specifically, white women and women of color have a harder time financially than men do. Through the use of Monopoly as a pedagogical tool, we sought to improve participant understanding of topics such as sexism, male privilege, and legislature like Affirmative Action.

Student: Johnson, Sydney **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Christoverson 206

Title: The Impact of Peer Support Group Involvement on Self-Management Habits and Perceptions in College Students with Type 1 Diabetes

Abstract: For many young adults with type 1 diabetes, the transition to college is marked by poor diabetes management and various adverse health outcomes. Research has shown that young adults who received support from peers exhibited fewer symptoms of psychological distress, were more likely to adhere to treatment regimens, and over time achieved optimal glycemic control by lowering their HbA1c. While many young adults with type 1 diabetes are interested in connecting with peers who understand life with diabetes, limited research exists exploring the impact that diabetes-specific peer support groups can have on this population. The purpose of this study is to answer the following research question: How does involvement in an online versus an in-person peer support group impact self-management habits and perceptions in college students with type 1 diabetes? An anonymous self-report survey will be administered to participants via the College Diabetes Network online newsletter, direct messages to local support group leaders, and postings in peer support Facebook groups. It is hypothesized that students involved in an in-person peer support group will report higher self-management, higher self-efficacy, and lower diabetes distress scores compared to students involved in an online peer support group.

Student: Kast, Ann **Major:** Elementary Education
Faculty Mentor: Senzamici, Judy
Co-author: Marissa Senzamici
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: "Art-Full" Writing: Integrating the Visual Arts to Increase Writing Proficiency

Abstract: During the Fall 2018 academic semester, I implemented a series of arts-integrated writing lessons at The Roberts Academy, which is Florida Southern College's lab school for students with reading difficulties. During the semester, I was in a sixth-grade classroom with Marissa Smith, the Roberts Academy instructor. Focusing specifically on works created by Marc Chagall, the implemented lessons were centered around enhancing student creativity and proficiency in different areas of writing, such as parts of speech and descriptive writing. Instruction began by focusing on sentence structure and progressed to the end goal of extended paragraphs. The culmination of the lessons occurred at the end of the semester with a grade-level visit to the Polk Museum of Art, where students were able to directly observe and write extended descriptive paragraphs based off of the works present in the visiting exhibition "Chagall: Stories Into Dreams." Through the six implemented lessons, we found an increase in the quality of student writing and student motivation with a simultaneous decrease in student frustration.

Student: Kennedy, Natalie **Major:** Dance
Faculty Mentor: LaSala, Erin
Presentation Type: Creative art display
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Importance of Dance in Early Childhood

Abstract: Through various non-profits, people are helping change the world by challenging young children to value the importance of dance each and every day. This proves dance to be extremely beneficial and enriching in an individual's life. If introduced early enough, it could make all the difference for some children and even their families. I have interviewed non-profits such as Theatre on a Mission, S.T.E.P.S., and Dance and the Child International whom all agree that dance builds a strong relationship and connection with each other, which has lead to have much more of an impact on that individuals life than other education aspects. The National Dance Education Organization states that some of the benefits of dance include: physical development, emotional maturity, social awareness, and cognitive development. Dance is easily overlooked in an education stand point but can even help integrate kinesthetic learning with understanding, as well as help children develop literacy. It is important to keep and use this universal language to the best of our ability. Our bodies were made to move and dance is a great way to learn how to express emotions that are too powerful for our words to contain.

Student: Kiester, Hannah **Major:** English
Faculty Mentor: Huneycutt, Keith
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Christoverson 207

Title: Women and the Gothic: Exploring Female Roles in *Wuthering Heights*, *The Tenant of Wildfell Hall*, and *Frankenstein*

Abstract: Historically, women writers have had to fight to gain a standing with their male counterparts in the literary public eye. For centuries, many women could only achieve success in their contemporary circles by publishing their work under a male or gender-neutral pseudonym. Three of the most noted examples of women writers who had to originally publish their novels anonymously are Emily Bronte, Anne Bronte, and Mary Shelley. All three women, in addition to similarities in their publishing histories, share certain tropes in their novels. Namely, they wrote frame narratives in the gothic style. Female characters also play interesting roles in the novels that are counteractive to the tropes of womanhood conventional to the time. Using their anonymity and these gothic tropes, these three women authors push back against their society's ideas of women, which paved the way for more comprehensive modern views of womanhood. This thesis will examine frame narratives and gothic tropes in Emily Bronte's *Wuthering Heights*, Anne Bronte's *The Tenant of Wildfell Hall*, and Mary Shelley's *Frankenstein*. My paper will examine how these three authors use their anonymity and similar narrative elements to challenge the patriarchal norms of the literary industry.

Student: Kindell, Chloe **Major:** Psychology
Faculty Mentors: Goodmon-Riley, Leilani; Patrick Smith
Co-presenter: Jordan Howard
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Color My World: Memory Effects in Graphic Novel Learning

Abstract: Graphic Novels are a unique tool that can be used to aid students' comprehension and memory of classroom materials, due to the fact that metaphors can help aid in a better understanding of content through providing a deeper way of thinking about content, which can also provide a memory boost. Spatial and visual effects might also play a role in the efficacy of graphic novels, considering that these can also provide a memory advantage. Additionally, color has been shown to improve subjects' memory. The current study combined all of these variables and hypothesized that presenting difficult content in the form of graphic novel metaphors would lead to better memory retention compared to a simple text condition. Additionally, it was hypothesized that color would provide an even more notable memory benefit over a black and white condition.

Student: King, Jordan **Major:** Psychology
Faculty Mentor: Law, Charlie
Presentation Type: Oral
Presentation Time: 4:35-4:55 **Room:** Christoverson 207

Title: Women in STEM: Effects of Gender and Occupation in Biased Perception of Professionals

Abstract: Research shows that female professionals are viewed more negatively than males, and are more likely to experience gender discrimination in male-dominated careers. This is especially relevant to Science, Technology, Engineering, and Mathematics (STEM) professionals. People tend to associate STEM occupations with masculinity more than non-STEM jobs. According to role congruity theory, women in masculine jobs have occupations incongruous with gender expectations, potentially increasing bias against them. There is limited literature regarding the role of sexism in predicting attitudes toward women in stereotypically masculine jobs. The current study investigated how a professional's gender and their occupation's stereotypical masculinity affected participant perceptions. Specifically, the researchers predicted that participants would view women and men in gender-incongruent occupations more negatively. Participants read one of four vignettes and completed a survey assessing their views of the professional. The vignettes differed on gender (male vs. female) and job-type (doctor vs. school teacher). Based on 290 participants, the results indicated that there was no main effect of gender or occupation or an interaction between them on perception of the professional.

Student: Kirsten, Kyle
Faculty Mentor: Brandon, Christopher
Co-presenter: Sherone White
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Quantifying Variations of LOPB2 Expression in *Daphnia magna* Due to Exposure to Different Wavelengths of Visible Light

Abstract: *Daphnia* possesses the largest known family of opsins of any genus. Many of these opsins have been classified; however, information about individual opsin function and relative expression in *Daphnia* is limited compared to similar information in other species such as zebrafish and the African cichlid. The aim of this research is to determine the function of LOPB2, part of the long wavelength B opsin family, by observing how exposure to different wavelengths of visible light affects its relative gene expression. We exposed *D. magna* to six different wavelengths of light for two 24-hour light cycles, then quantified and compared relative LOPB2 expression. We expect this opsin to have the highest level of expression under exposure to red light, moderate expression to green and yellow light and low expression to other visible light. Our results will confirm that LOPB2 expression is induced by visible light, particularly long wavelength visible light.

Student: Kistler, Hannah
Faculty Mentors: Langford, Melanie; Brittany Gasper
Co-presenter: Andrew Slaga
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Comparison of Antimicrobial Resistance in the Fecal Microbiome of Horses Living in Herd Communities Versus Individual Stalls

Abstract: With the invention of antibiotics, human and animal welfare was ushered into a new era, providing a leg up on the treatment of bacterial infections. From the continued use and misuse of antibiotics, bacterial species have started to develop resistance to these compounds, providing a challenge for both human and veterinary medicine. Infections caused by antibiotic-resistant bacteria in horses are becoming more prevalent. For example, horses in a hospital setting are more likely to harbor antibiotic-resistant bacteria, but little work has been done evaluating other risk factors. Our projects aims to compare the prevalence of antibiotic resistance between the samples obtained from horses living in individual stalls to horses living in a herd community. In order to accomplish these goals, fecal samples were collected from 15 individually stalled horses and 15 horses living in a herd community. All samples were serial diluted and plated onto plain TSA and TSA with 3µg/mL tetracycline and TSA with 30µg/mL tetracycline to determine the percent of antibiotic resistance.The percent antibiotic resistance to tetracycline were compared between the groups using an independent t-test. By determining whether horses kept in individual stalls or those in a herd harbor more antibiotic resistant bacteria, measures may be taken to reduce the probability that horses come into contact with these resistant strains. Increasing awareness around the problem of antibiotic resistance in horses may be able to prevent further resistance as well as potential nosocomial infections.

Student: Kizza-George, Vanessa
Faculty Mentors: Gasper, Brittany; Melanie Langford
Co-presenter: Alvin Puri
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: The Effects of Silver Diamine Fluoride on *Streptococcus mutans* and *Streptococcus salivarius* K12 at Different Sugar Concentrations

Abstract: Dental caries are one of the most common chronic diseases worldwide and are caused by a buildup of plaque. Dental caries can occur when *Streptococcus mutans*, a pathogenic bacteria, breaks down sugar and produces acid; the acid demineralizes the enamel and the dentin on the tooth, causing a cavity. Sugar is vital for the formation of cavities because the bacteria must break down the sugar in order to obtain energy and colonize; this breakdown of sugar then allows the bacteria to be able produce acid. The most common treatments for dental caries are amalgam and composite fillings. Recently, Silver Diamine Fluoride (SDF) has been implemented in practice to treat caries in pediatrics. SDF arrests the development and progression of dental caries but the exact mechanism is unknown. The effects of SDF on the good and bad microbiota found in the mouth are also unclear. We observed the

growth of *S. mutans* and *Streptococcus salivarius* K12, a probiotic bacteria, when treated with 38% SDF and we also observed the growth of *S. mutans* and *S. salivarius* K12 when treated with 38% SDF in the presence of different concentrations of glucose (2%, 5%, and 10%) and sucrose (2%, 5%, and 10%). This research is significant because it is the first study examining the effects of SDF on probiotic and pathogenic bacteria found in the oral cavity.

Student: Krantz, Jacqueline **Major:** Biotechnology
Faculty Mentor: Macrander, Jason
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Christoverson 207

Title: Identifying Convergence of ShK Toxins for the Treatment of Autoimmune Diseases

Abstract: Toxins can be harmful, but they can also have very helpful medical applications. One toxin in particular, ShK, has been isolated from the sea anemone species *Stichodactyla helianthus* and is being tested for its potential to treat multiple sclerosis. However, there may be variations of the toxin that are more effective than the one from *S. helianthus*. The hope is that a better version of the ShK toxin exists in another species and that we just haven't found it yet. By using bioinformatic tools and searching protein and nucleotide databases, I plan to find other ShK toxins in other cnidarian species and identify whether or not the toxins are homologous or convergent by comparing them on an evolutionary scale. The end goal is to identify an ShK protein that functions as a better autoimmune disease treatment.

Student: Kumarsingh, Celine
Faculty Mentor: Langford, Melanie
Co-presenter: Mackenzie Blevins
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Protein Expression Analysis of Bacteria Cultured in the Presence of Nylon

Abstract: The accumulation of plastics is of great concern in both marine and terrestrial environments. The natural biodegradation of plastics has shown to be a lengthy process, which has led to challenges in waste disposal and the search of novel plastic degrading enzymes. A previous study found that mealworms (*Tenebrio molitor*) could consume a diet of plastics, including nylon, and these mealworms were capable of surviving and advancing through their normal metamorphic life cycle. Bacteria were isolated from the guts of these mealworms and selected for their ability to grow with nylon as their sole carbon source. We selected one of these species, *Brevundimonas vesicularis*, for further study. *B. vesicularis* cultures were grown in TSB media, in the presence and absence of nylon. We extracted proteins from the thin biofilm on the nylon, as well as from bacteria cultured without nylon. We then ran an SDS-PAGE gel to examine protein expression between these two culture conditions. This work may ultimately lead to the identification of plastic degrading enzymes expressed by *B. vesicularis*, which may play a role in the environmental biodegradation of plastics.

