

# 2018 Spring Fiat Lux

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

Thursday, April 19, 2018  
5:00pm–9:00pm

Branscomb 201, 202, 203  
Christoverson Building  
Honeyman Pavilion



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



# Fiat Lux Presentations – By Student Last Name

<b>Room</b>	<b>Time</b>	<b>Type</b>	<b>First Name</b>	<b>Last Name</b>	<b>Major</b>	<b>Title</b>
Branscomb 203	5:40-6:00	Oral	Emily	<b>Adams</b>	Political Science	The Dam Fish Migration
Honeyman Pavilion	8:30-3:30	Poster	Paulina	<b>Aichbhaumik</b>	Marine Biology	Competition Affect of Monarch Butterfly Coloration
Honeyman Pavilion	8:30-3:30	Poster	Sierra	<b>Akus</b>	Marine Biology	The Effect of Predator Cues on Memory in the Crayfish <i>Procambarus alleni</i>
Christoverson 112	8:00-8:30	Oral	Kurdeige	<b>Alexander</b>	Biochemistry & Molecular Biology	Synthesis of the Isoindolinone Moiety of Stachybotrin D: Incorporating Greener Methods
Honeyman Pavilion	8:30-3:30	Poster	Stephanie	<b>Aubertin</b>	Biology	Shedding Light on the Effects of Night-time Artificial Illumination on <i>Anolis Sagrei</i> Activity Levels
Christoverson 208	8:20-8:40	Oral	Brittany	<b>Aubley</b>	Exercise Science	Comparison of Cupping Therapy to Massage Therapy in Reducing Muscle Soreness in Collegiate Swimmers
Christoverson 207	6:20-6:40	Oral	Blake	<b>Aviles</b>	Communication: Advertising & Public Relations	Eye Tracking
Christoverson 206	7:20-7:40	Oral	Elise	<b>Barnes</b>	Exercise Science	Can the Functional Movement Screen be Used as an Assessment Tool for Improving Movement Patterns in Collegiate Dancers?
Christoverson 111	6:40-7:00	Oral	Natalie	<b>Barton</b>	Nursing	The Affects of Admission to the Neonatal Intensive Care Unit on Parental Relation
Christoverson 112	7:30-8:00	Oral	Christian	<b>Beauchemin</b>	Chemistry	A Rare Carboxylate-Functionalized tbo-MOF for the Remediation of Heavy Metal Ions
Christoverson 210	6:20-6:40	Oral	Sierra	<b>Benoit</b>	Self Designed Major	Sustainable Healthcare in Madagascar
Honeyman Pavilion	8:30-3:30	Poster	Amel	<b>Bernudez</b>	Biology	Effects of Glucose, Fructose, Sucrose, and Sugar Alternatives on <i>Caenorhabditis elegans</i> ' Well-Being
Christoverson 111	8:20-8:40	Oral	Alec	<b>Bigness</b>	Chemistry	Synthesis of Discrete Zinc Metal Organic Materials Towards Drug Delivery
Branscomb 201	6:20-6:40	Oral	Supriya Jaya	<b>Bores</b>	Theatre Arts: Musical Theatre	Thinking, Feeling, Willing, Belting
Honeyman Pavilion	8:30-3:30	Poster	Alaina	<b>Branch</b>	Biochemistry & Molecular Biology	In Vitro Comparison of Conjugation Rates of <i>E. coli</i> with <i>S. aureus</i> and <i>K. pneumoniae</i>
Honeyman Pavilion	8:30-3:30	Poster	Samantha	<b>Braun</b>	Biochemistry & Molecular Biology	Isolation and Identification of Antibiotic-Resistant Microorganisms Discovered in Aquatic Environments
Honeyman Pavilion	7:15-8:30	Poster	Alejandra	<b>Brewer Castano</b>	Mathematics	Decompositions of a Complete Graph with a Hole
Christoverson 210	6:40-7:00	Oral	John	<b>Bryant</b>	Political Science	Blown Away: The Puerto Rican Housing Crisis in the State of Florida
Christoverson 111	6:00-6:20	Oral	Erin	<b>Burrows</b>	Business Administration	An Exploration of the Relationship Between Brand Endorsement of Political Candidates/Causes and Consumer Attitudes and Behaviors Toward the Brand
Christoverson 209	8:20-8:40	Oral	Shelby	<b>Cain</b>	Marine Biology	Modeling Symbiotic Nitrogen Uptake within a Sea Sponge using Monod and Lotka-Volterra Functions

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Christoverson 208	8:40-9:00	Oral	Armando	<b>Campos</b>		Athletic Training	LESS is More: The Application of the Landing Error Scoring System for a Division II Women's Basketball Team
Christoverson 111	7:40-8:00	Oral	Caroline	<b>Carbia</b>		Spanish	A Change of a Bloody Heart: A Cultural Opportunity
Branscomb 202	6:20-6:30	Performance	Emily	<b>Carbo</b>		Music: Performance	Four Short Dances
Branscomb 202	6:00-6:20	Performance	Desiree	<b>Carosi</b>		Music: Performance	Black Earth
Honeyman Pavilion	8:30-3:30	Poster	Dominick	<b>Christou-Adar</b>		Biology	Uptake Characterization of Proline and other Structurally Similar Analogs in <i>S. typhimurium</i> Isolates with ProP Mutations
Honeyman Pavilion	8:30-3:30	Poster	Daniel	<b>Cook</b>		Marine Biology	Vocal Responses of <i>Aotus nancymaae</i> to Chemical Cues of Potential Predators
Christoverson 109	8:10-8:20	Performance	Felicia	<b>Coursen</b>		English	The Creative Revision Process
Honeyman Pavilion	7:15-8:30	Poster	Kelsey	<b>Crawford</b>		Psychology	“That’s Not Harassment”: Perceptions of Cyber Sexual Harassment
Christoverson 109	6:00-6:20	Oral	Corinne	<b>Cuddeback</b>		Philosophy	The Truth About Reality: You Don’t Want to Know
Honeyman Pavilion	8:30-3:30	Poster	Kaitlyn	<b>Cupp</b>		Marine Biology	The Impact of Herbivory by the Invasive <i>Pomacea Maculata</i> on the Compensatory Growth of Native and Invasive Aquatic Plants
Christoverson 208	6:00-6:20	Oral	Alexandra	<b>Daley</b>		Religion	Suffering, Forgiveness, and Memory in the Kingdom of God
Branscomb 201	6:40-7:00	Oral	Mackenzie	<b>DeRosa</b>		Theatre Arts: Musical Theatre	Asian Representation in Musical Theatre History
Honeyman Pavilion	8:30-3:30	Poster	Nicole	<b>Devine</b>		Biology	Behavioral Responses of Dimorphic <i>Onthophagus Gazella</i> to Different Light Intensities
Christoverson 207	8:20-8:40	Oral	Peter	<b>Donovan</b>		Psychology	The Effect of Post-Identification Feedback and Peripheral Trial Information on Jury Decision Making
Christoverson 112	8:30-9:00	Oral	Rachelle	<b>Dorvilier</b>		Biochemistry & Molecular Biology	Isolation of Outer Segment Containing Merit Enriched Phagosomes from RPE-J cells by Magnetic Selection
Honeyman Pavilion	8:30-3:30	Poster	Elizabeth	<b>Erdelac</b>		Marine Biology	The Effects of Experience on the Kinematics of Foraging Behavior in Juvenile <i>Trachemys Scripta Scripta</i>
Christoverson 210	8:40-9:00	Oral	Sergio	<b>Fernandez</b>		Political Science	His Panic: Finding a Replacement for DACA
Branscomb 202	6:30-6:40	Performance	Jade	<b>Ferrell</b>		Music: Performance	Non so più
Honeyman Pavilion	7:15-8:30	Poster	Guerbine	<b>Fils-aime</b>		Environmental Studies	Vocal Responses of ‘ <i>Aotus nancymaae</i> ’ to Chemical Cues of Potential Predators
Honeyman Pavilion	5:30-6:45	Poster	Zachary	<b>Fralish</b>		Biochemistry & Molecular Biology	Synthesis of Fluorescein-linked, Zinc-based Metal-Organic Polyhedra as Carriers of Targeted Treatments for Retinopathies

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Honeyman Pavilion	8:30-3:30	Poster	Brianna	<b>Frank</b>	Biology	Effects of Altered Ethanol Concentrations in <i>Drosophila</i> Melanogaster Diets on the Expression of Nicotinic Acetylcholine Receptor Subunit Alpha 6 (nAChR $\alpha$ 6)
Honeyman Pavilion	8:30-3:30	Poster	Noah	<b>Franz</b>	Biology	Effects of Long-Term Chlorine Exposure on Antibiotic Resistance in Competitive Swimmer's Epidermal Microbiome
Branscomb 201	8:20-8:40	Oral	Melanie	<b>Funka</b>	Theatre Arts: Musical Theatre	The Influence of Shakespeare on Musical Theatre
Christoverson 108	8:40-9:00	Oral	Nicole	<b>Glatz</b>	Chemistry	Partial Synthesis of the Potential HIV Drug Stachybotrin D
Christoverson 111	6:20-6:40	Oral	Charles	<b>Gotsch</b>	Accounting	Nontraditional Business Investment: An Examination of Investor Risk Perception and Regulation
Branscomb 203	6:00-6:20	Performance	Kayla	<b>Griffin</b>	Business Administration	The Choreographic Process
Christoverson 108	7:20-7:40	Oral	Jake	<b>Griner</b>	Biochemistry & Molecular Biology	Optimizing Whisky Consumption for Maximum Flavor: Where's the Data?
Branscomb 202	6:40-6:55	Performance	Sierra	<b>Gude</b>	Theatre Arts	Down on Thebes Row
Honeyman Pavilion	5:30-6:45	Poster	Danielle	<b>Guida</b>	Elementary Education	Spiraling Back with Long Vowels
Honeyman Pavilion	8:30-3:30	Poster	Juliana	<b>Guida</b>	Biology	A Comparison of the Antimicrobial Efficacy of Hydrogen Peroxide and Multipurpose Contact Lens Disinfectants in Eliminating Bacterial Pathogens
Branscomb 201	5:50-6:20	Performance	Sam	<b>Hannigan</b>	Theatre Arts: Theatre Performance	Fashion and Costumes Throughout History
Christoverson 111	7:20-7:40	Oral	Lauren	<b>Hansen</b>	Economics & Finance	Drug Testing of Welfare Recipients
Honeyman Pavilion	8:30-3:30	Poster	Caitlin	<b>Harper</b>	Citrus	Establishing an Ideal Horticultural Protocol for Producing <i>Dracaena</i> sp. Nov. 'Ruth Luka' and 'Waikiki'
Christoverson 206	6:20-6:40	Oral	Nicole	<b>Harrison</b>	Exercise Science	The Influence of HUMAC Training on Balance and Range of Motion in an Achilles Tendon Repair Patient: A Case Study
Honeyman Pavilion	5:30-6:45	Poster	Kylie	<b>Hartzell</b>	Psychology	The Effect of Math Skill Mastery on Teaching Math Anxiety and Teaching Math Confidence in Pre-service Teachers
Honeyman Pavilion	8:30-3:30	Poster	Sabrina	<b>Hendrick</b>	Biochemistry & Molecular Biology	Investigating Use of the Sea Lamprey, <i>Petromyzon Marinus</i> , as a Model to Characterize the Molecular Mechanisms of Parkinson's Disease
Honeyman Pavilion	7:15-8:30	Poster	Sarah	<b>Hilbert</b>	Psychology	The Effect of Confederate Clothing and Race on Change Blindness
Honeyman Pavilion	7:15-8:30	Poster	Sarah	<b>Hilbert</b>	Psychology	Cellular Phone Anxiety and Retention Rates in a Classroom Setting
Honeyman Pavilion	7:15-8:30	Poster	Sarah	<b>Hilbert</b>	Psychology	Predicting Student Retention and Adjustment

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Christoverson 209	7:40-8:00	Oral	Tyler	<b>Hillier</b>	Political Communication	Keep Alcoholism Anonymous? How a New Approach to Alcohol Abuse Can Stop a Growing Public Health Issue
Christoverson 108	8:00-8:20	Oral	Sarah	<b>Hofer</b>	Marine Biology	Molecular Analysis of Oil Degrading Marine Bacteria Isolated from Central Florida Coastlines
Christoverson 209	7:20-7:40	Oral	Jordan	<b>Honc</b>	Accounting	Poder de una Mujer / Power of a Woman
Honeyman Pavilion	7:15-8:30	Poster	Jordan	<b>Howard</b>	Psychology	Advertisement Vignette Effects on Recognition Abilities in Student with Dyslexia
Honeyman Pavilion	7:15-8:30	Poster	Jordan	<b>Howard</b>	Psychology	“Spreading” the Word: Enhancing Neuroscience Pedagogy through a MagazineFormat
Honeyman Pavilion	7:15-8:30	Poster	Jordan	<b>Howard</b>	Psychology	The Use of Ancillary Stimuli as Effective Pedagogy for Developmental Neuroscience
Branscomb 203	6:20-6:40	Oral	Jordan	<b>Howard</b>	Psychology	Graphic Novelization: Using Story Telling That is Out of One’s Mind
Honeyman Pavilion	5:30-6:45	Poster	Kenzie	<b>Hurley</b>	Psychology	Benefits of Positive Psychology Courses and Attributional Style in Combatting Hurricane Fatigue
Honeyman Pavilion	8:30-3:30	Poster	Anthony	<b>Iboy</b>	Biotechnology	Determining the Performance of Cell Recombination of Viruses in Plant & Animal Cell Culture
Christoverson 210	6:00-6:20	Oral	W	<b>James</b>	Communication: Broadcast, Print, & Online Media	Social Justice League: When Comic Books Reflect Culture
Christoverson 208	6:30-7:00	Panel	Derrick	<b>Jean-Baptiste</b>	Psychology	Behind the Mask of Humanity, Cosmic Pessimism in Action
Christoverson 210	7:20-7:40	Oral	Jasmina	<b>Jeddari</b>	Political Science	Mind the Gap: Assessing the State Children Insurance Program
Christoverson 111	8:00-8:20	Oral	Caitlyn	<b>Johnson</b>	Biology	The Ambivalence of Green
Honeyman Pavilion	8:30-3:30	Poster	Ann	<b>Kast</b>	Elementary Education	Case Closed: Using Graphic Novels to Enhance Reading Proficiency in a Third Grade Student
Christoverson 206	8:20-8:40	Oral	Zachary	<b>Kessler</b>	Economics & Finance	The Pursuit of Peace: Using Trade to Save the World
Branscomb 203	6:40-7:00	Oral	Jordan	<b>King</b>	Psychology	Roles of Gender and Occupation in Biased Perception of Professionals
Christoverson 109	8:00-8:10	Performance	Paige	<b>Koetter</b>	Biology	The Creative Revision Process
Christoverson 206	6:40-7:00	Oral	Paige	<b>Koetter</b>	Biology	Evaluation of an Electronic Screening Tool for Identification of Children at Risk for Sepsis
Christoverson 109	8:20-8:30	Performance	Jackie	<b>Krantz</b>	Biology	The Creative Revision Process
Christoverson 109	7:50-8:00	Performance	Mara	<b>Lameyer</b>	Biology	The Creative Revision Process
Honeyman Pavilion	8:30-3:30	Poster	Coby	<b>Layson</b>	Biology	The Effect of Above-soil Water Conservation Products on Abiotic and Biotic Factors During Growth of Lagerstroemia