Student: Lader, Alicia **Major:** Psychology
Faculty Mentor: Quinlivin, Deah
Co-presenter: Jayna Maull
Co-authors: Nathan Kreitman, Bobbi Coffey
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: The Relationship Between Transactional and Transformational Leadership in Different Types of Work

Abstract: Transactional and transformational leadership are two of the most well-known leadership styles. Transactional leadership is a "telling" leadership style in which the leader is known for using a contingent system of rewards and punishments while directly telling followers what is expected of them; whereas transformational leadership is a "quiet" leadership style in which the leader is known for using inspirational motivation and trusting followers to be independent and use their own creativity. While transformational leadership focuses more on leading by example and providing opportunities for originality and creativity, transactional leadership style focuses on order and goal achievement through a rewards system providing little room for creativity. The results found that participants prefer transactional leadership qualities in a special forces officer, whereas in a school principal they selected a transformational leader more frequently. It was also found that there was preference for transformational leadership overall, aligning with the preference of transformational leadership found in several studies. Knowing what type of leadership style would be best for a particular position can be beneficial in the business world, as well as when making hiring decisions.

Student: Lameyer, Mara **Major:** Biology
Faculty Mentors: Kjellmark, Eric; Malcolm Manners
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Christoverson 207

Title: Everybody was Fungus Fighting: Examining the Symbiotic Interactions Between Roots and the Beneficial Fungi that Partner with Them

Abstract: Mycorrhizal fungi form mutually beneficial partnerships with the roots of nearly all plants. The plants provide carbohydrates to the fungi while the fungi increase the surface area in the network of roots, which increases the absorption efficiency of the plant. Root Shield, a biological fungicide product produced by BioWorks, employs another type of beneficial fungi, *Trichoderma harzianum* Rifai strain KRL-AG2, which blocks pathogenic fungi that may cause harm to the plant's roots. It uses enzymes called chitinases to break down the walls of the harmful fungi. This proposal seeks to investigate whether these two varieties of fungi, both of which are beneficial to the plant, can affect each other and ultimately lead to negative consequences when used in combination. I predict that when Root Shield is used on plants that require mycorrhizal partnerships in order to thrive, the Root Shield will interfere with the symbiotic relationship and cause the plant to grow less efficiently even as its purpose is to protect the plant.

Student: Lenkel, Nicole **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Christoverson 112

Title: Political Engagement of Young People in the United States

Abstract: In the United States, young voters typically turn out in the smallest numbers. This lack of political and civic engagement has impacted society and will continue to if there are no changes. When a large group of people do not vote, a large group of people are not truly represented, which is a main function of a democratically elected government. Studies have shown that young people today are less involved, which leads to the questions: why are young people less politically engaged than the general public? What effects does this have on the culture, both socially and politically? What can be done to encourage young people to be more engaged? Political scientists have come up with different methods to attempt to counteract and combat the typical low engagement. Some of these tactics include online education, use of social media, incorporating political education into the classroom setting, community engagement, and using people's personality traits to determine how they would be politically active. With the rise of internet and social media, many of these methods have adapted to technology and continue to evolve with the political culture. In this paper I will demonstrate the need for political engagement of young people in order to have a politically aware and flourishing society. There are different methods of accomplishing this and the most effective ones will be evaluated and analyzed for how they could make an impact on the United States.

Student: Lettera, Anthony
Faculty Mentors: Langford, Gabriel; Eric Kjellmark, Kristian Taylor
Co-presenters: Nicole Brown, Rose Bjerken
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Stony Coral Distribution and Assessment of the Andros Island Fringing Reef System

Abstract: The general health of coral reef systems have continued to decline in recent years at an increased rate. Levels of both bleaching mortality have continued to see rises. Our research focused on assessing the health of the Andros Island fringing reef in the Bahamas. Fisheries and ecotourism are two major activities in the Bahamas that feel the impact of the detriment to the reef systems. It is critical to continuously monitor and evaluate the health of coral reefs as well as look into viable solutions to either buffer the degradation of the reefs or hopefully begin to reverse the problem at hand. We focused on two sites where we laid transects and recorded the species within the transect boundaries. Our data will be compared to a previous study done in the late 1990s at Andros. Our two transect sites were located near one of the original locations and we will be using that location's data for our comparison. We aimed to see how the diversity of the reef had shifted, if at all, and to reevaluate the health of the reef by looking for any prevalent signs of disease or bleaching.

Student: Lockey, Hannah **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Trauma Focused Cognitive Behavioral Therapy versus Therapy as Usual

Abstract: My poster focuses on comparing trauma focused cognitive behavioral therapy (TF-CBT) with therapy as usual (TAU) and their reduction in post traumatic stress symptoms in maltreated children. TF-CBT is defined as a short-term, component-based intervention consisting of 12 to 15 sessions, that integrates cognitive, behavioral, interpersonal, and family therapy principles as well as trauma intervention. TAU is defined as the usual treatment – according to the accepted standards for a specific discipline. Maltreatment includes physical, emotional, and sexual abuse, as well as physical and emotional neglect. Post traumatic stress symptoms include anxiety, mood disorders, and behavioral problems. The findings on this poster were found by conducting a literature review and mainly focuses on how TF-CBT is a better option to reduce symptoms in maltreated symptoms. Many of the articles reviewed were randomized control trials and found through their studies that TF-CBT was the best option that would reduce post traumatic stress symptoms greater than TAU.

Student: Lynch, Driyanna **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Culturally Competent Interventions for African-American Women

Abstract: African-American women experience trauma from multiple sources: racism, sexism, misogyny – but the trauma from being in an intimate partner violence (IPV) relationship is one that can cause not only physical but also severe mental repercussions. The aim of this literature review is to determine whether culturally competent interventions given by healthcare providers help African-American women who have been affected by abuse and may have an altered mental health status.The goal is for these women to be an advocate for themselves within the health care system with the assistance of healthcare providers who efficiently provide education and demonstrate patient understanding whether it be better mental preparedness or a physical avenue to relieve stress from the situation. This presentation and research raise awareness of the cultural differences when it comes to caring for different demographics and how nursing should be personalized for every patient or a group of similar people.

Student: Mabile, Risley **Major:** Chemistry
Faculty Mentor: Le, An-Phong
Presentation Type: Oral
Presentation Time: 1:45-2:15 **Room:** Christoverson 209

Title: Development of an Inexpensive Reflectance Spectrophotometer for Detection of Iodine Concentrations in Drinking Water

Abstract: In the miniaturization of analytical instruments, it is crucial that the sensitivity and accuracy of these instruments is maintained as their footprint decreases. Furthermore, it is preferable that once these instruments reach a size that is reasonable for in-field applications, their cost is not prohibitive to those applications. With this in mind, a reflectance spectrophotometer has been designed which seeks to limit cost by using a wavelength selective LED to act as both a light source and serve the function of a monochromator or diffraction grating. This approach limits both the cost and complexity of the instrument design, and eliminates the need for motorized components within the spectrophotometer. The efficacy of the instrument has been tested in conjunction with a previously established wet chemical method known as colorimetric solid-phase extraction for detection of iodine concentrations in water. Analysis of the efficacy and reliability of the instrument was conducted using calibration curves.

Student: Mabile, Risley **Major:** Chemistry
Faculty Mentor: Pepino, Ron
Presentation Type: Oral
Presentation Time: 4:55-5:15 **Room:** Christoverson 207

Title: Misconceptions in Special Relativity: Why You Should Never Trust an Overly Confident Physicist

Abstract: In the standard physics major curriculum, the majority of exposure an undergraduate student gets to special relativity takes place in their sophomore level Modern Physics course, and general relativity is discussed briefly, if at all. This is likely because of the prohibitive difficulty of having any detailed discussion of general relativity. It has been noted by several relativists' that there is a misconception – even amongst some physicists – that general relativity is required to model situations with acceleration. Special relativity utilizes the Lorentz transformations to go from one inertial frame to another; when discussing relativity in a modern physics course, often the focus is on this swapping of inertial frames without any discussion of non-inertial frames. To keep things simplified, physical cases such as the twin paradox are used which have only one, instantaneous change in velocity. This may lead to the misconception that special relativity can only discuss inertial activity. This work quantitatively demonstrates if and where this misconception exists, and provides an evidence-supported approach to addressing this problem through solving twin paradox cases involving more realistic accelerations.

Student: Mace, Alexis **Major:** Exercise Science
Faculty Mentors: Allen, Charles; Sara Terrell
Co-author: Zack Wallace
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: The Effects of Concurrent Activation Potentiation on Bat Swing Velocity of Division II College Softball Athletes

Abstract: The purpose of this research was to examine the effects of maximal jaw clenching on bat swing velocity in collegiate division II softball players. Thirteen division II softball players volunteered to participate in this study. Subjects were instructed to complete their normal warmup routine as if preparing for a game at-bat. Following the warmup, subjects completed ten maximal effort swings targeting a softball on a tee. Five swings were performed while maximally clenching the jaw and five with relaxed jaw musculature (control condition). Conditions were counterbalanced between subjects to account for possible order effects. Each subject was given 30 seconds of rest between swing attempts. Tee height, tee placement, and bat used varied between subjects but remained consistent for all swing attempts. BSV was recorded using an inertial measurement unit (Zepp Sensor, Zepp Labs, Inc.) attached to the knob of the bat, and all recorded trials were averaged for analysis. Paired sample t-tests were utilized to determine differences between jaw clenched and jaw relaxed conditions. Mean swing velocity for the control condition was 28.02 m/s (62.68mph) and 29.42 m/s (65.82mph) for the jaw clenched condition, producing a statistically significant mean difference of 1.4 m/s (3.14mph) ($p = 0.003$). Maximally clenching the jaw while swinging a softball bat is a useful strategy to improve BSV in Division II college softball players. Additionally, CAP via maximal jaw clenching appears to improve aspects of athletic performance in female athletes.

Student: Maganzini, Grace
Faculty Mentor: Langford, Melanie
Co-presenter: Cassandra Brown
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: The Survival of *Helicobacter cetorum* and Expression of napA in Response to Oxidative Stress

Abstract: *Helicobacter cetorum* has been isolated from many marine mammals throughout the world, such as cetaceans (dolphins, whales, porpoises) and pinnipeds (seals, walruses), and appears to cause gastric symptoms in marine mammals that are very similar to pathology caused by *Helicobacter pylori*, such as inflammation and ulceration. Thus far, there is limited laboratory work involving *H. cetorum*, as most research has focused on detection methods rather than the biology of the bacterium itself. Here we tested the viability of *H. cetorum* in response to oxidative stress over time. We also plan to examine the expression of napA, which is a gene involved in the oxidative stress response. The oxidative stress response is proposed to enhance *H. cetorum*'s survival and colonization in the host. Our project is novel because it is the first study that examines the response of *H. cetorum* to oxidative stress, and having a

better understanding of the bacterial stress response may ultimately lead to potential curative therapies for marine mammals infected with *H. cetorum*.

Student: Maganzini, Grace **Major:** Biology
Faculty Mentor: Garr, Melissa
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Branscomb 202

Title: The Magical Realism in *Like Water for Chocolate* Presented Through Dimensions of Liminality

Abstract: The literary movement of magical realism was first driven by and largely popular with Latin American novelists. Its approach presents fantasy as normal experiences while the structure of reality is questioned. Ultimately, magical realism is a literary mode that uses magical elements to address situations of reality. By incorporating elements of magical realism, authors are able to evoke the emotional obstacles that characters may experience throughout novels. Discussions of the nature of magical realism are enhanced by applying the theory of liminal space. Liminality is essentially the foundation of how characters in novels operate both individually and collectively. Its ability to conceptualize reality taken in several different directions provides the framework of magical realism at work in novels. This essay will explore the two prominent indigenous groups of characters in *Like Water for Chocolate* by widely renowned Mexican novelist, Laura Esquivel. The emotional experiences evoked by the magical realism of tears, food, and spirits is dependent on the application of temporal and spatial dimensions of liminality. This research will accentuate how complex stylistic approaches such as magical realism and liminality are able to converge and complement each other as a romantic tragedy of Latin American literature unfolds.

Student: Martins, Marcos **Major:** Theatre Arts
Faculty Mentor: Bawek, Paul
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Christoverson 209

Title: Murder Mystery Dinner: 90th Birthday Murder

Abstract: My Senior Project for my Theatre major was a Murder Mystery Dinner and Show that was held on campus on March 17th. The show had storylines and characters but was completely improvised. I was able to direct rehearsals, write storylines, perform/MC in the show, and plan the entire event. Rehearsals were held where I worked with the cast members on improvisation skills. Since I wanted the show to be completely new when the audience saw it, we did all rehearsals with mock characters and not the characters and storylines that we used for the actual show. In the rehearsals, I played the mediator or investigator so that I could prepare myself for that role in the show as well. Putting together the story and the characters took a lot of creativity and planning but I was able to get it all done before the performances and get it to the cast. The event planning for the show consisted of working with FSC staff to get tech, food, and facilities for the show. Since it was set at a fancy birthday party, there was a lot in

the way of tables, chairs, and dining, that was needed. I am very proud of how the event went and would be glad to present how and what I did for it to be succesful.

Student: Marusko, Robert **Major:** Biology
Faculty Mentors: Eubank, Jarrod; Melanie Langford
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Christoverson 206

Title: Biomedical Applications of Metal Organic Frameworks

Abstract: In recent years, the field of metal-organic frameworks has seen dramatic increases in exploration. Metal-organic frameworks, commonly referred to as MOFs, have been shown to be excellent candidates for the storage of fuels (e.g., methane and acetylene), capture of gasses (e.g., hydrogen or carbon dioxide), and catalyzing reactions. With more than 20,000 different MOFs being reported and studied within the past decade, the focus of their applications has been constantly broadening and shifting. One area that has burgeoned more recently is the biomedical applications of these frameworks, and a particularly interesting area is their use as antimicrobial agents. This has direct correlations and implications to the fields of medicine and dentistry, the particular interest of this project. The purpose of this project has been to study the design and synthesis of metal-organic frameworks, in general, and tailor them toward biomedical applications, specifically. Upon the design and synthesis of suitable materials (e.g., biocompatible or bioactive), state-of-the-art structural analysis techniques (e.g., powder and single-crystal x-ray diffraction) were utilized for structure and phase confirmation. The expected bioactive materials were then evaluated for their antimicrobial properties.

Student: Mauzy, Inga **Major:** Biology
Faculty Mentor: Gasper, Brittany
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Christoverson 208

Title: Characterization of Possible Novel Bacteria

Abstract: Four bacterial strains have been isolated that are capable of producing both a red pigment and a green sheen on Marine Agar. They are sensitive to light and have optimal growth at 30 degrees Celsius. Initial sequencing of the 16s ribosomal DNA did not reveal any obvious match to any known species; however, there is evidence that the strains are likely to belong to the genus *Zooshikella*, a genus usually found in Korean tidal flats. In order to further classify these organisms, it is necessary to perform several experiments, most notably carbohydrate utilization tests, an Analytical Profile Index (API), and determination of fatty acid composition. Carbohydrates to be tested include but are not limited to: D-Fructose, D-Mannitol, D-Sorbitol, D-Xylose, L-Arginine, L-Ornithine, Maltose, and Sucrose. Specific API results of interest are those for Lipase, alpha-glucosidase, and N-acetyl-beta-glucosaminidase. Additional testing could include examining morphology. This research has the potential to identify one or more new species of bacteria.

Student: McKenna, James **Major:** English
Faculty Mentor: Bernheim, Erica
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Christoverson 206

Title: *Hostland*, Poems by James McKenna

Abstract: In this chapbook length collection of poetry, subjects such as queerness, shame, hookup culture, immigration, borders, and more are explored. Utilizing a variety of different forms, these poems analyze what it means to navigate a fractured identity in an age of digital disconnect. Too, these works are established within a broader theoretical framework of queer poetry by writers of color.

Student: Mederos, Devon **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Christoverson 109 (Moc Theater)

Title: Dying State: Analyzing the Multifaceted Crisis in Yemen

Abstract: Yemen is currently the subject of much contention in international politics, as it borders on becoming a failed state within the Middle East and North African region. An interstate, intrastate, and humanitarian crisis on Saudi Arabia's southern border, it is essential to Western interests and the international community to defend our ally and restore peace. This paper details the history of the country and cultures of people therein, its domestic and international politics, and circumstances surrounding the various facets of the crisis. Explanations are provided for threats to human security in the region including food insecurity, disease outbreaks, and internal displacement. Hadi, Houthi, and Al-Queda's (AQAP) interests and actions in the region are detailed. Various solutions to the crisis are suggested in realist, liberal, and constructivist schools of thought and analyzed by costs, benefits, and risks.

Student: Metheny, Nicholas
Faculty Mentor: Brandon, Christopher
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Testing *Cuscuta reflexa*, *Rosa damascena*, and *Gynura procumbens*: Potential as Antifungals Against *Zygosaccharomyces bailii*, *Candida krusei*, and *Brettanomyces bruxellensis*

Abstract: Antimicrobial resistance to commonly used treatments is spreading rapidly all over the world. Overuse of treatment options lead to the few surviving mutants to spread, and render that treatment ineffective. At this point in time, there are not enough antifungal treatment options available in the case of widespread resistance to the normally used antifungal treatment methods. Examining the extracts of plants could give insight to new ways that compounds interact to induce antimicrobial action. The methodology for this experiment is as follows: 1) Isolating the raw extracts from the selected plant species with antifungal properties: *Cuscuta reflexa*, *Rosa damascena*, and *Gynura procumbens*, and 2)

Testing the isolated extracts for fungal inhibition against the fungal species *Zygosaccharomyces bailii*, *Candida krusei*, and *Brettanomyces bruxellensis*. Steam distillation and the Kirby-Bauer disk diffusion test will be used used to measure the level of fungal inhibition of each plant extract on each selected fungal species. Based on researched literature, it is expected that all plant species will display significant antifungal activity against the selected fungal species due to their phenolic compounds. Experimenting on plants is crucial to find alternative treatments and preventative measures for these organisms to slow the evolutionary process for resistance.

Student: Meyer, William

Major: Communication: Interpersonal & Organizational Communication

Faculty Mentor: Mackie, Cara
Presentation Type: Oral
Presentation Time: 3:10-3:30

Room: Christoverson 207

Title: Effects of Nonverbal Mirroring on Persuasion and Agreement

Abstract: Nonverbal communication is an integral part of the communication process as it helps to fully understand the meaning behind a message, and it also helps with regulation of communication between people. Within this study, I discuss the differences between universally accepted nonverbal behaviors, derived from biological instinct, and behaviors that are learned culturally that express the same emotions common to all human beings. I conducted this study to help recognize the relationship between mirroring of behavior and agreement. This study aims to identify if a person will mirror the nonverbal behavior of someone with whom they agree. This study also identifies which types of nonverbal behaviors are mirrored and which types are not. To accomplish this, I use qualitative research and focus groups, using theme analysis to find general patterns of mirroring between people who agree with each other.

Student: Milavetz, Sera

Major: Communication: Film Studies

Faculty Mentor: Herbertz, Matthew
Presentation Type: Oral
Presentation Time: 4:15-4:35

Room: Christoverson 109 (Moc Theater)

Title: *The Light Lives On*

Abstract: This film was created from compiling various found footage to create a new meaning. It was created to make a statement about anti-semitism, which is a topic that impacts people worldwide, myself included. I originally created this film for a simple in-class project, but as I continued working on it, it grew to become much more meaningful to me. Its purpose is to shed light on a topic that many believe is either not an issue, or has not been in existence at all since the end of World War II. It is still happening, it does create fear, and has remained a constant problem. This film can be uncomfortable to view, and for good reason. My wish as the creator is to open people's eyes to the reality of this hateful act, and for the viewer to see how greatly it impacts people like myself, and my family directly. It is also important for people to see that although this is an ongoing problem, we as a united culture, and those around us

who support us, will continue to be strong and persevere. There can be so much more positivity in the world, if people would have a bit more humanity.

Student: Miles, Carly **Major:** Environmental Studies
Faculty Mentor: Wolovich, Christy
Co-authors: Malique Bowen, Ryan Hegseth
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Branscomb 201

Title: Patterns of Subcaudal Scent Marking in Captive Owl Monkeys (*Aotus nancymaae*)

Abstract: Olfactory communication plays a role in regulating social behavior in many nocturnal mammals. Owl monkeys (*Aotus* spp.) are socially monogamous primates that regularly scent mark with their subcaudal glands. The glandular secretions are distinctive between sexes and among families. We hypothesized that rates of scent marking of owl monkeys would be similar between the sexes, but would be more variable within females. We observed captive owl monkeys (*A. nancymaae*; n = 21 monkeys) during 20 minute trials (n = 199 trial; 66.3 total hrs) and used camera traps to supplement these data (15 s video at 5 min intervals, 20:00- 06:00 hrs) (n = 12 groups; mean = 8 nights/group; 42.0 total hrs). Scent marking behavior did not vary with time of night and there were no sex differences in the rates of marking or in the variability of marking behavior. There was a significant relationship between the rates of scent marking by females and those of their male partners, suggesting that males may overmark female scent deposits as a form of mate-guarding. Scent marking may act as a signal to transmit information regarding mate status as well as joint territory defense.

Student: Moats, Taylor **Major:** Elementary Education
Faculty Mentors: Powell, Rebecca; Lori Rakes
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Can You Say that Again?: Using Retelling to Increase Comprehension

Abstract: The goal of this case study was to find if weekly interventions on retelling and comprehension – using text chunking, repeated readings, and oral/written retellings – would improve the ability to retell and comprehend written texts in students with dyslexia. This study was completed with a sixth grade female, on a 4.5 reading level, at a school that specializes in working with students with reading difficulties. The reading component focused on throughout the case study is retelling. The student has a neurological processing disability called dyslexia. Through research and research-based interventions educators are better able to differentiate for the needs of all students in the classroom. The student was tested in phonics, spelling, fluency, and comprehension. Once retelling was determined to be challenging, we began weekly interventions and correlating assessments to improve her retelling and comprehension skills. The research showed that with consistent chunking of the text and active questioning the student did make small gains. The student was able to recall more important facts from the texts read with active questioning and chunking of texts. The student showed not only academic

gains but also personal gains in the classroom concerning her confidence and self-esteem through reading.

Student: Monroe, Rebecca **Major:** Criminology
Faculty Mentor: Blankenship, Chastity
Co-presenters: Bennett Rodriguez, Cooper Bradford
Presentation Type: Oral
Presentation Time: 6:10-6:30 **Room:** Christoverson 208

Title: Student Perception on Sexual Assault, Consent, and Alcohol Use

Abstract: This research study is to help us better understand student's perceptions of sexual assault, consent, and alcohol consumption. Previous research has helped to shed some light on this issue and continued research may allow us to better understand what factors influence student perceptions of consent. This could also help us better understand student perceptions that may influence institutional policies if we find our students are uninformed about consent. Currently, students are required to go through Title IX online training however they may not remember consent issues and/or have different attitudes about consent than the law.

Student: Morrison, Charles
Faculty Mentors: Kjellmark, Eric; Susan Serrano
Co-presenter: Ysabella Guerra
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Brainless Organism Determines Path of Least Resistance: Evaluation of Positive and Negative Chemotaxic Effects on *Physarum polycephalum*

Abstract: *Physarum polycephalum*, the plasmodial slime mold, is unique in that it is an acellular organism with no brain or nervous system, yet it has the capacity to learn using spatial memory. Previous research has addressed spatial memory over time, light interactions, and response to stimuli. This research is focused on the slime mold's reactivity to different chemical stimuli, such as chemo-deterrents and chemo-attractants. Different concentrations of chemo-deterrents and chemo-attractants will be placed in front of slime mold in order to determine which stimuli has a greater directional growth effect on the organism. The experiment will be conducted on plain agar within simple T and compound T agar configurations in order to ensure direct contact with the stimuli. If a chemo-deterrent is placed in between the organism and its chemo-attractive source of food, we predict it will pass through the chemo-deterrent if the organism is under enough stress and the nutrient level of the chemo-attractant is sufficient.

Student: Munson, Reymond **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:15-1:35 **Room:** Christoverson 109 (Moc Theater)

Title: Majoring in Economic Disaster: How the Increasing Student Loan Debt Could Negatively Affect the Economy

Abstract: As the price of higher education continues to rise, more and more college students are forced to depend on large sums of loans in order to pursue a degree. In a society that continues to push the necessity of higher education, the burden of that requirement is disproportionately distributed. Increasing tuition costs and higher expectations on students to involve themselves in internships and extracurriculars are causing increasing sums of loan debt as well as causing a split in student behavior. According to Forbes, as of 2018, there were 44 million borrows in the United States that owed a total of over $1.5 trillion in student loan debt. The real problem here comes from the fact that due to the amounts of crippling debt many graduates are forced to put off major life events that contribute to the economy. Bad credit, delaying marriage, inability to form a household, and even the possibility of not graduating at all are all consequences of increasing loans. Each of the factors has the possibility of negatively affecting the economy if left unchecked.

Student: Nelson, Brandy **Major:** Elementary Education
Faculty Mentors: Powell, Rebecca; Lori Rakes
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: #SOS: Parental Involvement

Abstract: Parental involvement has many moving parts. The first, what parental involvement is, includes the following: if parents were involved in their students' homework, if they attend parent-teacher conferences, and their provision of learning resources for their children. Many parents struggle to be involved with their child's learning. One reason this occurs is because they do not see themselves as a teacher in the lives of their children. Furthermore, if the parents did not do well in school or have achieved limited levels of education, it may limit their involvement. Additionally, parents may not feel confident enough in their own abilities to assist their child. Early parental involvement is also extremely important, as it has been shown to increase a child's vocabulary, comprehension, decoding abilities, conceptual development, and foster a strong interest in reading. Lastly, one of the most difficult parts of parental involvement is knowing how to be involved. One of the best ways to be involved is through activities. These activities could include family read-alouds, excursions to the library, word games, word challenges, or giving books as fun gifts.