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Christoverson 109	7:40-7:50	Performance	Tabatha	<b>Lehmann</b>	English	The Creative Revision Process
Branscomb 201	7:00-7:20	Oral	Eileen	<b>Little</b>	Theatre Arts: Musical Theatre	The Progression of Female Speech Patterns in American Musical Theatre in Relation to Pop Culture
Christoverson 109	6:20-6:40	Oral	Risley	<b>Mabile</b>	Chemistry	Misconceptions in Physics: Acceleration Without General Relativity
Christoverson 206	8:00-8:20	Oral	Kristen	<b>Martinet</b>	Biology	A Comparative Analysis of the Commensal Diversity of Two Gopher Tortoise Populations in Central Florida
Christoverson 207	8:40-9:00	Oral	Robert	<b>Marusko</b>	Biology	Exploration of Copper Based Metal Organic Frameworks
Christoverson 109	8:40-9:00	Oral	James	<b>McKenna</b>	English	Poetry Reading
Christoverson 207	6:40-7:00	Oral	William	<b>Meyer</b>	Communication: Interpersonal & Organizational Communication	The Implications of Noverbal Mirroring
Honeyman Pavilion	8:30-3:30	Poster	Allyson	<b>Mitchell</b>	Biology	Impact of Commercially Sold Dietary Supplements on Life History Traits in <i>C. elegans</i>
Honeyman Pavilion	8:30-3:30	Poster	Sophie	<b>Morgan</b>	Marine Biology	The effects of Marine Antifouling Paint on <i>Crassostrea virginica</i> , and the Potential for Biomagnification in <i>Callinectes sapidus</i>
Branscomb 202	7:00-7:10	Performance	Emma	<b>Morton</b>	Theatre Arts: Theatre Performance	Emma Noelle: A Peek into the Life of an Actress
Christoverson 208	8:00-8:20	Oral	Helena	<b>Norrstrom</b>	Exercise Science	Lower Extremity Kinematics For Division II Female Soccer Athletes Executing a Drop-Landing Task: A Comparison Between Landing on Stable and Unstable Surfaces
Honeyman Pavilion	5:30-6:45	Poster	Christopher	<b>Nottage</b>	Psychology	Relationship Between Intense Hands On Learning and 2D and 3D Mental Rotation Ability in Chemistry Students
Christoverson 210	8:20-8:40	Oral	Michel	<b>Ntagungira</b>	Political Science	If Performance Enhancing Drugs are Illegal for Athletes... Then Photoshop Should be Illegal to Models
Honeyman Pavilion	5:30-6:45	Poster	Angelimarie	<b>Ojeda</b>	Nursing	Metformin and Infertility Due to PCOS
Branscomb 201	8:00-8:20	Oral	Lauren	<b>O'Keefe</b>	Theatre Arts: Musical Theatre	The Change of Broadway Ensembles and Swings!
Honeyman Pavilion	8:30-3:30	Poster	Alyvia	<b>Orsini</b>	Biotechnology	The Effect of EPI on Cardiomyocytes Under Induced Stress Caused by H2O2
Christoverson 108	8:20-8:40	Oral	Alyssa	<b>Osborne</b>	Marine Biology	A Proposed Study on the Visual Acuity of the Photoreceptors on the Telson of <i>Limulus polyphemus</i>
Branscomb 201	7:40-8:00	Oral	Nicolas	<b>Parker</b>	Theatre Arts: Musical Theatre	From George Gershwin to Lin-Manuel Miranda: What Makes a Pulitzer Prize-Winning Musical?
Honeyman Pavilion	5:30-6:45	Poster	Lauren	<b>Pericone</b>	Nursing	Assisted Reproductive Technology and its Global Impact on Maternal and Fetal Health
Christoverson 108	6:40-7:00	Oral	Trevor	<b>Peters</b>	Political Science	Cuba's Castro Crisis: Treating the Pathology of Failure

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Honeyman Pavilion	5:30-6:45	Poster	Rachael	<b>Pfanz</b>	Elementary Education	Does Reading With Expression Matter?
Honeyman Pavilion	7:15-8:30	Poster	Stephanie	<b>Ramirez</b>	Psychology	Antecedents to School Retention: Inclusion vs. Exclusion
Christoverson 112	5:30-6:00	Oral	Laura	<b>Riley</b>	Chemistry	Effect of Regional Cooking on the Volatile Content of Garlic and Chile Peppers: A Food Pairing Analysis
Branscomb 202	7:15-7:30	Performance	Jeffrey	<b>Robinson</b>	Music: Music Education	Bird Ballad
Honeyman Pavilion	8:30-3:30	Poster	Marjorie	<b>Rodolosi</b>	Biology	Characterizing the Interaction Between Annexin A2 and the Parkinson's Disease Linked Protein $\alpha$ -synuclein
Christoverson 207	6:00-6:20	Oral	Haley	<b>Rossi</b>	Spanish	A Freudian View of Don Quijote
Christoverson 108	6:00-6:20	Oral	Michaela	<b>Royse</b>	Political Science	Cats Out of the Bag: How Plastic Bags are a Detriment to Our Environment
Christoverson 207	7:40-8:00	Oral	Emily	<b>Santoli</b>	Biology	The Epigenetic Effects of a Paternal High-sugar Diet in Drosophila melanogaster
Honeyman Pavilion	8:30-3:30	Poster	Emily	<b>Santoli</b>	Biology	The Epigenetic Effects of a Paternal High-sugar Diet in Drosophila melanogaster
Christoverson 208	7:20-7:40	Oral	Bailey	<b>Schreiner</b>	Business Administration	United Methodist Polity and 21st Century Post-Fordist Capitalism in the United States
Honeyman Pavilion	5:30-6:45	Poster	Kristina	<b>Schwirian</b>	Psychology	Perception of Differences in Leadership Based on Gender and Transactional vs. Transformational Leadership Style
Christoverson 112	6:30-7:00	Oral	Joshua	<b>Sessums</b>	Chemistry	A Study on Metal Organic Materials Impact on Streptococcus Mutans Growth Profile
Christoverson 208	7:40-8:00	Oral	Emma	<b>Skiba</b>	Psychology	"Pieces of the Puzzle": The Effect of Autism Awareness on Altruistic Motivation
Honeyman Pavilion	5:30-6:45	Poster	Madeline	<b>Sliwa</b>	Biology	An Experimental Investigation of Insect Foraging and Energetic Condition of Aotus Nancymae Using Urinary c-peptide Levels
Honeyman Pavilion	8:30-3:30	Poster	Madeline	<b>Sliwa</b>	Biology	An Experimental Investigation of Insect Foraging and Energetic Condition of Aotus Nancymae Using Urinary c-peptide Levels
Christoverson 109	6:40-7:00	Oral	Olivia	<b>Smith</b>	Accounting	Mastering the Violin Concerto: My Experience in Vidin, Bulgaria with Dr. Kira Omelchenko
Christoverson 206	8:40-9:00	Oral	Olivia	<b>Smith</b>	Accounting	Technologies Transforming the World of Accounting
Christoverson 108	6:20-6:40	Oral	Rebecca	<b>Snyder</b>	Political Science	You Missed Your Shot: A Bardach Policy Examination of Vaccine-Preventable Diseases and Their Re-Emergence in the United States
Branscomb 202	7:10-7:20	Performance	Kara	<b>Stacy</b>	Music: Music Education	The Renaissance Motet
Christoverson 209	8:00-8:20	Oral	Samantha	<b>Stein</b>	Marine Biology	A Proposed Study on the Force Exertion Abilities of the Ochre Sea Star, Pisaster ochraceus



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Christoverson 207	7:20-7:40	Oral	Leyna	<b>Stemle</b>	Marine Biology	Life History Traits and Spatial Ecology of the Striped Mud Turtle, <i>Kinosternon bairii</i> , in Central Florida
Christoverson 108	7:40-8:00	Oral	Benjamin	<b>Sund</b>	Biology	Identifying the Potential Functional Role of an Unknown Opsin Gene in the Freshwater Crustacean, <i>Daphnia</i> , Using Tissue Specific Gene Expression Analysis
Christoverson 109	7:30-7:40	Performance	Christian	<b>Tabet</b>	English	The Creative Revision Process
Honeyman Pavilion	8:30-3:30	Poster	Anna	<b>Tovo</b>	Biology	Effects of Vitamin D Supplementation on Diabetic D. melanogaster
Christoverson 112	6:00-6:30	Oral	Nicholas	<b>Trainer</b>	Biochemistry & Molecular Biology	Greener Synthesis of Poly-1,3-Isobenzofurandione-4,7-diphenyl
Christoverson 210	8:00-8:20	Oral	Scott	<b>Trecartin</b>	Political Science	Gimme Shelter: Sheltered Workshops and Wages
Christoverson 209	6:40-7:00	Oral	John	<b>Trudel</b>	Political Science	An Imminent Algal Threat: A Policy Analysis for Improving Lake Hollingsworth's Water Quality
Christoverson 206	7:40-8:00	Oral	Ashlyn	<b>VanDenDriessche</b>	Accounting	A Digital World Without Rules: Revenue Recognition and Virtual Goods
Honeyman Pavilion	5:30-6:45	Poster	Marlie	<b>Vaughn</b>	Psychology	Inclusion and Exclusion in the Workplace: A Tale of Two Outcomes
Christoverson 209	8:40-9:00	Oral	Amanda	<b>Wagler</b>	Biochemistry & Molecular Biology	Isolation, Purification, and Characterization of Prodigiosin
Honeyman Pavilion	8:30-3:30	Poster	Diana	<b>Wahner</b>	Environmental Studies	Assessment of Composition and Transference of Gut microbiota throughout life stages of <i>Danaus plexippus</i>
Christoverson 207	8:00-8:20	Oral	Bryanna	<b>Wargat</b>	Marine Biology	Characterizing the Histological Composition of Albinism in Sharks
Christoverson 209	6:20-6:40	Oral	Patrick	<b>Webb</b>	Political Science	Counties Taking Action: Local Policy and the Opioid Epidemic
Christoverson 210	7:40-8:00	Oral	Melissa	<b>Weiland</b>	Political Science	Unplanned Parenthood: Dealing with Teenage Pregnancy "Hotspots"
Branscomb 203	5:20-5:40	Oral	Tyler	<b>Wells</b>	Political Science	Gambling Your Life Away
Honeyman Pavilion	7:15-8:30	Poster	Brianna	<b>Welsh</b>	Psychology	I-scream for Society: Manufacturing Information and its Relationship to Consumer's Attitudes and Perceptions of Taste
Christoverson 109	7:20-7:30	Performance	Samantha	<b>Woerle</b>	Biology	The Creative Revision Process
Christoverson 112	5:00-5:30	Oral	Ashlyn	<b>Worcester</b>	Chemistry	Increasing Resolution in Latent Fingerprint Images Through the Use of Size-Differentiated Fe <sub>3</sub> O <sub>4</sub> @SiO <sub>2</sub> -Au Nanoparticles
Christoverson 111	8:40-9:00	Oral	Sean	<b>Yumul</b>	Biology	Analysis of Heterocyclic Aromatic Amine Formation and Migration in Meat

## Fiat Lux Presentation Schedule – By Room and Time

### Branscomb 201

Time	First Name	Last Name	Major	Title
5:50-6:20	Sam	Hannigan	Theatre Arts: Theatre Performance	Fashion and Costumes Throughout History
6:20-6:40	Supriya Jaya	Bores	Theatre Arts: Musical Theatre	Thinking, Feeling, Willing, Belting
6:40-7:00	Mackenzie	DeRosa	Theatre Arts: Musical Theatre	Asian Representation in Musical Theatre History
7:00-7:20	Eileen	Little	Theatre Arts: Musical Theatre	The Progression of Female Speech Patterns in American Musical Theatre in Relation to Pop Culture
7:40-8:00	Nicolas	Parker	Theatre Arts: Musical Theatre	From George Gershwin to Lin-Manuel Miranda: What Makes a Pulitzer Prize-Winning Musical?
8:00-8:20	Lauren	O'Keefe	Theatre Arts: Musical Theatre	The Change of Broadway Ensembles and Swings!
8:20-8:40	Melanie	Funka	Theatre Arts: Musical Theatre	The Influence of Shakespeare on Musical Theatre

### Branscomb 202

Time	First Name	Last Name	Major	Title
6:00-6:20	Desiree	Carosi	Music: Performance	Black Earth
6:20-6:30	Emily	Carbo	Music: Performance	Four Short Dances
6:30-6:40	Jade	Ferrell	Music: Performance	Non so più
6:40-6:55	Sierra	Gude	Theatre Arts	Down on Thebes Row
7:00-7:10	Emma	Morton	Theatre Arts: Theatre Performance	Emma Noelle: A Peek into the Life of an Actress
7:10-7:20	Kara	Stacy	Music: Music Education	The Renaissance Motet
7:20-7:30	Jeffrey	Robinson	Music: Music Education	Bird Ballad

### Branscomb 203

Time	First Name	Last Name	Major	Title
5:20-5:40	Tyler	Wells	Political Science	Gambling Your Life Away
5:40-6:00	Emily	Adams	Political Science	The Dam Fish Migration
6:00-6:20	Kayla	Griffin	Business Administration	The Choreographic Process
6:20-6:40	Jordan	Howard	Psychology	Graphic Novelization: Using Story Telling That is Out of One's Mind
6:40-7:00	Jordan	King	Psychology	Roles of Gender and Occupation in Biased Perception of Professionals

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 108

Time	First Name	Last Name	Major	Title
6:00-6:20	Michaela	Royse	Political Science	Cats Out of the Bag: How Plastic Bags are a Detriment to Our Environment
6:20-6:40	Rebecca	Snyder	Political Science	You Missed Your Shot: A Bardach Policy Examination of Vaccine-Preventable Diseases and Their Re-Emergence in the United States
6:40-7:00	Trevor	Peters	Political Science	Cuba's Castro Crisis: Treating the Pathology of Failure

#### Break

7:20-7:40	Jake	Griner	Biochemistry & Molecular Biology	Optimizing Whisky Consumption for Maximum Flavor: Where's the Data?
7:40-8:00	Benjamin	Sund	Biology	Identifying the Potential Functional Role of an Unknown Opsin Gene in the Freshwater Crustacean, Daphnia, Using Tissue Specific Gene Expression Analysis
8:00-8:20	Sarah	Hofer	Marine Biology	Molecular Analysis of Oil Degrading Marine Bacteria Isolated from Central Florida Coastlines
8:20-8:40	Alyssa	Osborne	Marine Biology	A Proposed Study on the Visual Acuity of the Photoreceptors on the Telson of <i>Limulus polyphemus</i>
8:40-9:00	Nicole	Glatz	Chemistry	Partial Synthesis of the Potential HIV Drug Stachybotrin D

### Christoverson 109

Time	First Name	Last Name	Major	Title
6:00-6:20	Corinne	Cuddeback	Philosophy	The Truth About Reality: You Don't Want to Know
6:20-6:40	Risley	Mabile	Chemistry	Misconceptions in Physics: Acceleration Without General Relativity
6:40-7:00	Olivia	Smith	Accounting	Mastering the Violin Concerto: My Experience in Vidin, Bulgaria with Dr. Kira Omelchenko

#### Break

7:20-7:30	Samantha	Woerle	Biology	The Creative Revision Process
7:30-7:40	Christian	Tabet	English	The Creative Revision Process
7:40-7:50	Tabatha	Lehmann	English	The Creative Revision Process
7:50-8:00	Mara	Lameyer	Biology	The Creative Revision Process
8:00-8:10	Paige	Koetter	Biology	The Creative Revision Process
8:10-8:20	Felicia	Coursen	English	The Creative Revision Process
8:20-8:30	Jackie	Krantz	Biology	The Creative Revision Process
8:40-9:00	James	McKenna	English	Poetry Reading

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 111

Time	First Name	Last Name	Major	Title
6:00-6:20	Erin	Burrows	Business Administration	An Exploration of the Relationship Between Brand Endorsement of Political Candidates/Causes and Consumer Attitudes and Behaviors Toward the Brand
6:20-6:40	Charles	Gotsch	Accounting	Nontraditional Business Investment: An Examination of Investor Risk Perception and Regulation
6:40-7:00	Natalie	Barton	Nursing	The Affects of Admission to the Neonatal Intensive Care Unit on Parental Relation

### Break

7:20-7:40	Lauren	Hansen	Economics & Finance	Drug Testing of Welfare Recipients
7:40-8:00	Caroline	Carbia	Spanish	A Change of a Bloody Heart: A Cultural Opportunity
8:00-8:20	Caitlyn	Johnson	Biology	The Ambivalence of Green
8:20-8:40	Alec	Bigness	Chemistry	Synthesis of Discrete Zinc Metal Organic Materials Towards Drug Delivery
8:40-9:00	Sean	Yumul	Biology	Analysis of Heterocyclic Aromatic Amine Formation and Migration in Meat

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 112

Time	First Name	Last Name	Major	Title
5:00-5:30	Ashlyn	Worcester	Chemistry	Increasing Resolution in Latent Fingerprint Images Through the Use of Size-Differentiated Fe <sub>3</sub> O <sub>4</sub> @SiO <sub>2</sub> -Au Nanoparticles
5:30-6:00	Laura	Riley	Chemistry	Effect of Regional Cooking on the Volatile Content of Garlic and Chile Peppers: A Food Pairing Analysis
6:00-6:30	Nicholas	Trainer	Biochemistry & Molecular Biology	Greener Synthesis of Poly-1,3-Isobenzofurandione-4,7-diphenyl
6:30-7:00	Joshua	Sessums	Chemistry	A Study on Metal Organic Materials Impact on Streptococcus Mutans Growth Profile

### Break

7:30-8:00	Christian	Beauchemin	Chemistry	A Rare Carboxylate-Functionalized tbo-MOF for the Remediation of Heavy Metal Ions
8:00-8:30	Kurrdeige	Alexander	Biochemistry & Molecular Biology	Synthesis of the Isoindolinone Moiety of Stachybotrin D: Incorporating Greener Methods
8:30-9:00	Rachelle	Dorvilier	Biochemistry & Molecular Biology	Isolation of Outer Segment Containing MerTK Enriched Phagosomes from RPE-J cells by Magnetic Selection

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 206

Time	First Name	Last Name	Major	Title
6:20-6:40	Nicole	Harrison	Exercise Science	The Influence of HUMAC Training on Balance and Range of Motion in an Achilles Tendon Repair Patient: A Case Study
6:40-7:00	Paige	Koetter	Biology	Evaluation of an Electronic Screening Tool for Identification of Children at Risk for Sepsis

#### Break

7:20-7:40	Elise	Barnes	Exercise Science	Can the Functional Movement Screen be Used as an Assessment Tool for Improving Movement Patterns in Collegiate Dancers?
7:40-8:00	Ashlyn	VanDenDriessche	Accounting	A Digital World Without Rules: Revenue Recognition and Virtual Goods
8:00-8:20	Kristen	Martinet	Biology	A Comparative Analysis of the Commensal Diversity of Two Gopher Tortoise Populations in Central Florida
8:20-8:40	Zachary	Kessler	Economics & Finance	The Pursuit of Peace: Using Trade to Save the World
8:40-9:00	Olivia	Smith	Accounting	Technologies Transforming the World of Accounting

### Christoverson 207

Time	First Name	Last Name	Major	Title
6:00-6:20	Haley	Rossi	Spanish	A Freudian View of Don Quijote
6:20-6:40	Blake	Aviles	Communication: Advertising & Public Relations	Eye Tracking
6:40-7:00	William	Meyer	Communication: Interpersonal & Organizational Communication	The Implications of Nonverbal Mirroring

#### Break

7:20-7:40	Leyna	Stemle	Marine Biology	Life History Traits and Spatial Ecology of the Striped Mud Turtle, <i>Kinosternon baurii</i> , in Central Florida
7:40-8:00	Emily	Santoli	Biology	The Epigenetic Effects of a Paternal High-sugar Diet in <i>Drosophila melanogaster</i>
8:00-8:20	Bryanna	Wargat	Marine Biology	Characterizing the Histological Composition of Albinism in Sharks
8:20-8:40	Peter	Donovan	Psychology	The Effect of Post-Identification Feedback and Peripheral Trial Information on Jury Decision Making
8:40-9:00	Robert	Marusko	Biology	Exploration of Copper Based Metal Organic Frameworks

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 208

Time	First Name	Last Name	Major	Title
6:00-6:20	Alexandra	Daley	Religion	Suffering, Forgiveness, and Memory in the Kingdom of God
6:30-7:00	Derrick	Jean-Baptiste	Psychology	Behind the Mask of Humanity, Cosmic Pessimism in Action

#### Break

7:20-7:40	Bailey	Schreiner	Business Administration	United Methodist Polity and 21st Century Post-Fordist Capitalism in the United States
7:40-8:00	Emma	Skiba	Psychology	“Pieces of the Puzzle”: The Effect of Autism Awareness on Altruistic Motivation
8:00-8:20	Helena	Norrstrom	Exercise Science	Lower Extremity Kinematics For Division II Female Soccer Athletes Executing a Drop-Landing Task: A Comparison Between Landing on Stable and Unstable Surfaces
8:20-8:40	Brittany	Aubley	Exercise Science	Comparison of Cupping Therapy to Massage Therapy in Reducing Muscle Soreness in Collegiate Swimmers
8:40-9:00	Armando	Campos	Athletic Training	LESS is More: The Application of the Landing Error Scoring System for a Division II Women’s Basketball Team

### Christoverson 209

Time	First Name	Last Name	Major	Title
6:20-6:40	Patrick	Webb	Political Science	Counties Taking Action: Local Policy and the Opioid Epidemic
6:40-7:00	John	Trudel	Political Science	An Imminent Algal Threat: A Policy Analysis for Improving Lake Hollingsworth’s Water Quality

#### Break

7:20-7:40	Jordan	Honc	Accounting	Poder de una Mujer / Power of a Woman
7:40-8:00	Tyler	Hillier	Political Communication	Keep Alcoholism Anonymous? How a New Approach to Alcohol Abuse Can Stop a Growing Public Health Issue
8:00-8:20	Samantha	Stein	Marine Biology	A Proposed Study on the Force Exertion Abilities of the Ochre Sea Star, <i>Pisaster ochraceus</i>
8:20-8:40	Shelby	Cain	Marine Biology	Modeling Symbiotic Nitrogen Uptake within a Sea Sponge using Monod and Lotka-Volterra Functions
8:40-9:00	Amanda	Wagler	Biochemistry & Molecular Biology	Isolation, Purification, and Characterization of Prodigiosin

## Fiat Lux Presentation Schedule – By Room and Time

### Christoverson 210

Time	First Name	Last Name	Major	Title
6:00-6:20	W	James	Communication: Broadcast, Print, & Online Media	Social Justice League: When Comic Books Reflect Culture
6:20-6:40	Sierra	Benoit	Self Designed Major	Sustainable Healthcare in Madagascar
6:40-7:00	John	Bryant	Political Science	Blown Away: The Puerto Rican Housing Crisis in the State of Florida

### Break

7:20-7:40	Jasmina	Jeddari	Political Science	Mind the Gap: Assessing the State Children Insurance Program
7:40-8:00	Melissa	Weiland	Political Science	Unplanned Parenthood: Dealing with Teenage Pregnancy “Hotspots”
8:00-8:20	Scott	Trecartin	Political Science	Gimme Shelter: Sheltered Workshops and Wages
8:20-8:40	Michel	Ntagungira	Political Science	If Performance Enhancing Drugs are Illegal for Athletes.... Then Photoshop Should be Illegal to Models
8:40-9:00	Sergio	Fernandez	Political Science	His Panic: Finding a Replacement for DACA



## Fiat Lux Poster Presentation Schedule – By Student Last Name

### All poster presentations take place in Honeyman Pavilion

Time	First Name	Last Name	Major	Title
8:30-3:30	Paulina	Aichbhaumik	Marine Biology	Competition Affect of Monarch Butterfly Coloration
8:30-3:30	Sierra	Akus	Marine Biology	The Effect of Predator Cues on Memory in the Crayfish <i>Procambarus alleni</i>
8:30-3:30	Stephanie	Aubertin	Biology	Shedding Light on the Effects of Night-time Artificial Illumination on <i>Anolis sagrei</i> Activity Levels
8:30-3:30	Amel	Bermudez	Biology	Effects of Glucose, Fructose, Sucrose, and Sugar Alternatives on <i>Caenorhabditis elegans</i> ' Well-Being
8:30-3:30	Alaina	Branch	Biochemistry & Molecular Biology	In Vitro Comparison of Conjugation Rates of <i>E. coli</i> with <i>S. aureus</i> and <i>K. pneumoniae</i>
8:30-3:30	Samantha	Braun	Biochemistry & Molecular Biology	Isolation and Identification of Antibiotic-Resistant Microorganisms Discovered in Aquatic Environments
7:15-8:30	Alejandra	Brewer Castano	Mathematics	Decompositions of a Complete Graph with a Hole
8:30-3:30	Dominick	Christou-Ader	Biology	Uptake Characterization of Proline and other Structurally Similar Analogs in <i>S. typhimurium</i> Isolates with ProP Mutations
8:30-3:30	Daniel	Cook	Marine Biology	Vocal Responses of <i>Aotus nancymaae</i> to Chemical Cues of Potential Predators
7:15-8:30	Kelsey	Crawford	Psychology	"That's Not Harassment": Perceptions of Cyber Sexual Harassment
8:30-3:30	Kaitlyn	Cupp	Marine Biology	The Impact of Herbivory by the Invasive <i>Pomacea Maculata</i> on the Compensatory Growth of Native and Invasive Aquatic Plants
8:30-3:30	Nicole	Devine	Biology	Behavioral Responses of Dimorphic <i>Onthophagus Gazella</i> to Different Light Intensities
8:30-3:30	Elizabeth	Erdelac	Marine Biology	The Effects of Experience on the Kinematics of Foraging Behavior in Juvenile <i>Trachemys Scripta Scripta</i>
7:15-8:30	Guerbine	Fils-aime	Environmental Studies	Vocal Responses of 'Aotus nancymaae' to Chemical Cues of Potential Predators
5:30-6:45	Zachary	Fralish	Biochemistry & Molecular Biology	Synthesis of Fluorescein-linked, Zinc-based Metal-Organic Polyhedra as Carriers of Targeted Treatments for Retinopathies
8:30-3:30	Brianna	Frank	Biology	Effects of Altered Ethanol Concentrations in <i>Drosophila Melanogaster</i> Diets on the Expression of Nicotinic Acetylcholine Receptor Subunit Alpha 6 (nAChRα6)

## Fiat Lux Poster Presentation Schedule – By Student Last Name

<b>Time</b>	<b>First Name</b>	<b>Last Name</b>	<b>Major</b>	<b>Title</b>
8:30-3:30	Noah	Franz	Biology	Effects of Long-Term Chlorine Exposure on Antibiotic Resistance in Competitive Swimmer's Epidermal Microbiome
5:30-6:45	Danielle	Guida	Elementary Education	Spiraling Back with Long Vowels
8:30-3:30	Juliana	Guida	Biology	A Comparison of the Antimicrobial Efficacy of Hydrogen Peroxide and Multipurpose Contact Lens Disinfectants in Eliminating Bacterial Pathogens
8:30-3:30	Caitlin	Harper	Citrus	Establishing an Ideal Horticultural Protocol for Producing Dracaena sp. Nov. 'Ruth Luka' and 'Waikiki'
5:30-6:45	Kylie	Hartzell	Psychology	The Effect of Math Skill Mastery on Teaching Math Anxiety and Teaching Math Confidence in Pre-service Teachers
8:30-3:30	Sabrina	Hendrick	Biochemistry & Molecular Biology	Investigating Use of the Sea Lamprey, Petromyzon Marinus, as a Model to Characterize the Molecular Mechanisms of Parkinson's Disease
7:15-8:30	Sarah	Hilbert	Psychology	The Effect of Confederate Clothing and Race on Change Blindness
7:15-8:30	Sarah	Hilbert	Psychology	Cellular Phone Anxiety and Retention Rates in a Classroom Setting
7:15-8:30	Sarah	Hilbert	Psychology	Predicting Student Retention and Adjustment
7:15-8:30	Jordan	Howard	Psychology	Advertisement Vignette Effects on Recognition Abilities in Student with Dyslexia
7:15-8:30	Jordan	Howard	Psychology	"Spreading" the Word: Enhancing Neuroscience Pedagogy through a MagazineFormat
7:15-8:30	Jordan	Howard	Psychology	The Use of Ancillary Stimuli as Effective Pedagogy for Developmental Neuroscience
5:30-6:45	Kenzie	Hurley	Psychology	Benefits of Positive Psychology Courses and Attributional Style in Combatting Hurricane Fatigue
8:30-3:30	Anthony	Iboy	Biotechnology	Determining the Performance of Cell Recombination of Viruses in Plant & Animal Cell Culture
8:30-3:30	Ann	Kast	Elementary Education	Case Closed: Using Graphic Novels to Enhance Reading Proficiency in a Third Grade Student
8:30-3:30	Coby	Layson	Biology	The Effect of Above-soil Water Conservation Products on Abiotic and Biotic Factors During Growth of Lagerstroemia

## Fiat Lux Poster Presentation Schedule – By Student Last Name

Time	First Name	Last Name	Major	Title
8:30-3:30	Allyson	Mitchell	Biology	Impact of Commercially Sold Dietary Supplements on Life History Traits in <i>C. elegans</i>
8:30-3:30	Sophie	Morgan	Marine Biology	The effects of Marine Antifouling Paint on <i>Crassostrea virginica</i> , and the Potential for Biomagnification in <i>Callinectes sapidus</i>
5:30-6:45	Christopher	Nottage	Psychology	Relationship Between Intense Hands On Learning and 2D and 3D Mental Rotation Ability in Chemistry Students
5:30-6:45	Angelimarie	Ojeda	Nursing	Metformin and Infertility Due to PCOS
8:30-3:30	Alyvia	Orsini	Biotechnology	The Effect of EPI on Cardiomyocytes Under Induced Stress Caused by H <sub>2</sub> O <sub>2</sub>
5:30-6:45	Lauren	Pericone	Nursing	Assisted Reproductive Technology and its Global Impact on Maternal and Fetal Health
5:30-6:45	Rachael	Pfanz	Elementary Education	Does Reading With Expression Matter?
7:15-8:30	Stephanie	Ramirez	Psychology	Antecedents to School Retention: Inclusion vs. Exclusion
8:30-3:30	Marjorie	Rodolosi	Biology	Characterizing the Interaction Between Annexin A2 and the Parkinson's Disease Linked Protein $\alpha$ -synuclein
8:30-3:30	Emily	Santoli	Biology	The Epigenetic Effects of a Paternal High-sugar Diet in <i>Drosophila melanogaster</i>
5:30-6:45	Kristina	Schwirian	Psychology	Perception of Differences in Leadership Based on Gender and Transactional vs. Transformational Leadership Style
5:30-6:45	Madeline	Sliwa	Biology	An Experimental Investigation of Insect Foraging and Energetic Condition of <i>Aotus Nancymae</i> Using Urinary c-peptide Levels
8:30-3:30	Madeline	Sliwa	Biology	An Experimental Investigation of Insect Foraging and Energetic Condition of <i>Aotus Nancymae</i> Using Urinary c-peptide Levels
8:30-3:30	Anna	Tovo	Biology	Effects of Vitamin D Supplementation on Diabetic <i>D. melanogaster</i>
5:30-6:45	Marlie	Vaughn	Psychology	Inclusion and Exclusion in the Workplace: A Tale of Two Outcomes
8:30-3:30	Diana	Wahner	Environmental Studies	Assessment of Composition and Transference of Gut microbiota throughout life stages of <i>Danaus plexippus</i>
7:15-8:30	Brianna	Welsh	Psychology	I-scream for Society: Manufacturing Information and its Relationship to Consumer's Attitudes and Perceptions of Taste

## Fiat Lux Spring 2018

**Student:** Adams, Emily

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 5:40-6:00

**Room:** Branscomb 203

**Title:** The Dam Fish Migration

**Abstract:** The Kirkpatrick Dam, part of the original plans for the Cross Florida Barge Canal, is located within the Rodman Reservoir on the Ocklawaha River. It has hindered the spawning and migration of over twenty species of fish, and environmentalists have been pushing for its removal for over five decades. The case of Rodman Dam is unique in that both its support and opposition claim fish populations as the primary reasoning for their position on the dam's presence. If the dam continues to exist in its current state, fish populations will not be able to safely migrate, but they will be corralled in a popular fishing spot. If the dam is altered, fish will then be able to migrate and increase populations. Alternatives to removing the dam must be explored for economic and environmental reasons; these alternatives include fish ladders, fish netting and transport, and fish bypass systems. Each solution houses its own economic and environmental risks, benefits, and costs, but not modifying the dam's present obstruction of fish migration will satisfy no one in the long run.