Student: Odenwald, Mackenzie
Faculty Mentor: Brandon, Christopher
Co-presenter: Carly McGuire
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: *Daphnia*'s Developmental Changes After an Acute Exposure to Nicotine

Abstract: Over the years the level of nicotine found in waterways due to littered cigarette waste has drastically increased, yet there have been few studies on its impact. *Daphnia magna*, commonly known as water fleas, are a species of small freshwater crustacean that are easily susceptible to changes in their environment. These species of *Daphnia* can be easily cultured in a laboratory setting, and they are model organisms for evolutionary, toxicology, and ecology studies. Within this study gravid *Daphnia* were acutely exposed to different concentrations of nicotine for six hours. The purpose of this experiment is to determine if there is a developmental change in the larval development of these organisms. It is expected that when exposed to nicotine, there will be differences in the larval development of several morphological structures, including the rostrum, the second antennae, and the apical spine. The importance of this study is to show how exposure to various concentrations of nicotine impacts organisms that are found in aquatic environments.

Student: Okonkwo, Usonwanne **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Gauthier, Carmen; Deborah Bromfield Lee, Brittany Gasper
Presentation Type: Oral
Presentation Time: 5:15-5:45 **Room:** Christoverson 112

Title: Synthesis and Antimicrobial Studies of Metal-Organic Frameworks Containing a 4,4'-Dipyridine Derivative

Abstract: Antimicrobial resistance is a global concern that emphasizes the need for novel alternative solutions. In the past, some of these solutions have included improving the practice of antibiotic use and prescription, as well as synthesizing new antibiotics. However, metal-organic frameworks (MOFs) could also serve as this alternative solution as they are extremely porous, meaning they can hold and deliver targeted antimicrobial agents. They can also be altered to achieve the desired properties of antimicrobial activity by altering its constituents. Additionally, as the compounds degrade, they can act as a reservoir for metal ions as they slowly release the metal ions in the framework. This results in a sustained antimicrobial activity and a mechanism of action that is not typical of traditional antimicrobial agents. In this project, copper (II) nitrate hemipentahydrate with ligands 1,3-adamantanedicarboxylic acid (ADC) and 1,2-Bis(4-pyridyl)ethane were utilized to synthesize a series of MOFs. These compounds were formed by varying the solvent, the molar ratio of the dipyridine ligand, and the temperature at which the reaction was conducted. Subsequently, these compounds were characterized using infrared spectroscopy, thermogravimetric analysis, powdered x-ray diffraction analysis, and antimicrobial assays.

Student: Opalinski, Anna-Brook **Major:** English
Faculty Mentor: Bravard, Rebecca
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Christoverson 206

Title: An Honors Thesis Proposal: Re-Considering Masculinities in Ernest Hemingway's *In Our Time*, Neil Simon's *Biloxi Blues*, and Ron Kovic's *Born on the Fourth of July*

Abstract: Twentieth century definitions of masculinity for white, heterosexual men were often constructed around war. These constructions for men's behavior and ideology shifted, however, based on the changing theaters in which these wars were fought. Unfortunately, these concepts of masculinity did not account for post-war stressors, especially PTSD. Their conflicts with dominant definitions of masculinity included physical injuries that challenged paradigms of the strong, invincible male body, and mental injuries that questioned conceptions of male emotional strength. My Honors Thesis project will investigate shifting representations of masculinity in American literature, in particular, Nick Adams in Ernest Hemingway's WWI collection *In Our Time*, Sergeant Merwin J. Toomey in Neil Simon's WWII homefront drama *Biloxi Blues*, and Ron Kovic in his Vietnam memoir *Born on the Fourth of July*. Each of these texts exemplifies white men's struggles reconstructing their masculinity after war. All three characters face the challenge of fulfilling the society's expectations of them to be the same men they were before war and reconciling their internal realization that they are not those men and cannot act as though they are. Instead, they redefine and reclaim their masculinity in ways not traditional to their time, thus shifting understanding of post-war masculinities.

Student: Parker, Hunter
Faculty Mentor: Kjellmark, Eric
Co-presenter: Serena Manzi
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: How The Sea Urchin, *Arbacia punctulata*, Moves in Response to Variations in Light Intensities

Abstract: Coastal sea urchin species have been found to exhibit negative phototaxis in response to light stimuli. The focus of this study is on the purple sea urchin species, *Arbacia punctulata*, and its speed of movement in response to a selection of light intensities. Seven total sea urchins were tested total. One individual urchin was tested at a time at a specific light intensity over a ten minute period. They were placed in a salt water experimental tank by themselves, and allowed to move in the tank while being exposed to the three different light intensities, varying from ambient to extreme, each on a different day. We observed the rate at which of urchins moved away from the light. Then using statistical analysis, we will be able to identify any correlation between rate of movement and light intensity for the overall population of sea urchins tested. In this experiment, it is expected to see a larger negative phototaxis with higher light intensity, and a lower negative phototaxis at decreasing light intensity.

Student: Paulin, Taylor **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Christoverson 109 (Moc Theater)

Title: Title Loading: An Examination of Public Policy, Big Data Mining, and Your Right to Online Privacy

Abstract: Big data mining from social media is a rather new concept so there is currently a lack of regulations within the US government. Data mining on a large scale is the search and selection of specific information from a large pool of unstructured data. The idea that analysts are able to collect information about a person based on their social preferences is being monetized. Companies, such as Cambridge Analytica, collect data on various aspects of social media users for purposes such as advertising. During the 2016 presidential election, companies including Cambridge Analytica came under fire for the vast amounts of data they collected and how they utilized the information for ads during the campaign. While social media users do agree to release certain information to a platform for better experience, data mining begs the question, what about the rest of the data? This paper will examine the uses and intents of data mining for various political campaigns to exemplify the reach. I will be examining the current legality surrounding data mining as well as the most comprehensive regulations currently in place, globally, to propose policy alternatives to what is currently being done by US lawmakers.

Student: Petrie, McKayla
Faculty Mentors: Kjellmark, Eric; Gabriel Langford
Co-presenter: Danielle Harrington
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Presence of Cercariae Among Bahamian Snails

Abstract: On a trip to Andros, Bahamas, our priority was to collect snails and identify what type of snails were found where, as well as checking for the presence of Cercariae within each collection. We hypothesized that around 10-15% of the samples would have a presence or Cercariae. We then observed the movement patterns and appearance of the Cercariae to try and distinguish the type.

Student: Petrie, McKayla
Faculty Mentors: Kjellmark, Eric; Gabriel Langford
Co-presenter: Danielle Harrington
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Presence of Parasites Among Bahamian Snails of Andros Island

Abstract: Marine, herbivorous snails play a vital role in intertidal communities as they exert control on the abundance and diversity of algae present in the intertidal zone, which in turn impacts intertidal

community composition. Indeed, changes to snail abundance and distribution can have cascading impacts through these shallow marine ecosystems. Parasites are known to function as ecological engineers when they depress marine snail numbers or alter host behavior, thus it is important to test the health of snail communities to better understand how parasitic organisms affect ecosystems functions. To our knowledge, no parasitological studies have been conducted on any species of intertidal snail in the Bahamas. Our study focused on Andros Island, the largest Bahamian island, which has a variety of intertidal communities throughout its extensive shorelines. We selected the common cerethid snail *Cerithium lutosum* as a sentinel host species to assess the prevalence of trematode infections in intertidal snails from multiple locations on Andros Island. Snails were collected and placed into seawater for ~12hrs to observe for *cercariae*, an intermediate stage of trematode parasites. Our results found a difference in presence of *cercariae* among the different collection sites, but all showed positive results of parasitic presence. Future studies can further address and identify the *cercariae* for their roles in relation to different host species and how the relationship with each host adds to a functional community.

Student: Pitcher, Ryan **Major:** Computer Science
Faculty Mentor: Caney, Anna
Co-presenters: Estaban Cepero, Joshua Rivera, Mark Nelson
Co-authors: Estaban Cepero, Joshua Rivera, Mark Nelson
Presentation Type: Creative art display
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Trebuchet

Abstract: Our display will be a model of a functioning trebuchet which was a popular siege weapon from the middle ages. My partners and I are crafting the trebuchet as close as we can get to how they were built back then. We will be documenting our progress throughout the build and hope to share the insight we've gained during the build. We hope to demonstrate how the siege weapon works and further history and uses during our presentation.

Student: Planinc, Luka **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Bromfield Lee, Deborah; Shameka Shelby
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties

Abstract: Cancer, AIDS, and a large number of bacteria have shown an increase in the number of drug-resistance cases in recent years. Further research into novel drugs is necessary, in order to expand the options and add variation of possible drugs that can be used to oppose resistance. A plethora of pharmacognosy research demonstrated variations of certain scaffolds leading to compounds as possible novel drugs. Utilizing the shared isoindolinone scaffold, which was found to have various medicinal potential, a novel library of compounds was synthesized, utilizing the principles of green chemistry. The

synthesis of the isoindolinyl moiety began with variations on the Mannich reaction using phenol protected methyl 4-bromo-3,5-dihydroxybenzoates. The retrosynthesis of variations on the isoindolinyl backbone, based on literature, was developed to provide a library of compounds that can be evaluated for biochemical activity. Specifically, variations of the 4-position on the aromatic ring, phenolic and amide moieties will be explored. Of specific interest is bioassays to evaluate toxicity against cancer cell lines. The cytotoxic activities of these compounds against normal and cancer cell lines will be evaluated.

Student: Planinc, Luka **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Bromfield Lee, Deborah; Shameka Shelby
Presentation Type: Oral
Presentation Time: 5:45-6:15 **Room:** Christoverson 112

Title: Design, Synthesis and Biological Evaluation of Isoindolinonyl-based Moieties

Abstract: Cancer, AIDS, and a large number of bacteria have shown an increase in the number of drug-resistance cases in recent years. Further research into novel drugs is necessary, in order to expand the options and add variation of possible drugs that can be used to oppose drug-resistance. A plethora of pharmacognosy research demonstrated variations of certain scaffolds leading to compounds as possible novel drugs. Utilizing the shared isoindolinone scaffold, which was found to have various medicinal potential, a novel library of compounds was synthesized, utilizing the principles of green chemistry. The synthesis of the isoindolinyl moiety began with variations on the Mannich reaction using phenol protected methyl 4-bromo-3,5-dihydroxybenzoates. The retrosynthesis of variations on the isoindolinyl backbone, based on literature, was developed to provide a library of compounds that can be evaluated for biochemical activity. Specifically, variations of the 4-position on the aromatic ring, phenolic and amide moieties will be explored. Of specific interest is bioassays to evaluate toxicity against cancer cell lines. The cytotoxic activities of these compounds against normal and cancer cell lines will be evaluated.

Student: Price, Megan **Major:** Communication: Multimedia Journalism
Faculty Mentor: Trice, Mike
Presentation Type: Oral
Presentation Time: 12:20-12:40 **Room:** Branscomb 201

Title: Florida Citrus: The Industry

Abstract: My presentation is a digital media project about Florida's Citrus Industry. It is a website that I have created with many different parts to get to know and understand the different pieces of the industry.

Student: Proch, Michael
Major: Communication: Film Studies
Faculty Mentor: Herbertz, Matthew
Co-author: Sydney Rivera
Presentation Type: Oral
Presentation Time: 4:35-4:55
Room: Christoverson 109 (Moc Theater)

Title: *The Entertainer*

Abstract: This presentation will be a film screening and oral presentation of the project, *The Entertainer*. The discussion will revolve around the creative process and the filmmaker's intentionality. This film is an exploration of the wonder you experience as a child that we tend to lose as we grow into adults. The filmmaker is making an attempt to express the creative purity that he never grew out of.

Student: Quaempts, Caitlin
Major: Biology
Faculty Mentor: Banks, Susan
Presentation Type: Oral
Presentation Time: 12:40-1:00
Room: Christoverson 206

Title: Evolutionary Conservation of Annexins in *Petromyzon marinus*, sea lamprey, a Parkinson's Disease Mode

Abstract: Parkinson's Disease (PD) is a neurodegenerative movement disorder with no known cures. It is characterized by neuronal loss due to aggregates that are linked to mutations in and overexpression of the protein alpha-synuclein. Neurotransmission is regulated by proteins that may be altered in the presence of excess alpha-synuclein. However, the identity of these regulatory proteins and how they are affected by excess alpha-synuclein remains unknown. Ca2+-dependent membrane binding Annexin proteins, are possible regulatory targets. However, experiments are needed to determine the type of interaction between alpha-synuclein and Annexins. To understand the many aspects of neurotransmission affected by excess alpha-synuclein, experiments will be performed in an intact nervous system. *Petromyzon marinus*, the sea lamprey, has a sequenced genome and contains giant axons that are ideal for observing these interactions. First, it is necessary to identify which Annexins are present in lampreys. Annexins in humans share high sequence similarity and appear to be evolutionarily conserved between lampreys and humans. Bioinformatic analysis will reveal the extent of conservation between human and lamprey Annexins. By understanding the evolutionary relationships between these proteins, it may help to identify therapeutic targets in pathways that underlie PD.

Student: Ramirez, Stephanie **Major:** Psychology
Faculty Mentor: Garr, Melissa
Presentation Type: Oral
Presentation Time: 12:40-1:00 **Room:** Branscomb 202

Title: Virgins and Sluts: Looking at Female Archetypes in Two Works of Gabriel Garcia Marquez, *100 Years of Solitude* and *Memories of My Melancholy Whores*

Abstract: There have been numerous TV shows, movies, and works of literature that further their plot lines or depth by using archetypes of the characters. In each genre there are stereotypes that people identify: male jock, book-smart virgin, slut. These present themselves in all places, even in Latin American literature of females being put into only one of two categories - a slut or a whore. Gabriel Garcia Marquez uses the archetypes in both works of *100 Years of Solitude* and *Memories of My Melancholy Whores*. Without the box of the whore or slut, the male characters would not have been prompted to act or react in certain ways. This presentations drives to identify why these archetypes are so important in these literary works and why identifying them should drive male and female alike to understand how these can be hurtful towards females in the general population. Generalizations of a certain group of people may bleed into generalizations during an individual's everyday life and skew perceptions in a negative light.

Student: Ready, Emily **Major:** Psychology
Faculty Mentor: Law, Charlie
Co-presenter: Alicia Lader
Co-author: Kenzie Hurley
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Getting the Message: The Influence of Setting on Perceptions of Sexual Harassment

Abstract: Sexual harassment is ubiquitous in the workplace. According to a 2018 brief by the U.S. Merit Systems Protection Board, 1 out of every 5 female, and 1 out of every 11 male Federal employees experienced sexual harassment in the past two years. Through the use of vignettes, participants in the current study rated both face-to-face and cyber sexual harassment scenarios on severity, helping behaviors, and whether or not the scenario was actually sexual harassment. There were three types of sexual harassment measured- gender harassment, unwanted sexual attention, and sexual coercion. The gender of the perpetrator and victim were also manipulated (e.g. male to female harassment, female to male harassment). Targets of sexual harassment typically experience all three of the aforementioned types of sexual harassment in face-to-face encounters. Indeed, there exists a large body of research investigating face-to-face sexual harassment. However, recent technological advances make it likely that employees are experiencing sexual harassment outside the traditional bounds of the workplace. There remains a paucity of literature that concerns the differences in perceptions between face-to-face and cyber sexual harassment. The current research is important because it addresses the possibility that online sexual harassment is perceived differently than face-to-face sexual harassment.

Student: Recanzone, Erika **Major:** Exercise Science
Faculty Mentor: Allen, Charles
Co-author: Alexandra Bittinger
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Concurrent Activation Potentiation Improves Barbell Velocity During Submaximal Deadlift Exercise

Abstract: The purpose of this investigation was to examine the impact of CAP, achieved via maximal jaw clenching and maximal jaw opening, on barbell movement velocity during the deadlift exercise with submaximal resistance. Eight male and nine females considered intermediate to advanced resistance trained athletes visited the lab on two occasions. The first visit involved provision of written consent, one repetition maximum (1RM) deadlift assessment, and familiarization with subsequent data collection procedures. The second visit, occurred 72 hours and one week following the initial visit, consisted of submaximal deadlifts at 65% of 1RM performed under three experimental conditions: jaw maximally clenched, jaw maximally opened, and jaw relaxed (control condition). Average and peak barbell movement velocity was recorded using a Tendo Power & Speed Analyzer. A 1x3 repeated measures ANOVA was used to determine if a difference between conditions existed. Pairwise comparisons with Bonferroni adjustment determined specific differences between groups. There was a statistically significant difference between experimental conditions for both average and peak velocities. Maximum jaw clenching and maximum jaw opening significantly improved average movement velocity when compared to the jaw relaxed condition. Maximal jaw clenching and maximum jaw opening improved peak movement velocity in comparison to the jaw relaxed condition, however, only the maximal jaw opening condition was statistically significant. CAP achieved by maximally clenching or opening the jaw is effective at enhancing barbell movement velocity during the submaximal deadlift exercise, presumably by augmenting agonist muscular force production characteristics.

Student: Reed, Jordan **Major:** English
Faculty Mentor: Eskin, Cat
Presentation Type: Oral
Presentation Time: 5:30-5:50 **Room:** Christoverson 209

Title: The Art of Transcription: Uncovering a Hidden Talent

Abstract: This presentation will highlight my experience within a British Literature I course last semester. One of the main focuses of said course was ancient manuscripts and the art of transcription, learning how to interpret and analyze manuscripts through transcriptions of the content. The course included a major project centering around the Drexel 4175 manuscript from the seventeenth century. The class had a very hands-on education of the manuscript, transcribing and translating different works within the document; the best part of which was a "Transcrib-a-thon" hosted last fall, a friendly competition to see who could transcribe the most, both in terms of accuracy and speed. I myself had a very positive experience at the Transcrib-a-thon, discovering that I had a knack for interpreting the manuscript's content and deciphering each work. I uncovered a talent I was unaware I possessed, and in

the process learned about another entire branch of English-related careers. With this presentation, I would like to share my experiences and promote the value and enjoyment of the art of transcription.

Student: Rexach, Gianny **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Christoverson 109 (Moc Theater)

Title: Addressing the Opioid Crisis: The Ohio Model

Abstract: The Opioid Epidemic has been afflicting the United States since 2000. It has killed millions of Americans and has been an increasing subject of debate in national politics. The epidemic has unraveled in three waves, with the first wave beginning in the 1990s, and the last wave, in 2013. (CDC, 2018) Ohio was among the top five states heavily affected by the crisis. However, Ohio has been on the mend in recent years. While they remain among the top affected states, their opioid related death rates have significantly dropped, with some counties seeing over a 50% decrease in deaths. As such, Ohio's successful policies could provide a template for other states afflicted by the issue. There is much discussion regarding the best method of fixing the epidemic. Ohio has been following curative methods that entails mainly educational programs as well as alternative pain medications to curtail opioid addiction. Other scholars believe that the preventive route, that includes rehabilitative programs, is the best way to combat this crisis. In this paper I will address the issue by looking at a policy model that targets both methods, and determine which practice proves to be the most effective in combating the Opioid crisis.

Student: Rexach, Nevali **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 4:15-4:35 **Room:** Christoverson 209

Title: Contami-Nation: The Prevention of Food Borne Illnesses

Abstract: Over the past few years there has been an increase in the amount of illnesses and deaths caused by the consumption of contaminated food in the United States. The amount of contaminated foods spiked in 2008 and has had its most impact in 2018 so far. There are thousands of outbreaks yearly which can lead to illnesses and deaths. This is a major issue that affects women, children, and the elderly the most. In order to address this issue, I will review the three phases in which food gets contaminated; this includes the production of food, handling of food, and the preparation of food. I will provide three solutions that will allow for a more thorough and efficient process of checking the food. This paper will propose and assess several policies that will allow for a more thorough and efficient process of checking the food, in order to reduce the number of people who are harmed by food-borne illnesses.

Student: Rivera, Joshua **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:35-1:55 **Room:** Christoverson 112

Title: A Comparative Analysis of US Immigration Policy

Abstract: Much of the recent GOP rhetoric has been focused on the issue of immigration and whether a more secure border is the answer to the problem. The discussion created by Trump had been one fueled by fear and dissent of the other, thus, legitimizing a government response of closed borders. This issue, however, stems well beyond the issue of a border, and begins with the controversy over the Citizenship Clause in the 14th amendment. This clause states that "all persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside." It was created in response to the denial of citizenship to a large portion of residents who, at the time, were being held as slaves and denied many rights. According to the American Immigration Council, there have been large numbers of migrant children from Mexico, Honduras, Guatemala, and El Salvador. There are a few reasons why an individual may choose to evacuate their home, e.g. war, drugs, violence, where even a professor at the University of California-San Diego found a positive relationship between violence in foreign countries, such as Guatemala and El Salvador, and the number of unaccompanied children flowing into the states. I will be investigating the responses by other countries such as Canada, and members of the European Union to see the impact of their open border policies. From these, I will offer various policy options to better suit the demands of current waves of immigration.

Student: Rivera, Joshua **Major:** Political Science
Faculty Mentor: Caney, Anne
Co-presenters: Esteban Cepero, Ryan Pitcher, Mark Nelson
Presentation Type: Creative art display
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Trebuchet

Abstract: A trebuchet is a type of catapult, it was a very common and powerful siege weapon that utilized a swinging arm to launch a projectile. We will be recreating this weapon with as similar of resources as possible and will be attempting to break down a wall by launching small projectiles.

Student: Rodriguez, Emely
Faculty Mentor: Banks, Susan
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: The Effect of an Antioxidant Flavonoid on Viability of Oxidatively Stressed Cardiac Heart Muscle Cells in Culture

Abstract: Cardiovascular diseases (CVDs) are responsible for 1 in every 4 deaths in the US. Given their prevalence, there is an increased importance in finding therapeutic treatments for CVDs and associated risk factors. Some of the existing therapeutic treatments target reactive oxygen species (ROS) which have been proven to contribute to the progression of CVD risk factors. Additionally, research has indicated that flavonoids have cardioprotective properties which reduce the presence of ROS. (-)-Epicatechin (EPI), specifically, has been shown to have anti-inflammatory and antioxidative properties as well as reduce blood pressure and improve vascular function. It was hypothesized that cardiomyocytes induced with oxidative stress would have decreased mortality rates when treated with EPI. The effects of EPI were investigated using viability assays on hydrogen peroxide-induced neonatal rat cardiomyocytes, a well-established model for studying CVDs. The cell viability results were inconclusive, but indicate that further research needs to be performed to determine the specific effects of EPI in the presence of an oxidative stress.

Student: Rogers, Allen **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 4:35-4:55 **Room:** Christoverson 209

Title: Rebuilding the Soviet Union? How to Address Russian Expansion into Eastern Europe

Abstract: Russia is once again expanding into Eastern Europe. Over the past decade, they have sent troops into both Georgia and Ukraine in order to occupy or annex territory from these sovereign nations, respectively. This pattern of behavior demonstrates that Moscow does not respect the autonomy of its neighboring Baltic States, which poses a threat to European security. This paper will consider Russian President Vladimir Putin's strategy and aspirations for Russia's role in the global community and provide some policy options that can be used to deter further Russian aggression in the region. First, I will examine Russia's motives, assessing whether these events demonstrate that Russia is implementing a much more aggressive foreign policy, or simply using a realist approach to handling national security. Next, the implications of Russia's actions and current foreign policy objectives in terms of European security will be discussed. Finally, I will propose measures the international community can take to deter any further destabilization of Eastern Europe.

Student: Rudick, Jaimee **Major:** Criminology
Faculty Mentor: Blankenship, Chastity
Co-author: Kayla Knowlton
Presentation Type: Oral
Presentation Time: 5:30-5:50 **Room:** Christoverson 208

Title: An Investigation of the Relationship between Personal Appearance, Exercise Practices, and Exposure to Social Media among College Students

Abstract: This research study seeks to combine two research topics related to body image—exercise practices and social media use. Typically existing research focuses on either exercise practices or social media use and does not combine these two discussions within the same study. The current study seeks to combine these two areas in order to explore their possible relationships. With a recent cultural push toward body acceptance has there been much change in the how individuals feel about their bodies? What is the role that specific forms of exercise play in the lives of individuals in relationship to body acceptance? In the current study, we continue the on-going research discussion related to factors that influence body image. This study also adds to the existing literature on personal appearance by surveying college students on specific forms exercise and how it relates to their ideal body goals.

Student: Rutherford, Megan **Major:** Religion
Faculty Mentors: Hamilton, Brian; Sara Fletcher Harding, Frank Johnson
Presentation Type: Oral
Presentation Time: 4:55-5:15 **Room:** Christoverson 208

Title: The Purpose of the Law in Christianity

Abstract: Scholarship on the Mosaic Law in Christianity in recent years has seen a major paradigm shift. For a long time, the dominant approach to the function and purpose of the law was set within the framework of key reformation concepts. Martin Luther saw the Law as a reality that revealed evil, sin, and the wrath of God. For John Calvin, the Law was given as the way of life for those already predestined to salvation. Advocates of these approaches attempt to read their claims back into Paul's letters, the most important texts on the understanding of the Law in Christianity. This paper focuses on the understanding of the Law in the Old Testament, early Judaism, and Paul's letter to the Galatians. I argue that the Law is not an evil entity that brings about sin and it is no longer a requirement for God's people because of the risen Christ. Instead, Israel received the Law as a means of fulfilling the covenant made with Abraham so that the world may receive the promises made to him. But, because Israel remained unfaithful, God came down in Christ to fulfill the Law and the terms of the covenant so that the world can finally receive God's promises.