**Student:** Aichbhaumik, Paulina

**Major:** Marine Biology

**Faculty Mentor(s):** Wolovich, Christy; Eric Kjellmark

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Competition Affect of Monarch Butterfly Coloration

**Abstract:** Monarch butterflies' wing vary in shades of orange and size. This is related to nutrients received when they are caterpillars. There is recent evidence that monarchs are lighter in coloration and smaller bodied than in the past, possibly due to declining milkweed populations. Monarch butterflies typically lay only a few eggs on a single host plant, but when milkweed is scarce, they lay more eggs on a single plant. This results in intraspecific competition. This research project examines how competition among monarch larvae affects the adult butterflies appearance. Caterpillars were placed in to individual bug dorms with milkweed cuttings. There were caterpillars in low competition environments (1 and 2 per dorm) and high competition environments (16 and 19 per dorm). Butterflies that emerged from the high competition environments were smaller and had duller wings than those from low competition environments. This experiment shows that competition while in the larval state is an important factor in determining the size and color of the adult butterfly.

## Fiat Lux Spring 2018

**Student:** Akus, Sierra

**Major:** Marine Biology

**Faculty Mentor(s):** Wolovich, Christy

**Co-author(s):** Ashton Hoy

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Effect of Predator Cues on Memory in the Crayfish *Procambarus alleni*

**Abstract:** Learning and predator avoidance strategies are important for organism survival. Studies suggest invertebrates have the propensity to learn and adapt to their environments just as well as vertebrate species. The presence of stressors, such as potential predator presence, can affect learning and memory recall. As a result, the expression of learned behaviors may be enhanced or diminished. We examined the effect of predator cues on memory in the Florida crayfish, *Procambarus alleni*. We trained 9 crayfish to locate a suitable shelter in a standard condition. Trained and untrained crayfish were exposed to a neutral cue, deionized water, and a chemical cue from an alligator snapping turtle, *Macrochelys temminckii*. The crayfish were tested for memory recall of the suitable shelter and latency of recall while being exposed to these cues. It was found that while memory persisted under a neutral cue, exposure to a predator cue diminished overall recall as well as latency of recall.

**Student:** Alexander, Kurrdeige

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Bromfield Lee, Deborah

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:30

**Room:** Christoverson 112

**Title:** Synthesis of the Isoindolinone Moiety of Stachybotrin D: Incorporating Greener Methods

**Abstract:** The human immunodeficiency virus (HIV) is a debilitating viral infection that can negatively affect the individual as well as a nation's economy and workforce. Stachybotrin D is a phenylspirodrimane extracted from *Stachybotrys chartarum* MXH-X73 found to inhibit the reverse transcription activity of wild type HIV-1 as well as five other non-nucleoside reverse transcriptase inhibitor-resistant HIV strains. Our research group is working towards the synthesis of Stachybotrin D. We prepared a green synthesis that involves the esterification of a benzoic acid derivative, protection of aromatic hydroxyl groups, and Mannich/lactamization aminoalkylations. Esterification of benzoic acid derivatives using a microwave resulted in 85-94% yields. By developing a successful and greener synthesis of Stachybotrin D larger quantities of this natural metabolite may be produced for further study into its biological activity. Additionally, the success of a greener synthesis may advance current research into issues such as the antibiotic resistance crisis and drug shortages.

## Fiat Lux Spring 2018

**Student:** Aubertin, Stephanie

**Major:** Biology

**Faculty Mentor(s):** Wolovich, Christy; Gabriel Langford

**Co-presenters:** Dylan Hayes

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Shedding Light on the Effects of Night-time Artificial Illumination on *Anolis sagrei* Activity Levels

**Abstract:** The brown anole (*Anolis sagrei*) is an invasive species of lizard that thrives in human-altered environments. In these ecosystems, *Anolis sagrei* is exposed to artificial night time illumination, a form of anthropogenic pollution. Additional light during the evening could attract insect prey and/or extend the time available for important social interactions. Invasive species that utilize this light to extend their daily activity patterns may gain additional foraging and reproductive advantages. We investigated the impacts of artificial illumination on the behavioral ecology of brown anoles on the Florida Southern College campus. We hypothesized that anoles exposed to artificial light would be more active during the evening hours than those not exposed to such light. In addition to sampling the diurnal and nocturnal behavior of anoles, we also estimated food availability by sampling insect abundance and diversity. Based on our data, insect availability and activity levels of brown anoles did not differ between the two locations (with and without artificial light). Further research should examine additional locations and survey behavior across the entire year in order to determine if these findings are an accurate representation of the behavior of brown anoles in Central Florida.

**Student:** Aubley, Brittany

**Major:** Exercise Science

**Faculty Mentor(s):** Terrell, Sara

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 208

**Title:** Comparison of Cupping Therapy to Massage Therapy in Reducing Muscle Soreness in Collegiate Swimmers

**Abstract:** The sport of swimming requires rigorous training both in and out of the pool. Swimmers accrue 8,000 to 20,000 yards a day in the pool in addition to cross-training on land. High practice volume and intensity can lead to increased muscle soreness and musculoskeletal injuries, commonly seen in the shoulder. Delayed onset muscle soreness (DOMS) is influenced by muscle damage and inflammation, leading to pain and a decrease in swim performance. Recovery techniques are essential to restore the body after a practice or competition and to increase sports performance. Athletes commonly include massage therapy and cupping therapy to facilitate recovery. Cupping therapy, a technique consisting of creating a vacuum inside a glass or plastic cup to raise the skin of the area in pain, may enhance tissue metabolism by increasing blood and lymphatic circulation. The purpose of this presentation is to explore whether cupping therapy is a viable recovery tool to reduce muscle soreness in collegiate swimmers.

## Fiat Lux Spring 2018

**Student:** Aviles, Blake

**Major:** Communication: Advertising & Public Relations

**Faculty Mentor(s):** Allen, William

**Co-presenters:** Andrew Gapinski

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 207

**Title:** Eye Tracking

**Abstract:** Two students presenting on a project which were a part of in Professor Allen's Media Analytics course. Students used eye tracking to optimize web design for potential target group of visitors for the Florida Southern College Portal. For this project, eye tracking software was used to measure the results of the participants in the study. The students felt the need for the study to be done because a lot of websites have people leaving immediately because it was not appealing or it was difficult to find the information needed. With the data collected from eye tracking, web designers can create sites that are more efficient and have higher retention rates.

**Student:** Barnes, Elise

**Major:** Exercise Science

**Faculty Mentor(s):** Terrell, Sara

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 206

**Title:** Can the Functional Movement Screen be Used as an Assessment Tool for Improving Movement Patterns in Collegiate Dancers?

**Abstract:** Introduction: The Functional Movement Screen (FMS) is a common tool used to assess fundamental movement patterns. Results from the screening process can influence exercise program design. Currently, FMS screening is not as commonly used for dancers as in other sports. Information regarding how dancers could benefit from a structured training program based upon the FMS remains unclear. Purpose: The purpose of this study was to utilize FMS results to develop an 8-week corrective exercise program intervention to improve movement patterns in dancers. Methods: This study followed a pretest-posttest design. Participants (n=15) were tested on the first five screens of the FMS. A progressive, eight-week corrective exercise program focusing on hip stability, ankle dorsiflexion, and thoracic mobility was implemented twice a week for 20 minutes each session. A dependent t test ( $\alpha < 0.05$  a priori) and video recording were used for analysis of pre and posttest results. Results: Nine dancers completed the intervention. Improvements in overall posttest scores were noted in 4 out of the 5 FMS screens with the Deep Squat improving significantly ( $p < 0.017$ ). Conclusion: Results indicate that a corrective exercise intervention can improve fundamental movement patterns which highlights the value of FMS screening in the dancing population.

## Fiat Lux Spring 2018

**Student:** Barton, Natalie

**Major:** Nursing

**Faculty Mentor(s):** Hall, Carrie Ann; Judy Risko

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 111

**Title:** The Affects of Admission to the Neonatal Intensive Care Unit on Parental Relation

**Abstract:** Background: In the US, one out of every nine babies born is premature, many of which are admitted to the NICU due to their prematurity (Heidari et al 2013). These infants often require a long-term stay due to their many medical issues and complications, and the long weeks spent in the intensive care unit can begin to be a large barrier to their relationship with their parent. Purpose: The purpose of this study to examine how a father's relationship with his neonate post discharge is affected by an admission to the Neonatal Intensive Care Unit. Methods: This study will use a descriptive phenomenology approach to explore the experience of fathers of neonates that were admitted to neonatal intensive care. Face-to-face interviews using a semi-structured interview guide will be audio-recorded and transcribed. Four to eight fathers of neonates that have been discharged in the past six months will be interviewed. Analysis: Colaizzi's method to conduct thematic analysis of participant's statements during interviews and collaborate to identify emerging themes. This method includes the following steps: reading of transcripts for a general sense; extraction of significant statements from participant transcripts; categorical separation of statement meanings into clusters of themes; exhaustive description of the phenomenon; identification of the overall structure of the phenomenon; and validation of findings with participants.

**Student:** Beauchemin, Christian

**Major:** Chemistry

**Faculty Mentor(s):** Eubank, Jarrod

**Presentation Type:** Oral

**Presentation Time:** 7:30-8:00

**Room:** Christoverson 112

**Title:** A Rare Carboxylate-Functionalized tbo-MOF for the Remediation of Heavy Metal Ions

**Abstract:** The continued release of harmful chemicals, including heavy metal ions, into waste water due to increased industrial activity has negatively affected the health of many organisms, including humans. To combat the release of harmful metal ions, a relatively new class of crystalline porous materials called metal-organic frameworks (MOFs) have emerged as potential candidates for remediation. The recent allure of MOFs can be attributed to their unique tunability and modularity, which is not generally found in conventional porous materials such as activated carbon or zeolites. The ability to modify/select MOF constituents allows for targeting of a MOF with specific characteristics, such as increased pore size, shape, or functionality. Implementation of a novel pillaring design strategy allowed for the pores of the well-studied MOF, HKUST-1 (a tbo-MOF), to be expanded and functionalized to include rare free carboxylates. Due to the nature of carboxylic acids, the newly functionalized derivative of HKUST-1, (HOOCR)4-tbo-MOF, was found to ion-exchange with free metal ions in solution, allowing for their remediation to improve water quality. In addition, the low hydrolytic stability that is generally found in MOFs was negated by the increased hydrophobic core of (HOOCR)4-tbo-MOF, which allowed for enhanced stability in water (without loss of crystallinity).



## Fiat Lux Spring 2018

**Student:** Benoit, Sierra

**Major:** Self Designed Major

**Faculty Mentor(s):** McHugh, Kelly

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 210

**Title:** Sustainable Healthcare in Madagascar

**Abstract:** In this presentation, I examine the roots of the healthcare crisis in Madagascar, the challenges to overcoming the crisis, and consider what can be done in the future to create sustainable healthcare in Madagascar. During the summer of 2016, I spent three weeks in Antananarivo and Antsirabe, Madagascar. During this time, I interviewed locals, the U.S. Ambassador at the embassy and a Peace Corps representative. I witnessed famine, poverty, disease and corruption, but most importantly I witnessed the possibility for sustained healthcare and prosperity. Additionally, in October 2017, I visited the United Nations, the World Health Organization, the Global Fund, the International Red Cross, the World Health Research Council and Doctors Without Borders in Geneva, Switzerland. Madagascar is the poorest non-conflict country in the world, according to the U.S. Ambassador, Robert Yamate. By combining my in-country research experiences, with an analysis of scholarly literature, I propose ways for Madagascar to develop a prosperous and sustainable healthcare system, which could be a model for other developing nations. Overall, the healthcare initiative must start with being proactive rather than reactive, and concentrating funding on a series of educational, preventative, and attainable healthcare practices.

**Student:** Bermudez, Amel

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Tyhje Grayson

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Effects of Glucose, Fructose, Sucrose, and Sugar Alternatives on *Caenorhabditis elegans*' Well-Being

**Abstract:** The motivating factor for this research is due to an increase in the consumption of cola beverages, as well as sugar additives in processed foods, throughout the United States. According to research from the National Center for Health Statistics, nearly 40% of adults and 19% of youth are obese. Besides from the rise in obesity, there has also been an increase in varying diseases such as diabetes, hypertension, and cancer, to name a few. In an attempt to understand if the consumption of sugar is related to obesity, and other diseases, natural and artificial sugars were compared. The principal goal of this study was to test the effects of glucose, fructose, sucrose, and sugar alternatives; aspartame, sucralose, and saccharin. This was done by exposing the nematodes to the various sugars via *E. coli*. Searching for potential mutations and measuring the effects on longevity, development, and reproductive success, genetic inheritance, and stress responses on *C. elegans*. The effects of natural and artificial sugars on *C. elegans*' will be discussed.

## Fiat Lux Spring 2018

**Student:** Bigness, Alec

**Major:** Chemistry

**Faculty Mentor(s):** Gauthier, Carmen

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 111

**Title:** Synthesis of Discrete Zinc Metal Organic Materials Towards Drug Delivery

**Abstract:** Zinc Metal Organic Materials (MOMs) have been synthesized with intended applications of targeted drug delivery. Using various room temperature self-assembly techniques, these complexes show promise as discrete structures that can act as “hosts” for other drugs. This can be termed encapsulation, where porous compounds such as these can absorb or directly bind smaller compounds of interest. These compounds of interest, or “guests”, are pharmaceutical drugs in this case. Utilizing MOMs as drug delivery vessels for pharmaceutical drugs can reduce adverse side effects and increase the activity of drugs by improving absorption and other drug properties in the body. This involves unloading the guest molecule at a particular receptor or enzyme of interest using targeted delivery. Various layering methods were shown to increase the yield and crystallinity of the Zinc MOMs. The Zinc MOM product has been purified and characterized accordingly. The following proposal will discuss applying and optimizing this structure for drug delivery purposes.

**Student:** Bores, Supriya Jaya

**Major:** Theatre Arts: Musical Theatre

**Faculty Mentor(s):** Roll, Christianne

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Branscomb 201

**Title:** Thinking, Feeling, Willing, Belting

**Abstract:** Belting is Broadway’s number one tool to wow audiences with the voice on our modern stage. Scholars have found it hard to define the mechanics and practice of belting, yet discoveries are still being made. We can only define the term belting to a certain point due to the individual, uniqueness of the voice and the plethora of different belting techniques. The research in this presentation will show the direct correlation between emotion and belting. The different approach in the technique of belting, no matter the style, is motivated by emotion, this changing emotion can thus change the belt sound. With the help of student belters, they have been asked to try different techniques in either thinking, feeling or willing life of a character to achieve one sound; The Modern Belt.

## Fiat Lux Spring 2018

**Student:** Branch, Alaina

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Gasper, Brittany

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** In Vitro Comparison of Conjugation Rates of *E. coli* with *S. aureus* and *K. pneumoniae*

**Abstract:** Biofilms are known for their inherent resistance to antibiotics as well as the cooperative nature of the organisms present, regardless of species. In recent years, more research has been conducted studying how well and quickly bacteria living in biofilms conjugate and spread traits such as antibiotic resistance. As antibiotic resistance has become a more pressing issue, this work has become increasingly relevant, as a wide range of bacterial infections are caused by biofilm formation. This study determined how quickly *E. coli* conjugated with *P. aeruginosa* and *K. pneumoniae* to donate a plasmid containing antibiotic resistance to both ampicillin and kanamycin. *E. coli* cells containing the plasmid were introduced to biofilms containing either *P. aeruginosa* or *K. pneumoniae*. At regular time intervals, the biofilms were collected and the number of viable colony forming units was calculated both on antibiotic containing media and media with no antibiotics. The percentage of resistant bacteria was then calculated. The results comparing the number of biofilm bacteria resistant to antibiotics after 8, 12, and 24 hours of incubation will be discussed.