Student: Salb, Carole Ann **Major:** Elementary Education
Faculty Mentors: Powell, Rebecca; Lori Rakes
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Breaking the Cycle of Test Anxiety

Abstract: This presentation describes a comprehensive literature review on test anxiety. The literature was gathered, reviewed, and analyzed over a period of a few months in order to effectively determine the role test anxiety has among student success in the classroom. Test anxiety is defined as the emotional, behavioral, and physiological responses to negatively perceived testing situations. The presentation includes: background information about test anxiety, causes of test anxiety, effects of test anxiety, and strategies for preventing and overcoming test anxiety. It was found that test anxiety is exhibited in 10-30% of all students; however, 41% of African American students experience some form of test anxiety. Test anxiety is a vicious cycle that only gets worse if not addressed. It was concluded that the main methods used to defeat test anxiety are teaching relaxation skills, Cognitive Behavioral Therapy (CBT), and biofeedback techniques. Test anxiety is a serious issue that teachers need to be aware of in order to best help their students succeed.

Student: Salvatore, Victoria **Major:** Communication: Multimedia Journalism
Faculty Mentor: Trice, Mike
Presentation Type: Oral
Presentation Time: 12:40-1:00 **Room:** Branscomb 201

Title: Ghost Towns: The Forgotten Towns of America

Abstract: The presentation is about ghost towns which are towns or cities that were once bustling with people but are now abandoned. The project focuses on the number of ghost towns in America as well as specific ghost towns in Florida with interesting histories. In order to understand the number of ghost towns in the nation, I discussed what causes a city or town to become abandoned. I will also talk about two ghost towns in Florida, Rosewood and Kerr City, that have interesting stories. Rosewood is a town that was abandoned after a racially charged event and Kerr City is a ghost town that has standing buildings, which is rare for a ghost town, and was taken care of by the great-grandson of the founder until recently. The project also includes a discussion of what it would take for a current city to become a ghost town.

Student: Scinicariello, Alexa **Major:** History
Faculty Mentor: Caney, Anna
Presentation Type: Creative art display
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: *Book of Hours* Parody: The Crusades

Abstract: It is based off the *Book of Hours* that had illustrated months of the year that showed what the peasants did in that month or season of the medieval era. This is a shortened parody off of the *Book of Hours*, depicting, instead, the Crusaders.

Student: Selle, Pauline
Faculty Mentor: Langford, Melanie
Co-presenter: Martin Makenna
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Qualitative Screening for Biosurfactant Production and Antimicrobial Activity of *Hydrocarbonoclastic Oceanobacillus sp.*

Abstract: Oil pollution has devastated many marine ecosystems and there is an ongoing search for more efficient and ecological methods of removing oil from marine environments. Some oil degrading bacteria produce biosurfactant that aid in the breakdown of hydrocarbons. The biosurfactant are more efficient, nontoxic, and economically viable than alternative methods of oil remediation. Previous studies have found members of the genus *Oceanobacillus* that are capable of oil degradation. Our research examines the role that *Oceanobacillus sp.* and its potential biosurfactant play in biodegradation and antimicrobial activity. We found that *Oceanobacillus sp.* is a facultative hydrocarbon degrader, but cannot use oil as its sole carbon source. Production of biosurfactant was assessed through two types of biosurfactant screening techniques as well as an extraction. The results from the screening for biosurfactant production suggest that *Oceanobacillus sp.* does not produce biosurfactant. The supernatant of *Oceanobacillus sp.* was further screened for antimicrobial activity. Our research provides a greater understanding of *Oceanobacillus sp.*, and has the potential to aid in the development of emerging bioremediation methods.

Student: Simpson, Jenna
Faculty Mentors: Kjellmark, Eric; Gabriel Langford
Co-presenter: Ryan Hegseth
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Distribution and Assessment Analysis of Juvenile Fish of the Bays and Lagoons of the East Coast of Andros Island

Abstract: Juvenile and larval fish make up a large percentage of coastal ecosystem fish communities and serve an important role in marine food webs when small fish transfer energy from planktonic

organisms to larger fishes. These attributes make juvenile and larval fishes good bioindicators for coastal ecosystem health. The distribution and abundance of young fishes is used in management and fishery stock assessments and is vital to understanding complex coastal environments. Andros Island, the largest Bahamian Island, lacks baseline data on young fish, which limits our understanding of fish life history and ecology in the Bahamas. Our survey used a fine mesh seine net to sample five locations along the Eastern Coast of Andros Island in shallow flats. We seined fish and placed them into a bucket of water where counts of both species and abundance were documented, which included photographing each fish to facilitate identification. Our survey found a variety of juvenile and larval fish inhabiting the locations where assessments were conducted. Varying degrees of abundance and diversity were found between sites. The collected data presented in this paper is intended to be a baseline for future studies on the fishes of Andros Island.

Student: Skiba, Emma **Major:** Psychology
Faculty Mentor: Smith, Patrick
Presentation Type: Oral
Presentation Time: 4:55-5:15 **Room:** Christoverson 206

Title: "Pieces of the Puzzle": The Effect of Autism Awareness on Altruistic Motivation

Abstract: Altruistic motivation is the driving force behind charities, volunteerism, and random acts of kindness; it is the motivation to give a resource (eg., time, money) without the anticipation of personal gain. The purpose of this study is to quantitatively show the effect of awareness and altruistic motivation on behavior through assigning philanthropic significance to a mundane task. The participants made bracelets that were presented as either increasing awareness for Autism Spectrum Disorder (ASD) or having no external purpose. The awareness for ASD condition included assigning meaning to the materials used and highlighting the potential for it to bring future social awareness. The data was approaching significance, showing that participants who were in the awareness condition could have been altruistically motivated to complete more bracelets than the participants without a purpose. Additionally, a survey measured the participants' compassion toward humanity. No significant effect was found between survey score and number of bracelets made. After the study, the bracelets were sold to raise funds for an ASD charity to continue to raise awareness for people with autism. This research shows that awareness can influence a change in personal behavior by inspiring altruistic motivation.

Student: Skipper, Ryder **Major:** Communication: Film Studies
Faculty Mentor: Herbertz, Matthew
Presentation Type: Creative art display
Presentation Time: 4:55-5:15 **Room:** Christoverson 109 (Moc Theater)

Title: *Cerebral*

Abstract: Someone very close to me suffers from an anxiety disorder. I wanted to create something that not only explained their anxiety in a visual way, but something that explained it in a way that I could understand their pain as someone who doesn't have an anxiety disorder. I interviewed them for hours,

discussing their anxiety and how it would manifest in a way that was true to them. I made the film very abstract. I love the interpretive nature of abstract art, and I wanted people to really leave the film feeling only the emotion of its imagery. It was a beautiful experience, and I'm glad that I had the opportunity to make it a reality.

Student: Smith, Hannah **Major:** Psychology
Faculty Mentors: Goodmon-Riley, Leilani; Charlie Law
Co-presenter: Emily Ready
Co-author: Kara Delaney
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: The Relationship Between Homonegativity and Perceptions of Severity on Same-Sex and Opposite-Sex Sexual Harassment Scenarios

Abstract: Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that affect an individual's work performance, or creates a hostile, intimidating or offensive work environment. While there is ample research addressing different-sex sexual harassment, data on same-sex sexual harassment is scarce; there is a paucity of research on the relationship between homonegativity and perceptions of sexual harassment scenarios. While homophobia is the fear and disgust of homosexuals and the belief that homosexuality is morally wrong, homonegativity is "any prejudicial affective or behavioral response directed toward an individual because he or she is perceived to be gay". The purpose of the current study will be to determine if an individual's level of homonegativity is related to perceptions of the severity of a sexual harassment scenario when the sex of the victim is crossed with the sex of the perpetrator. Participants will read one of four vignettes describing sexual harassment in a workplace that vary by the victim sex (woman, man) and perpetrator sex (woman, man). They will then rate harassment severity, believability, level of discomfort towards the scenario, and decide on the appropriate punishment for the perpetrator, if any. Participants will complete the Modern Homonegativity Scale (used to create high and low negativity groups). Data will be discussed in terms of the possible role that homonegativity might play in shaping perceptions of same-sex and opposite-sex sexual harassmen

Student: Smith, Rebecca **Major:** Mathematics
Faculty Mentor: Serrano, Susan
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Branscomb 201

Title: Risk Stratification Index to Predict Complications and Mortality in Elective Procedures

Abstract: Risk stratification index is becoming more commonly used to compare complications and mortality between different hospitals equally. In this study complication and mortality in elective surgical procedures was examined. This project finds a regression model to predict the risk stratification index for mortality and in-hospital complications for elective procedures. We are looking at some

variables such as BMI, race, age and gender to be able to determine the best regression equation. We also have been looking to see if there was a difference between some of the variables like age, gender, and race.

Student: Soulier, Christine **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 4:55-5:15 **Room:** Christoverson 209

Title: Preventing Flooding in Southeastern Louisiana: Man vs. Nature

Abstract: Southeastern Louisiana has faced many disastrous events within the last few decades; in particular massive amounts of flooding and tidal surges have caused record-setting damage to its inhabitants. Preventative measures of the past, such as sea walls and soil conservation, have not been strong enough to deter further destruction, weakening the region's ability to recover and sustain affected areas. Moreover, catastrophic storms such as Hurricane Katrina and the recent flash flooding in 2016 have left permanent marks upon the land and the people. The most popular endeavor of flood prevention, levees and floodwalls, have been the main source of precautionary efforts since American occupation after the Louisiana Purchase. Colonists began to build levees around their new homes, deep within the swamplands. These marshes have also served as barricades, but due to the repetitive beating that this environment sustains from natural disasters and man's harmful living, the organic defensive line for Southeastern Louisiana has been stripped to a bare minimum. This paper will analyze past efforts of protection against flooding, seek to discover errors that may be improved upon, and offer policy proposals to help prevent future property damage and loss of life.

Student: Sperduto, Katarina **Major:** Computer Science
Faculty Mentor: Cazalas, Johnathan
Co-authors: Quinlan Harsch, Nicole Mattson
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Algorithmic Approaches to Solving the Traveling Salesman Problem

Abstract: The traveling salesman problem is an optimization problem dealing with finding a route covering all cities so that the total distance traveled is minimal. This project proposed was a version of the traditional traveling salesman problem by replacing the cities with different pizza joints. We were tasked with creating two algorithms, one which took advantage of the triangle inequality and one that did not. For our algorithm which took advantage of the triangle inequality we ran a depth first search traversal over a minimum spanning tree, while our other algorithm used a combination of the nearest neighbor and two-opt algorithms. In addition, a verifier was included which confirmed that paths outputted as optimal paths were valid. While the traveling salesman problem belongs to the class of NP-Complete problems, both of the heuristics implemented for this project have polynomial time performance with nearly optimal results.

Student: Spirt, Savanna
Faculty Mentor: Kjellmark, Eric
Co-presenters: Carlos Javier Penzo, Sam Foley
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Effects of Two Different Concentrations and Sizes of Microsphere Plastics on *Palaemonetes paludosus*

Abstract: We are exploring the potential behavioral and physical effects of microspheres on the freshwater shrimp *Palaemonetes paludosus* in order to evaluate the possible consequences of these microplastics on freshwater organisms in a natural environment. To answer these questions, we distributed *P. paludosus* into different tanks containing high and low concentrations and large and small sizes of microspheres, as well as a control containing no spheres. We expect to find that the high concentrations of microspheres will negatively affect the grass shrimp, causing them to reduce their locomotive and feeding activity levels. We also expect that high concentrations coupled with large microspheres will have even stronger effects that lead to decreased levels of locomotive and feeding activity. We do not anticipate that low concentrations will have major effects; furthermore, we expect that low concentrations coupled with small microspheres will not have significant effects on *P. paludosus*.

Student: Stakes, Danielle **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Ventricular Assist Device Quality of Life

Abstract: Heart Failure is a serious illness and cases are on the rise. Ventricular Assist Devices are designed to aid the failing heart in pumping to provide adequate blood flow throughout the body. Few patients report knowing what to expect after having the device implanted. Therefore, this poster presentation aims to address the effects on heart failure patients' quality of life after implantation of a Ventricular Assist Device (VAD). Articles and data from 2011 to present were examined to identify the various impacts these devices have on patients' quality of life. A total of ten articles were used with a mix of research designs. Two common themes emerged from the data: adjustments and adaptations and acceptance and gratitude. The initial time period of device implantation is when patients' encounter many lifestyle modifications in multiple aspects as they adapt to their new way of life. Once the initial shock has passed and the adjustments are made, patients develop a newfound love for the device and recognize that without it their chances of survival are reduced. Proper education on the impacts of these devices is important so nurses can accurately inform patients and potential candidates on what to expect after implantation.