**Student:** Braun, Samantha

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Oswaldo Zapata

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Isolation and Identification of Antibiotic-Resistant Microorganisms Discovered in Aquatic Environments

**Abstract:** Water microbiology involves the study of all biological aspects of the microorganisms that exist in water. Using water-testing procedures, determination of microbe populations in various water sources is possible in or around a certain geographical area. The microbial populations can be isolated and tested against antibiotics to determine whether or not they are antibiotic-resistant. This information is important for society because water is essential to life, and many people do not have access to clean and safe drinking water, leading to some deaths caused by waterborne bacterial infections. Water samples were collected from four different water types including tap water, well water, drinking water, and freshwater from a lake. The water samples were plated onto a general bacterial growth media and preliminarily identified by PCR amplification of the 16S rRNA gene. Antibiotic susceptibility testing was performed using eight different common antibiotics. The drinking water and well water samples were found to contain *Sphingomonas*, the freshwater sample contained *Aeromonas*, and the tap water sample contained *Bacillus*. Interpretation of these results, and the antibiotic susceptibility pattern from each isolated sample is discussed.

## Fiat Lux Spring 2018

**Student:** Brewer Castano, Alejandra

**Major:** Mathematics

**Faculty Mentor(s):** Back, Roxanne

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** Decompositions of a Complete Graph with a Hole

**Abstract:** In graph theory, a graph can be described as a set of vertices connected with edges, and a graph decomposition is the partition of a graph into disjoint sub graphs. The most well known graph decomposition is the Steiner Triple System. In a Steiner Triple System, a complete graph (a graph where every pair of vertices is connected by an edge) is decomposed, or partitioned, into triangles. Similarly, we decompose a graph into sub graphs - more specifically, we decompose a complete graph with a hole into disjoint copies of a complete graph minus one edge.

**Student:** Bryant, John

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 210

**Title:** Blown Away: The Puerto Rican Housing Crisis in the State of Florida

**Abstract:** Puerto Rico's economy suffers from many ills, including a weight of debt that is crippling; but the assault of the natural disaster of hurricane "Maria" has exacerbated conditions to a disastrous level. Many islanders have simply fled to the mainland, and Florida has been the main location of choice. Though many of them have successfully left the island, they have often times found trouble either locating affordable housing, housing in close proximity to work, or communities which are conducive to their family needs. This policy analysis will investigate pragmatic alternatives to resolving the housing crisis.

**Student:** Burrows, Erin

**Major:** Business Administration

**Faculty Mentor(s):** Bernthal, Matt

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 111

**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 selection or avoidance. This exploratory study collected information through individual interviews, focused on consumer perceptions of brands supporting or opposing political candidates or causes, and the consumer's response to brands based on their own political views. As research has shown consumers choose brands that represent their ideal personalities, it is hypothesized that consumers will support brands most closely aligning with their personal beliefs. Participants will be diverse in age, gender, race, and political beliefs. The interviews will be analyzed for themes on consumer tendencies.

## Fiat Lux Spring 2018

**Student:** Cain, Shelby

**Major:** Marine Biology

**Faculty Mentor(s):** Valdivia, David

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 209

**Title:** Modeling Symbiotic Nitrogen Uptake within a Sea Sponge using Monod and Lotka-Volterra Functions

**Abstract:** Sea Sponges are natural filters of the marine environment and are known to uptake nitrogen via symbiosis with cyanobacteria. Various established equations, such as the Monod and Lotka-Volterra, were used to model the nitrogen uptake within a Sea Sponge. This representation is a stepping stone to understanding the relationship between cyanobacteria and its host. Although this model will need to be adjusted after biological data is collected, it estimates the baseline equilibrium points.

**Student:** Campos, Armando

**Major:** Athletic Training

**Faculty Mentor(s):** Lynch, Mick

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 208

**Title:** LESS is More: The Application of the Landing Error Scoring System for a Division II Women's Basketball Team

**Abstract:** This is a thesis proposal on the application of the Landing Error Scoring System (LESS) for a Division II Women's Basketball team. The LESS is designed to help 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 will work together 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 our Women's Basketball team at Florida Southern during the 2017/2018 season. LESS scores will be compared to each individual's Power Index (calculated and collected by Strength and Conditioning coach Zach Wallace using several strength measures), and injury records throughout the season. Correlation matrices will be analyzed for significance.

## Fiat Lux Spring 2018

**Student:** Carbia, Caroline

**Major:** Spanish

**Faculty Mentor(s):** Garr, Melissa

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 111

**Title:** A Change of a Bloody Heart: A Cultural Opportunity

**Abstract:** This presentation will show the advantages of shifting bullfighting into a nonviolent art form and how the positivity of the art of the Spanish dancing horses better fits the movement our world should be moving with; less killing and more connection. While keeping older traditions going through modern day culture, it is important to acknowledge that some aspects may be outdated or can be more globally improved. I will focus on the history of both bullfighting and the dressage training used for “Arte Ecuestre” but will also argue the importance of how intense connection can be used to better an animal’s life rather than end it. Some places around the world have made regulations for bullfighting and their methods will be recognized throughout the presentation, as well. There will be research cited regarding the specific physical impacts on the two species and how the methods of both cultural art forms differ so greatly but in fact, could work harmoniously if specific changes were made.

**Student:** Carbo, Emily

**Major:** Music: Performance

**Faculty Mentor(s):** Jossim, Jo

**Co-presenters:** Alana Gonzalez, Paul Rigolini, Zoe Perkins, Madison Schmidt

**Presentation Type:** Performance

**Presentation Time:** 6:20-6:30

**Room:** Branscomb 202

**Title:** Four Short Dances

**Abstract:** The FSC Woodwind Quintet, under the direction of Dr. Jo Jossim, will be performing “Four Short Dances” by Michael Mikulka. The piece includes four movements of various tempos, time signatures, and style. The woodwind quintet includes a flute, oboe, clarinet, french horn, and bassoon, but in our quintet we substituted bassoon for cello.

**Student:** Carosi, Desiree

**Major:** Music: Performance

**Faculty Mentor(s):** Parsché, Paula

**Presentation Type:** Performance

**Presentation Time:** 6:00-6:20

**Room:** Branscomb 202

**Title:** Black Earth

**Abstract:** I will be performing “Ballad no. 2” and “Black Earth” both by Fazil Say on the piano. Fazil Say is a contemporary Turkish composer and pianist. He is well known for his talent in revising pieces and making them his own. For example Black Earth was inspired by an old folkloristic turkish song. I will be talking about the composer and his composition more in depth and I will explain the audience how I’m playing the pieces. My goal is to introduce more people to his works and to hopefully entertain the audience! I will need around 15 minutes.

## Fiat Lux Spring 2018

**Student:** Christou-Ader, Dominick  
**Faculty Mentor(s):** Gasper, Brittany  
**Presentation Type:** Poster  
**Presentation Time:** 8:30-3:30

**Major:** Biology  
**Room:** Honeyman Pavilion

**Title:** Uptake Characterization of Proline and other Structurally Similar Analogs in *S. typhimurium* Isolates with ProP Mutations

**Abstract:** The membrane bound ProP protein in *Salmonella enterica* serovar Typhimurium (*S. typhimurium*) is responsible for the transport of compatible solutes proline and glycine betaine during osmotic stress. Hyperosmotic stress is produced when the organisms' environment contains a higher proportion of molecular compounds that are unable to cross the membrane of the cell. If this condition goes uncorrected, this will result in cell shrinkage known as plasmolysis, deadly to the cell if not corrected. Correcting this water imbalance is seen not only in *S. typhimurium* but also in plants and even the human kidney by the uptake of proline and glycine betaine. This study will be looking at six strains each with a single point mutation in the transmembrane portion of ProP. Growth curves will be used to assay how these mutations impact the proteins' ability to uptake its substrate proline as well as competitive inhibitors glycine betaine, ectoine, DL-pipecolinic acid, and azetidine. This will allow for preliminary insight on how the transporter detects and responds to hyperosmotic stress along with bioinformatics techniques to predict structural changes within the protein. Results of mutation-specific differences in growth characteristics and potential protein structure will be discussed.

**Student:** Cook, Daniel  
**Faculty Mentor(s):** Wolovich, Christy  
**Co-presenters:** Guerbine Fils-Aime  
**Presentation Type:** Poster  
**Presentation Time:** 8:30-3:30

**Major:** Marine Biology  
**Room:** Honeyman Pavilion

**Title:** Vocal Responses of *Aotus nancymae* to Chemical Cues of Potential Predators

**Abstract:** Primates have complex vocalizations that often are dependent upon various environmental factors. Alarm calls often function as an anti-predation strategy for smaller primates and may increase the chance of survival by warning conspecifics of approaching predators. Nancy Ma's owl monkeys (*Aotus nancymae*) are nocturnal primates that are native to South America. The monkeys have a great range of differing call types. We speculate that "chirps" which function as the owl monkeys' primary alarm call given that chirping is the most commonly observed call when the monkeys are exposed to olfactory environmental cues. We presented groups of owl monkeys with three predator fecal cues (mammalian, avian, and reptilian) and three control fecal cues., and we recorded all vocalizations emitted. We generated and analyzed spectrograms to determine the presence of the "chirps". We found that the owl monkeys chirped less often when predator cues were present except when it was a mammal predator cue. This research suggests that owl monkeys in captivity have the ability to discriminate between and respond to novel olfactory cues.

## Fiat Lux Spring 2018

**Student:** Coursen, Felicia

**Major:** English

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Tabatha Lehmann, Samantha Woerle, Paige Koetter, Mara Lammeyer, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 8:10-8:20

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

**Student:** Crawford, Kelsey

**Major:** Psychology

**Faculty Mentor(s):** Law, Charlie

**Co-presenters:** Ragen Sawyer, Elizabeth Soto

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** "That's Not Harassment": Perceptions of Cyber Sexual Harassment

**Abstract:** The purpose of this research is to assess perceptions of sexual harassment online versus in-person. After viewing vignettes displaying sexual harassment through various mediums (Facebook, email, in-person, etc.), participants indicated on a 7-point Likert scale how much they believed the target, their perception of the severity of the behavior, and their likelihood of reporting the behavior. We found that participants were more likely to believe the victim, more likely to believe the behavior was severe, and more likely to report the harassment if it occurred in person compared to online. Our poster discusses further research, potential contributing factors, and how these findings are relevant in the age of social media and the #MeToo movement.



## Fiat Lux Spring 2018

**Student:** Cuddeback, Corinne

**Major:** Philosophy

**Faculty Mentor(s):** Nethery, H.A.; Brian Hamilton

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 109

**Title:** The Truth About Reality: You Don't Want to Know

**Abstract:** Philosophers have long debated the questions of reality, truth, and knowledge; they ask what is this and how do I know this is that. Metaphysics is one such field of philosophical inquiry that seeks to discover the first principle of a thing or a concept, asking questions such as 'what is existence' and 'how does this cause that'. A common and legitimate criticism of metaphysics says that while the arguments may be logically sound, they are privileged and largely irrelevant to lived experiences, consisting of lofty claims about the structure of the universe which have no practical or ethical application. However, much research and work has been done in the field of epistemology to show how one's accepted world-views are foundational to identity and action, which all suggest that what you know and how you know it affects who you are and what you do. This project will identify and analyze relationships between specific arguments on reality and truth as they relate to contemporary structures that determine and dispense epistemic authority and justice. Ultimately I suggest the impossibility of a universal metaphysic that does not incur the logical and ethical issues that often arise from absolute claims.

**Student:** Cupp, Kaitlyn

**Major:** Marine Biology

**Faculty Mentor(s):** Wolovich, Christy

**Co-author(s):** Kaitlyn Cupp, Ashlie DaCruz

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Impact of Herbivory by the Invasive *Pomacea Maculata* on the Compensatory Growth of Native and Invasive Aquatic Plants

**Abstract:** Herbivory by the invasive giant apple snail *Pomacea maculata* may affect the survivability of both native and invasive aquatic plant species in Florida. Previous research has focused more on the growth and success of *P. maculata* rather than the compensatory growth of the plants it is known to feed on. To measure the direct effects of foraging, we assessed the plant preferences of *P. maculata* for three aquatic plant species. We expected the snails to consume a similar amount of the invasive and native plants. However, we expected that the invasive plants have a faster rate of compensatory growth than that of the native plant. Snails were given a simultaneous choice to feed on *Eichhornia crassipes* (water hyacinth; invasive), *Hydrilla verticillata* (water thyme; invasive), or *Ceratophyllum demersum* (coontail; native). The majority of *P. maculata* first attached to the native *C. demersum* and spent more time on *C. demersum*. The invasive *E. crassipes* had the highest rate of compensatory growth, regaining over half of its mass within a week of consumption. Our results show the negative impacts of *P. maculata* on native aquatic vegetation, which ultimately affects entire biological communities. The success of *P. maculata* is likely to contribute to the continued spread of invasive aquatic plant species that are currently dominating wetlands in Florida.

## Fiat Lux Spring 2018

**Student:** Daley, Alexandra

**Major:** Religion

**Faculty Mentor(s):** Willis, Waite

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 208

**Title:** Suffering, Forgiveness, and Memory in the Kingdom of God

**Abstract:** Theologian Miroslav Volf of Yale University, for a variety of reasons, asserts that for full forgiveness and reconciliation between perpetrators and victims to be realized both the acts of the perpetrators and the suffering of the victims must literally be forgotten. In the promised Kingdom of God when full forgiveness and reconciliation take place in the light of God's grace, even God, according to Volf, will have to forget the past suffering and the acts that caused it. My essay and presentation examines Volf's argument extensively, then tests it on the basis of scholarly biblical and theological research and reflection. While understanding why Volf makes his claims, I argue that his position is untenable and demonstrate how it fails the theological test. Constructively, I develop a position that claims that the memory of past suffering and its causes remains essential for the realization of forgiveness and reconciliation. Victims, perpetrators, and God must remember.

**Student:** DeRosa, Mackenzie

**Major:** Theatre Arts: Musical Theatre

**Faculty Mentor(s):** Roll, Christianne

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Branscomb 201

**Title:** Asian Representation in Musical Theatre History

**Abstract:** I focused my research on the portrayal of Asian people in musical theatre history. Not many musicals have been written about Asian characters, and the few that do exist do not necessarily show these characters in the most positive or accurate light. The portrayal of Asian people in most musicals has been either in a very stereotypical, comic style where the Asian characters are being made fun of, or in a tragic, dark manner that turns the Asian ethnicity into a negative character trait. As society is becoming more aware of the need for equal representation in the arts, more and more musicals that feature the positive aspects of the Asian people are slowly being produced. However, we, as a Broadway community, are still very far from being where we should be in order to consider the representation of Asians to be equal to that of Caucasians. My research shows that even though we are very far from the end goal, we are making some productive progress toward this specific racial equality on Broadway.

## Fiat Lux Spring 2018

**Student:** Devine, Nicole

**Major:** Biology

**Faculty Mentor(s):** Wolovich, Christy

**Co-presenters:** Brianna Dickerson

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Behavioral Responses of Dimorphic Onthophagus Gazella to Different Light Intensities

**Abstract:** The evolution of exaggerated ornaments are often the result of honest signaling, whereby the trait accurately represents the signaler's quality. Onthophagus gazella are dimorphic dung beetles with major and minor males. Major males have a pair of horns that extend behind their eyes. Females and minor males lack these horns. Previous studies have shown that there is a trade-off between the development of horns and that of eyes, wings and antennae; however, the behavioral effects of this trade-off remain unknown. We aimed to examine the behavior of O. gazella to determine if the size of the horns affect the ability to respond to various light intensities. We expected major males to move toward light more consistently after horn removal. We collected O. gazella from the field. Each beetle was placed in a Y-maze and given a choice between different light intensities under normal conditions and then again after horn manipulations. Our findings do not support a behavioral trade-off for the presence of horns in O. gazella because major males reacted less consistently to the light after horn removal. We will discuss the implications of this research in relation to honest signaling and sexual selection theory.

**Student:** Donovan, Peter

**Major:** Psychology

**Faculty Mentor(s):** Quinlivan, Deah

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 207

**Title:** The Effect of Post-Identification Feedback and Peripheral Trial Information on Jury Decision Making

**Abstract:** The post-Identification feedback effect (PIF) is a psychological phenomenon which can occur in eyewitness lineup procedures when information is provided by law enforcement personnel to a witness regarding the accuracy of an identification he or she has made. Prior research has suggested that PIF can inflate a mistaken eyewitness' confidence, and that jurors may be unable to adequately recognize and account for this in their assessments of eyewitness testimony in court. The current study expands on these earlier findings by examining whether the effects of PIF are altered when eyewitness testimony is the only evidence available to mock-jurors, compared to instances in which additional evidence is available. The results of this study indicate that mock-jurors are affected by PIF, and that its effects are not reduced when eyewitness testimony is the only evidence provided.

## Fiat Lux Spring 2018

**Student:** Dorvilier, Rachelle

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Shelby, Shameka

**Presentation Type:** Oral

**Presentation Time:** 8:30-9:00

**Room:** Christoverson 112

**Title:** Isolation of Outer Segment Containing Mertk Enriched Phagosomes from RPE-J cells by Magnetic Selection

**Abstract:** Daily phagocytosis of the distal tips of photoreceptor cells is an essential mechanism for the maintenance of retinal integrity. The portions of the photoreceptor cells termed outer segments, are ingested and then processed by the retinal pigment epithelium (RPE). Previous studies involving the processing of phagosomes is traditionally achieved by using beads to induce phagocytosis in macrophages, which lacks specificity due to the use of a large foreign body being ingested. The purpose of this study is to develop a standard protocol for the isolation of phagosomes from RPE cells by magnetic selection. This method draws more parallel to the function of the RPE in vivo which involves the receptor tyrosine kinase MERTK in the engulfment process. The proposed method will also allow for the isolation of phagosomes that are more representative of those produced during normal phagocytosis in the RPE. Outer segments isolated from bovine retinas were labelled with magnetite particles, fed to RPEJ cells, and lysed. The phagosomes containing the magnetite bound outer segments were collected via magnetic rack isolation and analyzed by immunoblotting and microscopy. The isolation of these phagosomes can play an important role in investigating protein interactions that impact RPE membrane trafficking and maturation.

**Student:** Erdelac, Elizabeth

**Major:** Marine Biology

**Faculty Mentor(s):** Wolovich, Christy

**Co-presenters:** Emily Cadenhead

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Effects of Experience on the Kinematics of Foraging Behavior in Juvenile *Trachemys Scripta Scripta*

**Abstract:** We observed the effects of experience on the kinematics of foraging behavior in juvenile *Trachemys scripta scripta*. Yellow bellied sliders occupy a wide variety of wetland habitats; therefore they encounter a variety of potential prey including invertebrates, fish, as well as vegetation. This species impacts several biological communities giving them vast influence within food webs. Previous studies have examined the foraging behavior of *Trachemys scripta scripta*, however little research has been conducted on their prey choice or foraging kinematics. We studied their kinematics using a high speed camera. We hypothesized that turtles who were repeatedly exposed to a single prey source would become more efficient at feeding then turtles who were exposed to multiple prey sources. We observed each turtle's gape distance, duration of feeding time, and neck extension length in order to examine the change in kinematics over the 4 weeks. Our data suggests no significant differences between the different experimental groups, however, there was a noticeable trend in the turtles who fed on a single prey source. The duration of feeding bouts was shorter for the turtles who fed on a single prey source. Further studies with larger sample sizes need to be conducted in order to examine this research in more detail.

## Fiat Lux Spring 2018

**Student:** Fernandez, Sergio

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 210

**Title:** His Panic: Finding a Replacement for DACA

**Abstract:** Illegal immigration is an internationally problematic policy concern. Nowhere has it stirred more controversy than in the United States, a country that has, historically, welcomed immigrants. New regulations and measures with the aim of reducing illegal immigration pop up annually. Over the past decade, there has been a shift in illegal immigration in the U.S. as children from Central America and Mexico have been brought by their parents, or even have been left alone at the border, with the purpose of them being taken in custody by the U.S. government. The DACA program was introduced under the Obama administration to act as a holding policy until a more comprehensive solution can be found. There is an urgent need to find an alternative replacement. This research examines three potential policy alternatives to this current issue, and it also examines the underlying contours of the proposed policies factors such as costs, risks, and inherent tradeoffs.

**Student:** Ferrell, Jade

**Major:** Music: Performance

**Faculty Mentor(s):** Stahl, Diane

**Presentation Type:** Performance

**Presentation Time:** 6:30-6:40

**Room:** Branscomb 202

**Title:** Non so più

**Abstract:** Non so più is a piece from Mozart's opera buffa, Le Nozze di Figaro. It's sung by Cherubino, a young page boy of about 15 years that's experiencing love for the first time. In this aria, the text reads: At the name of love and desire, my heart flutters and a desire that I can't explain forces me to speak of love. And if there's nobody to hear me, I speak of love to myself!

## Fiat Lux Spring 2018

**Student:** Fils-aime, Guerbine

**Major:** Environmental Studies

**Faculty Mentor(s):** Wolovich, Christy

**Co-author(s):** Madeline Sliwa, Daniel Cook, Christy Wolovich, Megan Blomquist

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** Vocal Responses of ‘*Aotus nancymaae*’ to Chemical Cues of Potential Predators

**Abstract:** Primates have complex vocalizations that often are dependent upon various environmental factors. Alarm calls often function as an anti-predation strategy for smaller primates and may increase the chance of survival by warning conspecifics of approaching predators. Nancy Ma’s owl monkeys (*Aotus nancymaae*) are nocturnal primates that are native to South America. The monkeys have a great range of differing call types. We speculate that “chirps” which function as the owl monkeys’ primary alarm call given that chirping is the most commonly observed call when the monkeys are exposed to olfactory environmental cues. We presented groups of owl monkeys with three predator fecal cues (mammalian, avian, and reptilian) and three control fecal cues., and we recorded all vocalizations emitted. We generated and analyzed spectrograms to determine the presence of the “chirps”. We found that the owl monkeys chirped less often when predator cues were present except when it was a mammal predator cue. This research suggests that owl monkeys in captivity have the ability to discriminate between and respond to novel olfactory cues.

**Student:** Fralish, Zachary

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Shelby, Shameka; Deborah Bromfield Lee, Jarrod Eubank

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Synthesis of Fluorescein-linked, Zinc-based Metal-Organic Polyhedra as Carriers of Targeted Treatments for Retinopathies

**Abstract:** Metal-Organic Polyhedra (MOPs) are compounds composed of metallic ions linked by organic ligands that form porous units with highly specialized shapes and sizes. Beyond this, MOPs have intrinsic biodegradability, chemical diversity, and a high loading capacity. These characteristics make MOPs optimal candidates as vehicles drug delivery. These qualities could be advantageous when treating diseases of the retinal pigment epithelium (RPE). MOPs with entrapped treatments, such as organic inhibitors or recombinant genes, can potentially be injected into the vitreous of the eye and targeted to release their payload in the RPE, removing the risk of retinal tearing and the necessity of a specialized surgeon associated with traditional treatments. To pursue this potential, we modified 4,5-imidazoledicarboxylic acid (ImDC) ligands with fluorescein via an esterification reaction, while synthesizing MOPs with ImDC. Preliminary studies of zinc-based MOPs in HEK-293 cells have indicated that the MOPs will likely enter the cells by a phagocytic mechanism. Taken together, these studies will lead to the creation of a system to assess the functionality of MOPs in drug delivery. Future studies will investigate the use of various metals to direct the cellular processing of MOPs.

## Fiat Lux Spring 2018

**Student:** Frank, Brianna

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany; Susan Banks

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Effects of Altered Ethanol Concentrations in *Drosophila Melanogaster* Diets on the Expression of Nicotinic Acetylcholine Receptor Subunit Alpha 6 (nAChR $\alpha$ 6)

**Abstract:** The correlation between ethanol and nicotine dependence has been previously presumed, but studies at the molecular level at how these two drugs may interact are rare. Ethanol may increase the release of acetylcholine, activating dopaminergic neurons in the process through the use of nicotinic acetylcholine receptors (nAChRs). Although developments are being made, many questions remain regarding the alcohol-related changes in neuronal nAChRs expression. Knowledge gaps were filled by using reverse transcriptase PCR to identify differences in nAChR $\alpha$ 6 expression of wild type, DAS1 mutant and DAS2 mutant third instar larvae *Drosophila melanogaster* when exposed to 0% and 15% ethanol concentration. *D. melanogaster* were transferred to cages and labeled wild type, DAS1 or DAS2. Once the flies developed to third instar larvae, flies were transferred into wells with either sterile water (0% ethanol) or 15% ethanol for 10 minutes, with any behavioral changes in the larvae noted. The larval mRNA was extracted, converted to cDNA, and analyzed using reverse transcriptase PCR to determine expression of the nicotinic receptor. The difference in expression levels of the nAChR $\alpha$ 6 in WT, DAS1 or DAS2 with and without exposure to ethanol will be discussed and correlated to the effects of ethanol on dopaminergic neurons.

**Student:** Franz, Noah

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Allie Kaufmann

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Effects of Long-Term Chlorine Exposure on Antibiotic Resistance in Competitive Swimmer's Epidermal Microbiome

**Abstract:** Antibiotic resistance is steadily increasing among bacteria due to increasing exposure to antibiotics as well as chemical conditions that can promote gene transfer. Oxidative stress from water treatment plants has been linked to increased antibiotic resistant genes (ARG) and gene transfer in the microflora gene pool. Increased levels of chlorine and other oxidising agents in water treatment systems has lead to a more resilient microbiome. This study focuses on how long-term chlorine exposure can affect the epidermal microbiome of competitive swimmers. Tolerance of *Staphylococcus* strains isolated from the antecubital region of competitive swimmers and non-swimmers was measured in terms of colony forming units. Each strain was subject to oxidative stress tests followed by antibiotic treatment to determine the effect of ARG transfer in strenuous environments. The antibiotic resistance levels of the isolated *Staphylococcus* samples was analyzed with eight different antibiotics. The results compare the resistance characteristics of the epidermal microbiome between competitive and non-swimmers is discussed.

## Fiat Lux Spring 2018

**Student:** Funka, Melanie

**Major:** Theatre Arts: Musical Theatre

**Faculty Mentor(s):** Roll, Christianne

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Branscomb 201

**Title:** The Influence of Shakespeare on Musical Theatre

**Abstract:** William Shakespeare, also known as “The Immortal Bard,” is one of the most influential writers in world history (poets.org). His plays are classics and his sonnets are studied worldwide. Shakespeare coined over 1,700 words and phrases still commonly used today, such as, “fashionable,” “wear my heart upon my sleeve,” and “Knock knock! Who’s there” (poets.org). While Shakespeare’s influence on literature is unquestioned, most people don’t think of Shakespeare when contemplating musical theatre. William Shakespeare is just as influential in the world of musical theatre as in the literature for which he is famed. Many popular shows are either based on plays of Shakespeare or adapted from them. These shows prove how Shakespeare is still relevant hundreds of years later in a genre in which he did not specifically work. This report analyzes how Shakespearean works were adapted to fit these new works and how these works have influenced modern society. Musicals based on Shakespearean works are analyzed as well as a work that depicts the life of Shakespeare.

**Student:** Glatz, Nicole

**Major:** Chemistry

**Faculty Mentor(s):** Bromfield Lee, Deborah

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 108

**Title:** Partial Synthesis of the Potential HIV Drug Stachybotrin D

**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 36.7 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 different binding properties than the drugs currently on the market, so it would work in instances where resistance has developed to existing therapeutics. 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 broken into three segments. This research is focused on the synthesis of one segment composed of a bicyclic ring and its stereochemically specific substituents. To obtain the desired product, the first reaction was a Robinson annulation using 2-methylcyclohexane-1,3-dione and 1-penten-3-one. Future synthesis plans include protecting the saturated carbonyl, methylating the alpha position on the unsaturated carbonyl carbon, reducing the methylated carbonyl to an alcohol in the dashed configuration, and removing the protecting group from the carbonyl.



## Fiat Lux Spring 2018

**Student:** Gotsch, Charles

**Major:** Accounting

**Faculty Mentor(s):** Falcon, Silviana

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 111

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

**Abstract:** The expansion of nontraditional equity investing and lending have created a financial disruption the private sector's financial services industry. As the practice and number of supply-side platforms continue to expand, so do the associated concerns and reservations about investor risk and fraud. 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's 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 P2P business lending, especially as it pertains to investor risk, funded company accountability, and potential gaps in federal regulatory compliance and oversight.

**Student:** Griffin, Kayla

**Major:** Business Administration

**Faculty Mentor(s):** LaSala, Erin

**Presentation Type:** Performance

**Presentation Time:** 6:00-6:20

**Room:** Branscomb 203

**Title:** The Choreographic Process

**Abstract:** I will be describing the choreographic process of dance. Last semester I created a piece for my choreography class that represented how time passes. Within this presentation I will show the dance but also speak through it to help the audience understand all of the work and creativity that goes into creating a piece whether it is dance, art, or music. This piece is even more interesting because it is not set to music but rather a soundscape. Every choreographer creates differently and I would love to give the audience a look inside the mind of my process.

## Fiat Lux Spring 2018

**Student:** Griner, Jake

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Le, An-Phong; Deborah Bromfield Lee

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 108

**Title:** Optimizing Whisky Consumption for Maximum Flavor: Where's the Data?

**Abstract:** The international whisky market is extremely large and valuable: a few billion liters of whisky are consumed each year and the industry is worth tens of billions of dollars. Despite the size of the whisky industry, there is surprisingly little data on the science of how to optimize the taste of whisky. Several factors contribute to the taste of whisky: such as serving temperature, dilution, decanting, and others. Whisky connoisseurs often have opinions about these differences in serving protocol: some would say that adding water is sacrilege, while others say dilution gives maximum flavor. This project will investigate the science behind these various claims in an attempt to answer questions like “what is the ideal temperature to serve whisky at,” “does dilution change flavor,” and “does exposure to air lead to oxidation and flavor changes?” In addition, this project will look at whiskies of various prices to determine if there is a chemical basis for the perceived increase in quality associated with higher price. This talk will include an overview of sensory perception and food volatiles, a summary of the work which has already been done in this field, and parallels to similar studies in the wine industry.

**Student:** Gude, Sierra

**Major:** Theatre Arts

**Faculty Mentor(s):** Albright, Mary T

**Co-presenters:** Taylor Pugh, Lauren Holland

**Presentation Type:** Performance

**Presentation Time:** 6:40-6:55

**Room:** Branscomb 202

**Title:** Down on Thebes Row

**Abstract:** In our Script analysis class we learned how to properly dissect and understand how a show is written and meant to be seen. Over the course of this semester, we as a class, created and took part in several assignments and group projects that allowed us to better understand the shows we were reading as well as to get us out of our comfort zone's. This semester was both challenging and amazing as well as being a great stepping stone to help us in our future theatre careers. The following performance is a mashup of two plays that we did an analysis on in class, “Little Shop of Horrors” and Oedipus. Our protagonist and his love endure a terrible epidemic after a night of romance and a prophecy come to life. The chaos that is brought on to them is coupled with wacky side characters, unimaginable horrors and a few catchy musical numbers. This is life down on Thebes Row!

## Fiat Lux Spring 2018

**Student:** Guida, Danielle

**Major:** Elementary Education

**Faculty Mentor(s):** Rakes, Lori; Rebecca Powell

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Spiraling Back with Long Vowels

**Abstract:** This research was a case study done on a male elementary school student. The goal was to find if on weekly interventions on spelling long vowel patterns – using multisensory instruction, a variety of formats, and the spiral approach – would improve the ability to read and spell long vowel patterns in students with dyslexia. Research was done to identify appropriate interventions to teach phonics to students with reading difficulties. The participant in this study was at a 2.5 reading level in the fourth grade. The researcher met with him weekly for 30 minutes over the course of 12 weeks. Introductory assessments over the components of reading were given to the student to identify where his challenges were. Once phonics was determined to be his challenge, the researcher began weekly interventions and assessments to improve his ability to read and spell long vowel patterns. This study shows that by introducing long vowel patterns in a systematic and repetitive way, students can make gains. If instruction is multisensory, varies in format, and constantly spirals back, then students will have the opportunity to take in information thoroughly.