Student: Stakes, Danielle **Major:** Nursing
Faculty Mentor: Marc, Nancy
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Windshield Survey: A Trip Down State Road 64

Abstract: Windshield Survey: A Trip Down State Road 64 is a visual overview of the community along State Road 64 in Bradenton, FL. From observations made while driving throughout the community, nurses can identify resources, barriers, areas of strength and areas for improvement. Because, these factors can impact the overall health of the population, information gathered from a windshield survey is used to create a healthcare plan for the community, families, and individuals. Based off my windshield survey, I identified the strong presence of health infrastructure, the large public transportation system, and the variety of community resources as strengths. However, residents have limited access to fruits and vegetables close to home and lack knowledge on food budgeting, meal planning/preparation, and how to eat healthy. Beginning with attending a community forum to identify current interventions in place, my plan for the community focuses on creating better access to healthy food options for all residents. Interacting with citizens, visiting local supermarkets, and creating a farmer's market/community garden are actions within my plan to improve overall access to fruits and vegetables. Lastly, a healthy eating education session will be organized to increase knowledge and awareness.

Student: Stakes, Kimberly **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Effects of Shift Length on Quality of Patient Care and Patient Safety

Abstract: In the healthcare setting, a nurse's role is to provide quality care to patients, ensure patient safety, limit the amount of incomplete care, and guarantee patient satisfaction through the entirety of their shift. Nurses' shift lengths can include eight-hour (hr), 12-hr, and 12-plus-hr shifts, which is why this literature review evaluates the effects of shift length on the quality of patient care and patient safety. Keywords were searched on Google Scholar, MEDLINE, CINAHL, Ovid, and Scopus to accumulate 10 articles for this literature review. Study designs included three secondary analyses, four reviews, one prospective service evaluation, one cross sectional study, and one predictive-correlational study. Articles included national and international studies, some of which were appraised using the Joanna Briggs Institute checklist. The samples consisted mainly of female registered nurses in their late 30s to mid-40s working in acute-care hospital settings. Methods for gathering data included surveys with questions based on the 2005-2008 Mutli-State Nursing Care and Patient Safety Study and the BERNCA Instrument. In the accumulation of studies, researchers used multilevel models, the DATIX system, the Fisher's exact test, and the Student's t-test to analyze data. The articles concluded that longer shifts have negative impacts on the quality of care, patient safety, incomplete care, and patient satisfaction. These findings have a tremendous impact on the nursing profession and evidence-based practice and therefore

must be disseminated to healthcare settings worldwide for managers to make educated decisions regarding the scheduling of nurses.

Student: Stark, Alexandra **Major:** Marine Biology
Faculty Mentor: Wolovich, Chisty
Presentation Type: Oral
Presentation Time: 6:10-6:30 **Room:** Christoverson 207

Title: Human Foot Traffic and its Effect on Limpkin (*Aramus guarana*) Foraging, Social Behavior, and Population Density

Abstract: Limpkin (*Aramus guarana*) populations have been increasing in central Florida despite continued development. I aimed to examine the effect of human disturbance on the densities of limpkins and their foraging behavior. I hypothesized that in areas with higher levels of human disturbance 1) limpkin densities would be greater 2) limpkins would spend more time foraging and vocalizing and 3) their handling time would be greater. I surveyed limpkin populations using line transects (n = 60 transect walks) and scored their behavior (n = 84 observations) at 10 different lakes in Polk County. I scored the proportion of time that limpkins spent feeding and socializing and quantified the amount of human foot traffic at each site. There was no relationship between limpkin densities and human foot traffic (r=0.382, p=.276) or prey capture rate (r=0.321, p=.365). Human foot traffic was not related to time spent socializing (r=0.223, p=.533). There was a significant positive relationship, however, between human foot traffic and time spent handling prey (r=.648, n=10, p=.043). These findings suggest that limpkins may exhibit distracted foraging, a lack of focus on feeding because of human disturbance that negatively impacts their foraging efficiency. Reduced human disturbance should be considered when managing limpkin habitats.

Student: Stefan, Anthony **Major:** Mathematics
Faculty Mentors: Serrano, Susan; Jason Elsinger
Co-authors: Zachary Fralish, Thomas (Bernie) Tyson
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Branscomb 201

Title: Differential Equations Beyond the Classroom

Abstract: Applications, modeling, and challenges in differential equations can stretch outside of the classroom to bring tremendous job opportunities, research, and enhance your mathematical skills. In the SCUDEM II modeling challenge, I received outstanding distinction for designing a mathematical model to estimate how certain stimuli from a predator are accumulated to trigger a neural and physical response in a prey. Since various backgrounds of S.T.E.M. were needed to understand the propagation of the resultant action potential and the physical flight of the prey from the predator my team's majors included math, chemistry, and bio-chem. For this talk I would like to highlight benefits of experiences like SCUDEM for all S.T.E.M. majors, show a glimpse of my research, and unpack the process of efficient modeling of D.E. with a team from a mathematical perspective.

Student: Stefan, Anthony **Major:** Mathematics
Faculty Mentor: Caney, Anna
Presentation Type: Creative art display
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Twelfth Century Arabic Manuscript

Abstract: During the period of the Crusades, a fact that multiple Islamic, Jewish and Christian societies flourished and co-existed in Al-Andalus prior to the Reconquista is rather unpopular. This manuscript is a rework with the materials that would have been available during the time-period. The display is a few pieces that show the magnitude of the mathematical sciences that the Arabic manuscripts embodied.

Student: Sund, Benjamin **Major:** Biology
Faculty Mentor: Brandon, Christopher
Presentation Type: Oral
Presentation Time: 2:50-3:10 **Room:** Christoverson 208

Title: Determining the Expression of a Newly Discovered Photoreceptive Protein in a Freshwater Microcrustacean, *Daphnia*

Abstract: Arthropsin is an opsin protein in the subfamily of Gq coupled opsins and is closely related to melanopsins. Since its discovery in *Daphnia* the protein has not been researched very much. Little is known about the actual function of arthropsin. Despite experiments involving other species only a few studies have been done pertaining to arthropsin in the genus *Daphnia*. This research will focus on localized gene expression of arthropsin in *Daphnia magna*. The experiment analyzed gene expression of arthropsin in the neural tissues and somatic tissue to show whether greater expression was in the neural tissue. To test the hypothesis, qPCR was performed on the two tissue types neural and somatic. The tissue was separated through microdissection and collected and stabilized for analysis of gene expression through qPCR. Analyzing where arthropsin is being expressed allows for a better understanding of the purpose of the protein and its direct function in *Daphnia* and other organisms. This is the first study of arthropsin in the genus *Daphnia* where the protein was originally discovered.

Student: Tavernier, Ashlee
Faculty Mentors: Kjellmark, Eric; Christy Wolovich
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Predator-specific Alarm Calls in Nocturnal Owl Monkeys (*Aotus nancymaae*)

Abstract: Owl monkeys (*Aotus nancymaae*) are small-bodied nocturnal primates that are susceptible to aerial and terrestrial predators. Unlike most primates, the vocal repertoire of owl monkeys has not been well-described and the function of their calls remains unknown. We aimed to determine if the call parameters of the “chirp” vocalization varies in response to fecal cues of avian, reptilian, and mammalian predators. The chirp is a high frequency tonal call with frequency modulation. It shares the characteristics of a typical “alarm” call in other primates. Owl monkey chirps were recorded during

experimental trials. We generated spectrograms in Praat® and used cursorial inspection to determine the various call parameters, including duration, mean intensity, mean pitch, maximum and minimum frequency, and bandwidth. A total of 632 calls were analyzed from 14 owl monkeys. We expected the calls to differ in response to avian and non-avian predators, as most primates distinguish between these types of threats. Our results will be compared to previous research in primates and discussed with respect to the unique nocturnal niche of owl monkeys.

Student: Taylor, Macey **Major:** Psychology
Faculty Mentor: Goodmon-Riley, Leilani
Co-presenter: Zoe Perkins
Co-authors: Annabelle King, Abigail Garcia
Presentation Type: Poster
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Go With the Flow: The Relationship between Mood and Music Experience on Flow, Group Resilience, and Mood Change in a Group Drumming Intervention

Abstract: Grit (resilience), is the behavioral tendency to pursue long-term goals with passion, perseverance, and consistent effort over time. Group resilience involves efficient communication between members to respond in time-critical conditions. Building positive relationships with others is important for maintaining a professional and social life, areas that ultimately interact with personal wellbeing. At times people face circumstances they can't manage on their own, thus exploring ways to better develop collective resilience may benefit the individual. A music making task offers an ideal environment to observe group resilience against noisy distractions during play and the achievement of flow simultaneously. Flow is a state of intrinsic joy characterized by complete absorption and engagement during task performance. Those with prior music tend to experience flow in music making, because it's familiar and enjoyable. Mood can impact cognitive capabilities and functions; however, the literature on the effects of negative mood on task performance is mixed. Negative mood may contribute to increased distraction from negative thoughts with increased resilience expression to achieve a music performance goal, while negative mood may also decrease resilience expression by delaying a shift in attention away from the task to the distraction. Collaborative music making may provide a brief view into the ways people form social bonds in groups and provide insight into the way they adapt to outside distractions, thus the current study examined if prior music experience would moderate a given groups' ability to express group resilience.

Student: Thompson, Jared
Faculty Mentors: Langford, Gabriel; Eric Kjellmark
Co-presenter: Jennings Moore
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Structural and Biotic Habitat Preferences of *Pomacanthus paru*, *Pomacanthus arcuatus*, *Holacanthus ciliaris*, and *Holacanthus tricolor*

Abstract: Coral reefs are the most biologically diverse marine ecosystem. They provide habitat for thousands of species of organisms. Each organism has its own ecological niche and habitat. This study aims to identify possible habitat preferences of four different species of angelfish (Family *Pomacanthidae*) found on reefs off of Andros Island. These species include: *Holacanthus ciliaris* (Queen Angelfish), *Holacanthus tricolor* (Rock Beauty), *Pomacanthus arcuatus* (Grey Angelfish), and *Pomacanthus paru* (French Angelfish). While conducting dives and observations at two dive sites, abiotic and biotic factors were identified. Preliminary results show little difference in preferences of biotic and abiotic factors for each of the four species.

Student: Toy, James **Major:** Political Science
Faculty Mentor: Caney, Anna
Co-presenters: Colin Wertz, Nick Eidenschink
Presentation Type: Creative art display
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Demonstration of Medieval Siege Weaponry

Abstract: We will be showcasing the function of a battering ram inspired by designs dating to the Middle Ages. This recreation of siege weaponry will be constructed by hand and demonstrated in an appropriate manner.

Student: Tyson, Thomas (Bernie) **Major:** Chemistry
Faculty Mentor: Eubank, Jarrod
Presentation Type: Oral
Presentation Time: 12:30-1:00 **Room:** Christoverson 209

Title: Functionalizing the Pores of tbo-MOF for Carbon Dioxide Gas Sorption

Abstract: Metal-organic frameworks (MOFs) are a class of materials typically composed of alternating metal ions or clusters, and organic ligands. These materials often form 3D networks where the inorganic components act as nodes (center points) and the organic components bridge those nodes into unique, predictable arrays of inter-connected molecules. These materials have gained increasing popularity in recent years mainly due to their porosity (open holes in framework) and tunability. Tunability is an important property because various parts (i.e. ions, molecules) of the structure may be readily modified, resulting in enhanced properties, without altering the underlying framework. Porosity is another important property because various molecules (i.e. gases, drugs) may be separated by or stored within

the structures for various applications through electrostatics and/or intermolecular interactions. One particular interest is CO2, responsible for much of the current debate in global warming. The focus of this project is to create an improved material for carbon dioxide gas sorption by functionalizing the pores of a known, porous framework, tbo-MOF, with 2,6-dichlorophenolindophenol, a highly functional pendant group. The ligand has been synthesized and fully characterized, and MOF synthesis is underway. Once the material has been elucidated it will be screened for CO2 uptake and storage.

Student: Urs, Medhini **Major:** Psychology
Faculty Mentors: Smith, Patrick; Leilani Goodmon-Riley
Presentation Type: Oral
Presentation Time: 12:40-1:00 **Room:** Christoverson 207

Title: The Influence of Personality and Money Priming on Outcomes in the Prisoner's Dilemma

Abstract: Vohs, Mead, and Goode (2006) demonstrated that priming individuals with the concept of money increases selfish behavior and the propensity for individualistic thinking. Due to some of the inconsistencies in the effect of money priming, and the claim that money priming may be sensitive to the population, an exploration of the influence of individual differences on money priming is needed. The prisoner's dilemma is one of the most studied game theoretical models that gives a framework for studying human social interactions. There have been previous investigations on money priming in the context of the prisoner's dilemma, but the results are highly incongruous and more empirical data is needed to fully understand the relationship between money priming and rates of cooperation and defection. Because research suggests that individual factors such as personality can influence the rates of cooperation and defection in the prisoner's dilemma, it may be useful when studying the effects of money priming in game theoretical frameworks like the prisoner's dilemma. The purpose of the current study is to examine the effects of money priming and the influence of individual personality in the outcomes of the prisoner's dilemma.