**Student:** Guida, Juliana

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Abigail Garcia

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** A Comparison of the Antimicrobial Efficacy of Hydrogen Peroxide and Multipurpose Contact Lens Disinfectants in Eliminating Bacterial Pathogens

**Abstract:** The increased risk of ocular infection with contact lens usage has been identified as a major public health concern, sparking research among scientists to determine the reason behind this correlation. Recent studies have confirmed that some marketed contact solutions that claim to eradicate the bacterial pathogens that lead to ocular infections do not have a suitable level of antimicrobial activity. The purpose of this study was to compare the antimicrobial efficacy of two types of marketed contact lens disinfecting solutions, hydrogen peroxide and multipurpose, in eliminating bacterial pathogens. Six contact solutions, both name brand and generic, were tested against the bacterial strains *Staphylococcus epidermidis*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Escherichia coli*. The antimicrobial efficacy was evaluated using the ISO Stand-Alone Test, which measures the log reduction or number of microbes eliminated after exposure to disinfectant. The ISO standards for stand-alone testing require a 3-log reduction for bacteria, or in other terms, a 99.9% elimination of bacteria after disinfection. After completion of this study, it was determined that all solutions exhibited adequate disinfection against all of the tested microorganisms and can be labeled as a disinfectant. In addition, it was determined that the brand name did not influence the disinfection efficacy.

## Fiat Lux Spring 2018

**Student:** Hannigan, Sam

**Major:** Theatre Arts: Theatre Performance

**Faculty Mentor(s):** Bawek, Paul

**Presentation Type:** Performance

**Presentation Time:** 5:50-6:20

**Room:** Branscomb 201

**Title:** Fashion and Costumes Throughout History

**Abstract:** As a senior Theatre Performance major, who almost got a second degree in Technical Theatre, I felt it was important to meld both of my worlds together for my senior project. My project as a whole is a look at fashion and costumes throughout history. In case the title of my piece didn't give that away. The show, which isn't the typical one act play, is a mix of presentation and performances. The show will consist of a PowerPoint presentation where I will talk about my research of the different styles of fashion through time. The time periods I will discuss span from The Renaissance to Today. In addition to the presentation, there will be performances of scenes and songs set in 5 of the different periods I've researched. The performers, Jaimee, Kianna, Sam, Victoria, Zach, and I will be wearing costumes I built from scratch or bought, to showcase and bring to life what these garments would've looked like. I will give a mini look at what it really means to costume a show and talk about the process I went through with my own show.

**Student:** Hansen, Lauren

**Major:** Economics & Finance

**Faculty Mentor(s):** Connors, Joseph

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 111

**Title:** Drug Testing of Welfare Recipients

**Abstract:** The rise of drug testing in welfare programs has generated an interesting policy debate. Those in favor of the drug testing argue by testing and identifying drug users in the welfare system, taxpayer dollars will be saved. Those opposed argue that the implementation costs of the drug testing are actually much greater than the money saved by preventing welfare payments to those who use drugs. Moreover, these laws have been challenged in a few states, including Florida, because they violate a citizen's right to privacy as protected by the U.S. Constitution. Another concern is potential adverse effects for minority groups. Recent research has highlighted the racial disparities involved in drug sentencing laws, which may imply the same or similar disparities in the drug testing of welfare recipients. The goal of my thesis is to analyze welfare and drug use data to measure the following: Is drug testing effective in reducing state and federal expenditures from a cost benefit perspective? Does drug testing of welfare recipients result in any racial disparities? Finally, based on these results, what is the proper role of drug testing in how we formulate policy regarding government assistance?

## Fiat Lux Spring 2018

**Student:** Harper, Caitlin

**Major:** Citrus

**Faculty Mentor(s):** Wolovich, Christy; Malcolm Manners, John Griffis

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Establishing an Ideal Horticultural Protocol for Producing *Dracaena* sp. Nov. 'Ruth Luka' and 'Waikiki'

**Abstract:** Nurseries rely upon the results of scientific research to understand how to grow new crops effectively. *Dracaena* are native to humid and tropical climates and are acclimated to shade making them ideal indoor house plants in tropical areas. The two varieties of *Dracaena* that were used in this study, 'Waikiki' and 'Ruth Luka', were both discovered on the island of Mauritius. Previous genetic testing confirmed that they were indeed new undescribed species of *Dracaena*. I aimed to determine the optimal growing conditions for commercial production of this crop to achieve the best horticultural results. The plants were grown in two different types of potting mixes: 1) peat – a commonly used media that is harvested from peat forests and 2) coconut and volcanic cinders – an environmentally sustainable alternative. Plants were grown for three-months and plant height was measured as an indication of productivity. Additionally, plants were rated on their visual appeal by rating groups and measurements were made using a colorimeter.

**Student:** Harrison, Nicole

**Major:** Exercise Science

**Faculty Mentor(s):** Terrell, Sara

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 206

**Title:** The Influence of HUMAC Training on Balance and Range of Motion in an Achilles Tendon Repair Patient: A Case Study

**Abstract:** Introduction: Balance and range of motion (ROM) exercises are important aspects of an Achilles tendon rehabilitation program. The HUMAC balance board is a novel technology that trains and tests balance. Whether or not a HUMAC training intervention could improve balance and ROM in an Achilles tendon repair patient remained unclear. Purpose: The purpose of this study was to determine the influence of a 10-week HUMAC therapy intervention on balance and ROM in an Achilles tendon repair patient. Methods: An (n=1) Achilles tendon repair patient participated. The participant completed HUMAC balance exercises twice per week. Balance was assessed weekly using the HUMAC m-CTSIB test and the BESS test. Ankle ROM was measured five times. Data was analyzed using descriptive statistics and t-tests ( $\alpha \leq 0.05$ ). Results: The m-CTSIB declined, 144.4 to 142.8 ( $p < 0.153$ ). The average BESS errors declined from 3.71 to 1.71 ( $p < 0.046$ ). Plantarflexion increased (23.1%), dorsiflexion increased (380%), inversion increased (20.0%), and eversion decreased (-8.3%). Conclusions: Decline in BESS scores indicated improvements in balance capabilities, supported by ROM measurements and path length and velocity data from the m-CTSIB. The HUMAC balance board may be a practical intervention to restore normal functioning for Achilles tendon repair patients.

## Fiat Lux Spring 2018

**Student:** Hartzell, Kylie

**Major:** Psychology

**Faculty Mentor(s):** Goodmon, Leilani; Lori Rakes, Lisa Carter

**Co-presenters:** Carley Fischer

**Co-author(s):** Kate Vita

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** The Effect of Math Skill Mastery on Teaching Math Anxiety and Teaching Math Confidence in Pre-service Teachers

**Abstract:** Mathematics anxiety is a feeling of helplessness, tension, or panic when asked to perform mathematical operations (Tobias, 1998) and often leads to dread and avoidance of the subject (Bursal & Paznokas, 2006). Teachers who have mathematics anxiety tend to use less engaging teaching techniques (Bush, 1981), perpetuate their negative math attitudes in their students (Trice & Ogden, 1986), and avoid preparing lessons (Rakes, 2015). Teaching behaviors linked to mathematics anxiety degrade teaching effectiveness, leading to poorer student performance. Because math anxiety is negatively correlated with math teaching efficacy/confidence (Gresham, 2008) and a lack of preparation (Rakes, 2015), math anxiety contributes to a cycle of decreasing teaching confidence, continued avoidance in preparing lessons, poorer student performance, and decreases in teaching math efficacy (which perpetuates additional increases in math anxiety). Thus, mathematics anxiety in teachers may be a greater hurdle to mathematics learning in students than deficiencies in our schools and teacher preparation programs (Martinez, 1987). There is evidence that mastery of math teaching methods and skills through an instructional mathematics methods courses can reduce math anxiety in pre-service teachers (and possibly break this cycle of math anxiety and poorer teaching math efficacy) (e.g., Gresham, 2007). However, these studies often lack objective assessments of students' actual mastery of the content because they only measured subjective reports of content mastery via interviews and journal logs. Kontogianes (1974) found that increasing math knowledge and skills through individualized tutoring from the professor was associated with decreases in math teaching anxiety. However, personalized tutoring by professors is often infeasible or impractical. Therefore, the purpose of the current study was to determine if objective assessments of mastery of math knowledge and skills through an online, self-paced, and personalized math tutoring program (Khan Academy) within the context of a math instructional methods course, decreased pre-service teachers' math anxiety and increased their teaching math efficacy and confidence. Twenty-six education majors enrolled in a mathematics instructional methods course, completed baseline and end of the semester assessments of math anxiety (via the Mathematics Anxiety Rating Scale), teaching mathematics confidence (via the Teaching Mathematics Scale), and content knowledge of 3rd - 6th grade mathematics. Throughout the semester, these students completed the Khan Academy modules for grades 3 - 6 as part of their coursework. The Khan Academy assignments were worth 20% of their grade in the course. Results revealed a significant decrease in math anxiety and a significant increase in teaching math efficacy from baseline to post-test, especially for pre-service teachers who mastered the skills in the online program. The results provide support for the use of online, personalized tutoring math programs, such as Khan Academy, to improve math knowledge/skills, reduce math anxiety, and increase teaching math efficacy. These results are important because a larger percentage of pre-service teachers experience higher levels of mathematics anxiety than other undergraduates (Bursal & Paznokas, 2006). Thus, it is important to implement efficacious techniques designed to decrease math anxiety in pre-service teachers in order to enhance their future teaching effectiveness.

## Fiat Lux Spring 2018

**Student:** Hendrick, Sabrina

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Banks, Susan

**Co-presenters:** Emily Glidden

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Investigating Use of the Sea Lamprey, *Petromyzon Marinus*, as a Model to Characterize the Molecular Mechanisms of Parkinson's Disease

**Abstract:** Parkinson's Disease (PD) is a neurodegenerative movement disorder that affects approximately 10 million people worldwide. Current treatments for PD function to alleviate symptoms, but do not eliminate symptoms or stop progression of the disorder. The biology underlying the disorder is not well understood and there are only a few proteins, such as  $\alpha$ -synuclein, that have been linked to PD. Therefore, it is critical to investigate the cellular, molecular, and biochemical pathways that may lead to PD to identify novel targets for the development of new therapeutics. Many different model organisms have been used to study PD, but there are limitations in the information that can be gained from the current model organisms. Recently, *Petromyzon marinus* a sea lamprey has been proposed to study PD. Lampreys express PD related proteins and they have giant neurons that allow for easy visualization of cellular structures using microscopy. Here we will show data further characterizing that model and how it can be used to identify novel PD related proteins.

**Student:** Hilbert, Sarah

**Major:** Psychology

**Faculty Mentor(s):** Goodmon, Leilani

**Co-author(s):** Sheyenne Ridenour

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** The Effect of Confederate Clothing and Race on Change Blindness

**Abstract:** The purpose of the current study is to determine if change blindness rates varies as a function of confederate clothing and race. Participants of this study are exposed to a confederate change where the confederate is either of the same race, or of another race while wearing either perceived "normal" clothes (i.e. street clothes) or nursing scrubs. Therefore, researchers make three hypotheses. The first, participants will produce a higher rate of change blindness when the presented confederates are of a differing race than their own (i.e. a white participant will be less likely to notice a change in confederates if the confederates are of a different race), this is due to the other-race effect. The second hypothesis is that participants will demonstrate a higher rate of change blindness when the confederate are wearing nursing scrubs as opposed to street clothes. The last hypothesis the researchers make is that participants will experience the highest rate of change blindness when the confederates are of a differing race, as well as wearing nursing scrubs due to the combination of holistic processing and other-race effect.

## Fiat Lux Spring 2018

**Student:** Hilbert, Sarah

**Major:** Psychology

**Faculty Mentor(s):** Quinlivan, Deah

**Co-presenters:** Sydney Honroe

**Co-author(s):** Sheyenne Ridenour

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** Cellular Phone Anxiety and Retention Rates in a Classroom Setting

**Abstract:** There is a gap in previous research to examine whether there is a way to alleviate the anxiety that comes from students not being able to touch their phone. The current study is designed to examine how much cellular phone use affects memory and whether allowing participants to have scheduled technology breaks will decrease the negative effects on memory associated with cellular phones and anxiety. The researchers manipulated whether participants could take technology breaks or not while watching a 40-minute video on European Civilization using a single factor design with three levels (cellphone stowed away, cellphone out but no technology break, cellphone out with technology break). To make sure that the breaks were consistent, every group had a 90 second break, spaced 10 minutes apart. During these breaks, only the cellphone usage group was allowed to touch their cellphone. Participants in the other two conditions (cellphone stowed away, cellphone out but not allowed to use) received a break but were not allowed to use their cellular phones. Preliminary data supports our hypotheses in that those who were able to have technology breaks performed better than those who were not allowed to have technology breaks. These participants also reported less anxiety compared to the other groups. These findings have great implications for the classroom in that they demonstrate that allowing students to have technology breaks can increase student memory and attention all while decreasing student anxiety associated with not being able to touch their cellular phones.

**Student:** Hilbert, Sarah

**Major:** Psychology

**Faculty Mentor(s):** Law, Charlie

**Co-presenters:** Stephanie Rameriez

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** Predicting Student Retention and Adjustment

**Abstract:** Participants (n = 68) from student learning communities, and peer mentorship programs completed a survey during their first semester at a small private college in the southeast United States, which measured adjustment (Student Adaptation to College Questionnaire; Baker & Siryk, 1999), school commitment (adapted from the Organizational Commitment scale; Allen & Meyer, 1990), and perceptions of exclusion (Hitlan, Clifton, & DeSoto, 2006). We did not find support for our first hypothesis, which indicates that that organizational efforts to increase retention (e.g., learning communities) may not be effective in predicting student adjustment. However, our second hypothesis was supported. Those who felt excluded had lower levels of all types of adjustment. Furthermore, perceptions of exclusion were negatively related to school commitment, which supports our third hypothesis. The results of this research have important implications for institutions of higher education. Ensuring students feel included by their peers, their professors, and staff members may be more important than other institutional efforts aimed at student retention.



## Fiat Lux Spring 2018

**Student:** Hillier, Tyler

**Major:** Political Communication

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 209

**Title:** Keep Alcoholism Anonymous? How a New Approach to Alcohol Abuse Can Stop a Growing Public Health Issue

**Abstract:** Every day, millions of Americans enjoy alcohol for recreational purposes largely without incident. However, for thousands across the country, alcohol misuse has led to financial turmoil, deteriorating relationships, and even chronic disease and death. According to the CDC, from 2006-2010, there were 88,000 annual deaths related to alcohol; this includes alcohol poisoning, car crashes, and other risk-taking behavior. Moreover, the health effects of the prolonged over-consumption of alcohol, such as liver disease, heart disease and breast cancer, account for thousands of deaths across the country. In 2010, alcohol misuse alone cost the United States \$249.0 billion in medical costs, lost wages, lost productivity, and other damages. The purpose of this paper is to propose effective methods aimed at lowering alcohol related deaths and reducing the societal costs associated with this problem. Specifically, I propose treating alcohol abuse as a public health issue, offering preventative solutions such as yearly medical screenings, mental health evaluations, new regulations on the industry, and community based resources for the many problems borne from alcohol abuse. By re-framing our thought, and offering new solutions, the damage caused by alcohol abuse can be drastically reduced throughout our country.

**Student:** Hofer, Sarah

**Major:** Marine Biology

**Faculty Mentor(s):** Langford, Melanie

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 108

**Title:** Molecular Analysis of Oil Degrading Marine Bacteria Isolated from Central Florida Coastlines

**Abstract:** Bacteria that are capable of oil degradation play a large role in bioremediation of hydrocarbon based pollutants in their environment. After the events of the Deepwater Horizon oil spill, there has been a push to discover the species of hydrocarbon-degrading bacteria naturally present in an area and also to understand their metabolisms and precise role in bioremediation. The regulatory proteins produced by an organism dictates the components of oil it can metabolize and thus its role in a hydrocarbon degrading bacterial community. As part of our preliminary data, we cultured, isolated, and identified through 16s rRNA sequencing, marine oil degrading bacteria from the coastlines of Central Florida. However, the regulatory proteins utilized for hydrocarbon metabolism of many of the species we identified, such as *Marinobacterium stanieri* and *Pseudoalteromonas arabiensis*, are currently unknown. This proposed study will provide an understanding of the differences in protein regulation when facultative oil-degrading bacteria are exposed or excluded from a hydrocarbon enriched medium. Understanding the mechanism behind hydrocarbon degradation in less studied species will provide insight into how a complex marine bacterial consortium can completely metabolize naturally occurring and pollutant hydrocarbons.