Student: Urs, Medhini **Major:** Psychology
Faculty Mentor: Goodmon-Riley, Leilani
Co-presenters: Jordan Martin, Samantha Burnsed
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Too Much on My Mind: Cognitive Load, Working Memory, and Framing Effects

Abstract: People are more likely to be risk averse; when an option focuses on the negative aspects, and losses (i.e., negative frame), people are more likely to be risk-seeking, even when the expected value of both options remain the same. As cognitive load increases, rational decision-making abilities decrease. Although individual working memory capacity (WMC) differences should be considered in framing effect studies, previous researchers failed to address WMC differences and may have failed to induce significant amount of cognitive load to impact magnitude of framing effects. Therefore, the purpose of this study is to investigate framing effects in terms of the proportion of risk-averse behavior between

individuals of lower and higher WMC under situations of high cognitive load (induced by Reading Span Task). The results partially supported the hypothesis. In the positive frame, there was more risk aversion when the starting amount was low, and more risk-seeking when the starting amount was high. Similarly, in the negative frame, there was more risk aversion when the starting amount was low and greater levels of risk-seeking when the starting amount was high. There was no significant difference in decision-making outcomes between lower WMC participants and higher WMC participants.

Student: Vaghasia, Shruti
Faculty Mentor: Brandon, Christopher
Co-presenter: Hannah Patel
Presentation Type: Poster
Presentation Time: Biology poster competition **Room:** Honeyman Pavilion

Title: Determination of Arthropsin Photosensitivity in *Daphnia magna*

Abstract: Photosensitive proteins called opsins are significantly involved in the visual systems, as well as other biological functions, of animals. The presence of arthropsin, an R-type opsin, in both *Daphnia pulex* and *Daphnia magna* suggests that functionality of this protein has been conserved through the evolution of several species. Arthropsin has been shown to be expressed in the central nervous system of *Cupiennius salei* (spider) and onychophorans *Euperipatoides rowelli* (velvet worm), indicating that it most likely has non-visual function. However, the function and localization of arthropsin in *Daphnia* still has not been determined. The aim of this study is to measure the expression levels of arthropsin gene 4 through RT-qPCR in *D. magna* when exposed to different wavelengths and intensities of light. We hypothesize that arthropsin will show consistent expression regardless of the presence or absence of light. Our findings may provide insight into the function of arthropsin as a visual protein, as well as predict its general location within the CNS or eyes of *D. magna*.

Student: Volakos, Kyler **Major:** Computer Science
Faculty Mentor: Cazalas, Jonathan
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Traveling Salesman Problem: Sample Implementations of Metric and Non-Metric Solutions

Abstract: The Traveling Salesman Problem is an algorithmic problem that involves finding a minimum-cost path of a given graph of nodes, visiting all vertices either exactly once before returning to the origin, or at least once before returning to the origin in the case of Metric TSPs. As of yet there are no completely optimal and resource efficient solutions for TSPs, only those that are optimal but high on resource demands, or lightweight but inaccurate solutions. For this project, we were given the specific "setting" of the problem in the form of a set of pizza restaurants in Florida, and were instructed to find the minimum-cost path to visit all of them and return to the origin, both in non-metric and metric forms. To that end I created time-efficient algorithms to solve the problem, a nearest-neighbor search algorithm to create a reasonably efficient path in the non-metric case and depth-first-search over a minimum

spanning tree in the metric case, which resulted in somewhat non-optimal but very quick results that would be suitable for general use but perhaps too inaccurate for more targeted use.

Student: Wagler, Amanda **Major:** Biochemistry & Molecular Biology
Faculty Mentors: Bromfield Lee, Deborah; Brittany Gasper
Presentation Type: Oral
Presentation Time: 3:10-3:30 **Room:** Christoverson 208

Title: The Extraction, Purification, and Characterization of a Possible Prodigiosin

Abstract: Bacteria develop resistance to drugs due to improper uses of antibiotics and mutations. This creates a need for new antibiotics. New sources of drugs can be found in nature or inspired by nature. Bacteria themselves produce secondary metabolites that ward off other bacteria, and therefore can be sources for new antibiotics. The two strains of Vibrio (MI-1 and MI-2) explored in this project have been found to produce metabolites that show antibacterial activity. Due to its characteristic pink color, it can be speculated that the secondary metabolite produced by the two Vibrio species is possibly a type of prodigiosin, a class of antibacterial compounds. Finding new types prodigiosin can lead to new drugs that can be on the market. This project aims to identify the potential prodigiosin structure. The process requires three phases: extraction, purification, and characterization. The metabolites from MI-1 and MI-2 strains were extracted and purified using chromatographic methods and solid phase extraction. Spectroscopic methods include NMR, mass spectrometry, and ultraviolet-visible spectroscopy to characterize the compound.

Student: Watkins, Kassidy **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Christoverson 109 (Moc Theater)

Title: Let States Decide: A Proposal for Allowing States to Have their Own Immigration Policies

Abstract: Immigration has been a huge topic of discussion with lawmakers in America for decades. Most analysts agree that the U.S. current immigration system is broken. Currently in America it can take up to six years for someone to go through America's immigration system legally, and there are more than 4.4 million immigrants that are on the waiting list waiting for visas, additionally, more than 90% of these immigrants are sponsored by a family member in the United States. The waiting period can take 19 months up to 33 years. Federal law currently only allows immigration policies to be made and enforced at a national level. One policy option that could help fix this problem is allowing every states to receive a number of visas each to allow them to hire foreign workers as they see fit. "States confronting a tight labor market can give their companies free rein to hire whomever – high-skilled, low-skilled or a mix – they want at whatever wages." Another option is similar to the RAISE Act, however with a few changes. This would create a federal economic visa that states get to regulate, therefore, the federal government would stay in charge of admissions and security checks, while each individual state identify the migrant and regulates their activity within its own state. For example, California might create a state visa for

high-tech entrepreneurs, while Kansas might create one for workers in the farming industry. This paper examines how allowing states to create their own visa and immigration systems would help enhance the process, and finding the correct policy option that will make the U.S. immigration system quicker and easier on immigrants trying to get into the United States legally.

Student: Welsh, Brianna **Major:** Psychology
Faculty Mentors: Smith, Patrick; Leilani Goodmon-Riley
Co-presenter: Maria Bravo
Co-authors: Emma Skiba, Stephanie Ramirez, Hannah Smith, Maria Bravo
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Branded II: Attitudes About LGBTQ+ Community Issues Influences Consumer Behavior

Abstract: The purpose of the current study is to determine whether the inclusion of LGBTQ+ attitudes in company information, when introduced to the consumer, can alter product attitude, and in turn influence consumer perception of product taste. We focused our research on marketing and taste perception, but we also considered prior perception of the LGBTQ+ community. Participants are pre-screened for LGBTQ+ attitudes, then given one of three vignettes giving information about ice cream company values (pro-LGBTQ+, neutral, anti-LGBTQ+). The participants then taste test the brand of vanilla ice cream shown in the vignette and take a survey measuring their taste perception and potential consumer behaviors regarding the ice cream brand. We found that participants with more anti-LGBTQ+ attitudes were more likely to recommend the brand to others and to purchase the brand compared to those with more pro-LGBTQ+ attitudes, but only after exposure to anti-LGBTQ+ marketing vignettes. In the measure of richness perception, we found that participants with more anti-LGBTQ+ attitudes gave higher rating of richness compared to those with more pro-LGBTQ+ attitudes, but only after exposure to anti-LGBTQ+ marketing vignettes.

Student: Wertz, Colin **Major:** History
Faculty Mentor: Caney, Anna
Presentation Type: Creative art display
Presentation Time: 1:15-2:15 **Room:** Honeyman Pavilion

Title: Medieval Battering Ram

Abstract: We have built a medieval siege weapon that Crusaders and the like used to enter city walls that they were trying to retake.

Student: Williams, Karalyn **Major:** Nursing
Faculty Mentor: Foley, Linda
Presentation Type: Poster
Presentation Time: 2:30-3:30 **Room:** Honeyman Pavilion

Title: Effect of Parent Interventions on Autistic Children's Social Interaction

Abstract: My poster presentation is a representation of a literature search that looked at how parental interventions affected an autistic child's social interaction skills. My research question asked, "In autistic children, ages 1-11, what parental interventions are most effective in increasing the child's social interactions?"Autism is a spectrum disorder that can affect their ability to communicate and socially interact with others. I found within my 10 articles chosen that in most cases early interventions including the parents presented with the best results for an autistic child.

Student: Woodle, Morgan **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Christoverson 112

Title: Born Addicted: The Opioid Epidemic and Childbirth

Abstract: The opioid epidemic is a problem that has been plaguing the entire United States for more than two decades. This problem has become multi-generational, due in part to the overwhelming number of babies being born addicted to opioids. Specifically, the numbers of babies born with neonatal abstinence syndrome in 2012 is five times higher than it was in 2000 (CBS, Marcus, 2016.) Neonatal Abstinence Syndrome causes babies to be born already addicted to substances that their mothers were taking while pregnant. They are born with shakes, tremors or seizures, often times underweight and with possible liver damage. This has become a public health issue that needs to be addressed by the government and healthcare providers. This paper aims to develop and assess various polices designed to halt the exponential growth of neonatal abstinence syndrome. Although the full elimination of this will likely never exist, I seek to identify polices that will help the youngest victims of this nation-wide epidemic.

Student: Yates, Morgan **Major:** Biology
Faculty Mentor: Gasper, Brittany
Presentation Type: Oral
Presentation Time: 1:55-2:15 **Room:** Christoverson 208

Title: Classification and Antibiotic Properties of *Chromobacterium*

Abstract: Antibiotic resistance is an increasing problem throughout the world. The increased use of antimicrobial and antibacterial products on a day-to-day basis has allowed for more prevalent growth of resistant organisms. It has become necessary to find new antibiotics to deal with these more resistant bacteria. The source of most antibiotics is other microorganisms including bacteria and fungi that compete with these organisms in natural environments with many of our current antibiotics originating

from soil microorganisms. In order to increase the chance of finding new microorganisms, soil samples should be taken from unique environments. Soil samples were previously isolated from fertile tropical rainforest soil of Volcanoes National Park on the big island of Hawaii. An antibiotic-producing organism of the Genus *Chromobacterium* was isolated. This research project will focus on the extensive characterization and possible species identification of this organism through fatty acid methyl ester (FAME) analysis, biochemical characterization, and a thorough sequencing of multiple housekeeping genes.

Student: Yumul, Sean **Major:** Biology
Faculty Mentor: Le, An-Phong
Presentation Type: Oral
Presentation Time: 5:30-5:50 **Room:** Christoverson 207

Title: Determination of Heterocyclic Aromatic Amines at Different Depths of Meat Samples

Abstract: Heterocyclic aromatic amines (HAAs) are a class of substances produced naturally when cooking meats at temperatures above 155 degrees Celsius. These compounds are carcinogenic and have been shown to increase the risk of multiple cancers including prostate cancer and leukemia. The impact of cooking method, cooking time, cooking temperature, and type of meat on the formation and concentration of HAAs from various cooking methods and different types of meats has been previously studied, but there is a lack of research investigating the migration of these HAAs in meats during and after cooking. The proposed study intends to quantify the relative concentrations of HAA present at different depths in cooked meat samples. Gas chromatography-mass spectrometry and high performance liquid chromatography with fluorescence of ultraviolet-visible spectrometry as well as mass spectrometry detection have been used to quantify and analyze HAA production in current literature. These results have potential value for food processing companies to more effectively incorporate antioxidants into meats and recipes, as these antioxidants can reduce HAA formation.

Student: Zisman, Ava **Major:** Political Science
Faculty Mentor: McHugh, Kelly
Presentation Type: Oral
Presentation Time: 12:40-1:00 **Room:** Christoverson 112

Title: An Exit from Brexit? Examining Immigration and Border Security Issues

Abstract: In 2016 the United Kingdom voted to leave the European Union in a world altering referendum that changed the political landscape of Europe. Since the “leave” vote passed policy makers have been scrambling to put together how immigration and border security will function because most of the current UK policy on these areas comes directly from EU policy. With an already stagnating economy, limiting the work force anywhere in Europe would have far reaching effects. Thus Britain’s relations to the rest of Europe are extremely important not only for economic reasons but also to ensure the overall security of the region. Currently lawmakers are trying to come up with the best way to disentangle UK foreign policy from EU foreign policy. British lawmakers are currently favoring keeping

open relations with the EU and negotiating a policy that would allow immigration and the flow of people in and out of the country to stay unchanged. This paper will examine the two viable policy options going forward for immigration and border security. The first option is a clean break, which is based in popular opinion and was the basis for the Brexit campaign in the first place. The second option is to keep close relations with the EU and keep a majority of current foreign policy in place.

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