## Fiat Lux Spring 2018

**Student:** Honc, Jordan

**Major:** Accounting

**Faculty Mentor(s):** Garr, Melissa

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 209

**Title:** Poder de una Mujer / Power of a Woman

**Abstract:** Today, the world as we know it is in a continuous state of controversy. Uproars and protests pertaining to gender, race, religion, and constitutional rights occur daily, and various acts of violence and oppression are all too common. Feminist Latin American author, Isabel Allende, addresses female oppression in two of her short stories, *Dos Cuentos* and *Una Venganza*. Yet, as she tells the stories of two female protagonists, Allende demonstrates the true power of a woman. The inner strength and innate power exuded by the female characters highlights the unique abilities of women and their gender roles. Despite the oppression experienced by the female protagonists in each of Allende's works, these stories challenge male dominance, yet reinforce the inherent gender roles of women.

**Student:** Howard, Jordan

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick; Leilani Goodmon

**Co-presenters:** Kylie Torres

**Co-author(s):** Brittany Groth

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** Advertisement Vignette Effects on Recognition Abilities in Student with Dyslexia

**Abstract:** Due to a focus on science, technology, engineering, and mathematics (STEM) within elementary curricula, there has been an impetus for a higher understanding about basic biological and chemical sciences (e.g., Erdogan, Navruz, Younes, & Capraro, 2016). Previous research has suggested that the implementations of visual metaphors into science pedagogy has enhanced retention of science-based content among varying levels of education (e.g., Hosler & Boomer, 2011). The purpose of the present study was to demonstrate how fictional advertisement vignettes may enhance understanding of chemical function of neurotransmitters in both children with and without dyslexia at the fifth-grade level. The current results demonstrated that understanding of neurotransmitter names (and respective actions in the body) was differentially influenced by the format of content that was presented to children with dyslexia and age-related controls. In terms of vocabulary recognition (i.e., the names of neurotransmitters), the implementation of images depicting neurotransmitter function helped age-related controls on a short-term (but not a long-term) test. Due to small samples, the current study may need to be replicated, but it is possible that previous intimations on neuroscience pedagogy (e.g., Zambetti-Smith et al., 2002) may be limited due to exposure to a complex vocabulary associated with neurotransmission.

## Fiat Lux Spring 2018

**Student:** Howard, Jordan

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick

**Co-author(s):** Alexandra Lutz, Kylie Torres

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** “Spreading” the Word: Enhancing Neuroscience Pedagogy through a Magazine Format

**Abstract:** Previous studies have shown that visual metaphors are a useful tool for classroom learning (e.g., Niebert, Marsch, & Treagust, 2012). The current research examined an alternative form of visual metaphors by utilizing fictional magazine spreads that depicted common hormones and their functions throughout the body. These materials were presented as stand-alone content, rather than as ancillary materials. Participants were assigned to one of four conditions: 1.) relevant ad, relevant text; 2.) relevant ad, irrelevant text; 3.) irrelevant ad, relevant text; and 4.) irrelevant ad, irrelevant text. Results demonstrated that in the short-term interval, the relevant text, relevant ad condition was significantly higher than all other conditions ( $ps < .001$ ). However, in the long-term interval, both conditions with relevant ads were significantly higher than the two conditions with irrelevant ads ( $ps < .05$ ), demonstrating that the advertisements led to better memory recall than the text-based information. No significant differences were found between any of the conditions for the mean self-engagement responses, however we did see trends where the two conditions with relevant advertisements were rated as being more engaging than the conditions with relevant text-based information.

**Student:** Howard, Jordan

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick

**Co-presenters:** Chloe Kindell, Erica Bitting

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** The Use of Ancillary Stimuli as Effective Pedagogy for Developmental Neuroscience

**Abstract:** Neuroscience content requires students to effectively apply biological principles of the nervous system to the study of human behavior (Crisp & Muir, 2012). While previous work has shown that graphic novelization is an effective tool, the notion of when such material is implemented (i.e., before or after a classroom lecture) has yet to be examined. The present study explored when ancillary content was delivered to participants (before or after lecture materials). No significant differences were found in multiple choice scores as a function of either video delivery (before, after) or type of supplemental material (graphic novel, text) ( $ps > .05$ ). We did, however, see data trends demonstrating that memory recall was the highest across all conditions when participants received graphic novels after a video lecture was delivered, which is consistent with previous research in our lab. We also found significant differences in self-reported engagement responses between graphic novel and text conditions, demonstrating that participants found the graphic novel supplements more engaging and useful, which is important for the implementation of materials to help convey complex biological materials.

## Fiat Lux Spring 2018

**Student:** Howard, Jordan

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Branscomb 203

**Title:** Graphic Novelization: Using Story Telling That is Out of One's Mind

**Abstract:** Previous studies have shown that metaphors are a useful tool for learning in the classroom (e.g., Niebert, Marsch, & Treagust, 2012), specifically through using graphic novelization. While there has been evidence to suggest that more biologically-oriented content may be difficult to grasp due to its complicated vocabulary, the use of graphic novelization has been implemented as a pedagogical tool to assist students who have weaker backgrounds in science (e.g., Aleixo, & Sumner, 2017; Hosler & Boomer, 2011). It has been found through numerous studies in our lab that graphic novels lead to better memory retention and are rated as being more engaging when compared to text-based information (see Smith, Goodmon, Ferrara, & Reynolds, 2016). However, we have not researched the effectiveness of graphic novels as a stand-alone metaphor to explain neuroscience content. This project proposes the idea to use graphic novels to depict different forms of dementia in the brain using a story of a zombie apocalypse to demonstrate the physiological aspects of dementia. We will compare the relative effectiveness of graphic novels (images and captions in story-form) to conditions with just images or just captions in story-form to find the best metaphor for learning neuroscience content.

**Student:** Hurley, Kenzie

**Major:** Psychology

**Faculty Mentor(s):** Goodmon, Leilani

**Co-presenters:** Mikaela Guido

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Benefits of Positive Psychology Courses and Attributional Style in Combatting Hurricane Fatigue

**Abstract:** Positive psychology is the empirical exploration of what makes life worth living with the aim of “making people lastingly happier.” However, major life events, such as natural disasters, can negatively impact well-being and hurricanes can induce “hurricane fatigue” that includes negative physical, psychological, and social effects. The purpose of the current study was to determine if the beneficial effects of positive psychological exercises (PPE's) can be replicated in two additional positive psychology courses, one of which was directly impacted by Hurricane Irma. Given the possible detrimental impact of hurricane fatigue on student's mental and physical health, another purpose is to determine if the well-being benefits are mediated by the intensity of hurricane fatigue as well as coping strategies, self-reported resiliency, and attributional style (i.e., optimism vs pessimism). Attributional or explanatory style refers to how one explains the causes of events. In contrast with optimists, pessimists tend to believe bad events are permanent, caused by internal factors, and generalize to other aspects of their lives. Additional research on attributional style reveals that compared to pessimists, optimists tend to cope more effectively with stress and exhibit higher levels of resilience, which is the ability to bounce back more easily from life stressors.

## Fiat Lux Spring 2018

**Student:** Iboy, Anthony

**Major:** Biotechnology

**Faculty Mentor(s):** Gasper, Brittany

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Determining the Performance of Cell Recombination of Viruses in Plant & Animal Cell Culture

**Abstract:** Non-lethal viruses involve the use of positive-strand single-stranded RNA or negative-strand double-stranded RNA genomes. In most cases, the effectiveness of genomes of deadly viruses varies depending on the location that they are most commonly discovered. In this project, the performance of cell recombination based on various non-lethal viruses from different countries will be further examined. By using various databases and gene recombinant software, various transformational processes will be observed to see which viral factors can express the best amount of virulence genes in plasmids based on the appearances of various plagues.

**Student:** James, W

**Major:** Communication: Broadcast, Print, & Online Media

**Faculty Mentor(s):** Allen, William; Matthew Herbertz

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 210

**Title:** Social Justice League: When Comic Books Reflect Culture

**Abstract:** Comic books have always been a part of the cultural zeitgeist since their conception. They have been on newsstands and in bookstores going as far back as the 1930's. While on the surface, it is safe to assume that comic books exist only to entertain, comic books also exist to say something about the culture at large. Art generally has something to say about the culture at large and comic books are just as capable of adequately reflecting what is happening in culture. If there was one aspect of the presentation that I want viewers to take away, it would be that I would want each audience member to think critically about comic books. They are more than just words and art. Comic books use story and art to help perceive and understand culture. This presentation will look at how comic books reflect society by pair of decades starting with the 1930's and 40's.

## Fiat Lux Spring 2018

**Student:** Jean-Baptiste, Derrick

**Major:** Psychology

**Faculty Mentor(s):** Nethery, H.A.

**Co-presenters:** Assia Angelini

**Presentation Type:** Panel

**Presentation Time:** 6:30-7:00

**Room:** Christoverson 208

**Title:** Behind the Mask of Humanity, Cosmic Pessimism in Action

**Abstract:** This presentation will be exploring the philosophy of cosmic pessimism by recreating central arguments found within it. After outlining these arguments we will apply them to the Shin Megami Tensei video game series, Persona, a piece of popular media that touches on the same themes. Going off of the cosmic pessimist foundation of this media, we will also touch on how it creates a base for the more anthropocentric Shinto ideas that evolve from it. By exploring philosophical thought through popular media we hope to make philosophy more accessible and encourage the wider application of critical thought found in philosophy to other areas of life. We found that when engaged through a piece of beloved media people are more receptive to analyzing their media on a higher level through philosophy.

**Student:** Jeddari, Jasmina

**Major:** Political Science

**Faculty Mentor(s):** McHugh, Kelly; Bruce Anderson

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 210

**Title:** Mind the Gap: Assessing the State Children Insurance Program

**Abstract:** The welfare and health of children has always been a longstanding social concern for policymakers in America. A number of American children are stuck in an “ineligibility gap” for health insurance. Specially, there are American families that are unable to afford marketplace insurance for their children, and are not eligible for Medicaid. The State Children Health Insurance Program (SCHIP), developed in 1997, was intended to cover virtually all low-income children at the state level. States have pursued three different approaches: separating the (SCHIP) program from Medicaid, expanding SCHIP as an extension of Medicaid, or offering a combination of Medicaid and SCHIP to those that qualify. This research compares and assesses three pragmatic approaches to the problem, and identifies a preferred policy that is most successful in providing health care for American children.

## Fiat Lux Spring 2018

**Student:** Johnson, Caitlyn  
**Faculty Mentor(s):** Garr, Melissa  
**Presentation Type:** Oral  
**Presentation Time:** 8:00-8:20

**Major:** Biology  
**Room:** Christoverson 111

**Title:** The Ambivalence of Green

**Abstract:** In centuries of literature color has served as a symbol for anything from emotion to groups of individuals. The color green, for example, has been more commonly utilized as a representation of positive sentiments such as renewal, nature, and life, however on occasion it has also been associated with jealousy, sickness, and even greed. The ambivalence of this particular color as a symbol motivates ambiguity and adds depth in the stories which utilize it. For example, in F. Scott Fitzgerald's *The Great Gatsby* the color green manifests itself as a symbol for hope that our protagonist, Jay Gatsby will end up with his lost love, Daisy Buchanan. However, at the same time its use to describe something seeming untouchable reinforces the idea that this hope is false. This ambiguity can be found in literature even beyond the U.S. For instance, in the works of Garcia Lorca green is regularly used, assumedly for its ambivalence, to represent desire and death simultaneously. In the course of this presentation this ambivalence will be further analyzed through comparison of *Romance Sonambulo* by Lorca and *The Great Gatsby* by Fitzgerald to show the parallelism in their use of green.

**Student:** Kast, Ann  
**Faculty Mentor(s):** Powell, Rebecca; Lori Rakes  
**Presentation Type:** Poster  
**Presentation Time:** 8:30-3:30

**Major:** Elementary Education  
**Room:** Honeyman Pavilion

**Title:** Case Closed: Using Graphic Novels to Enhance Reading Proficiency in a Third Grade Student

**Abstract:** The purpose of the poster research was to investigate the benefit of using graphic novels as a tool to increase reading fluency and to identify research-based fluency interventions to increase rate and prosody (expression) in a third-grade male student with diagnosed dyslexia. Through initial assessments, data analysis, and research, I designed weekly research-based interventions to improve my case study student's reading fluency. For twenty minute periods once a week, I used the graphic novel *Lunch Lady* and the *Cyborg Substitute* in conjunction with three established fluency intervention models (modeled reading, echo reading, and repeated reading) in order to encourage my student to actively think about how to exhibit conversational reading rate and expression. On the initial fluency assessment (administered 9/27/2017), the student read 15 WCPM (Words Correct Per Minute) with minimal expression, which placed him below the twenty-fifth percentile for third-grade students. On the final fluency assessment (administered 12/6/2017), the student read 39 WCPM with heightened expression, which placed him directly in the twenty-fifth percentile. Based off of the results, graphic novels proved to be an effective tool for increasing reading rate and prosody. Additionally, the combined use of modeled reading, echo reading, and repeated reading helped to increase reading rate and the student's awareness of his expression while reading.

## Fiat Lux Spring 2018

**Student:** Kessler, Zachary  
**Faculty Mentor(s):** Dnes, Antony  
**Presentation Type:** Oral  
**Presentation Time:** 8:20-8:40

**Major:** Economics & Finance  
**Room:** Christoverson 206

**Title:** The Pursuit of Peace: Using Trade to Save the World

**Abstract:** The economic benefits of trade are already well documented. Most nations openly and freely engage in the act in order to grow their economy, expand production possibility, and obtain new products. While as of recent trade seems to be under attack politically, from the academic perspective, there is nearly unanimous agreement to its positive results. However, there are potentially other benefits that can emerge from trade. The philosopher Immanuel Kant proposed that economic connections between states could be a path to peace. Further scholars have also examined and researched this idea. This paper will determine the relationship between the amount of trade and number of armed conflicts between foreign powers. Another important aspect of trade is the level to which it is regulated. The project will also determine if tariffs impact these conflicts. By determining if not only the amount of trade, but also its regulation, is related to conflict between two nations, then foreign policy can be altered in such a way to address this new information and the world can finally achieve something it has sorely lacked in its history, lasting peace.

**Student:** King, Jordan  
**Faculty Mentor(s):** Law, Charlie  
**Presentation Type:** Oral  
**Presentation Time:** 6:40-7:00

**Major:** Psychology  
**Room:** Branscomb 203

**Title:** Roles of Gender and Occupation in Biased Perception of Professionals

**Abstract:** Research shows that female professionals are viewed more negatively than males (Abel & Meltzer, 2007; Aldoory & Toth, 2004; White & Ozanlı, 2011), and are more likely to experience gender discrimination in male-dominated careers (Bobbitt-Zeher, 2011). This may be especially relevant to Science, Technology, Engineering, and Mathematics (STEM) professionals. People tend to associate STEM occupations with masculinity than non-STEM jobs (White & White, 2006). There is limited literature regarding the role of sexism in predicting attitudes toward women in stereotypically masculine jobs. The current study will investigate how a professional's gender and their occupation's stereotypical masculinity affect participant perceptions and the role of ambivalent sexism in predicting those attitudes. Specifically, we predict that participants will tend to view women and men in non-gender-congruent occupations more negatively. Participants will read one of four vignettes and complete a survey assessing their views of the professional and degree of ambivalent sexism. The vignettes differ on gender (male vs. female) and job-type (doctor vs. school teacher).



## Fiat Lux Spring 2018

**Student:** Koetter, Paige

**Major:** Biology

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Tabatha Lehmann, Samantha Woerle, Felicia Coursen, Mara Lammeyer, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 8:00-8:10

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

**Student:** Koetter, Paige

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-author(s):** Shirley Viteri, MD; Hannah Stinson, MD; Erica Stevens, RN; Meg Frizzola, DO

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 206

**Title:** Evaluation of an Electronic Screening Tool for Identification of Children at Risk for Sepsis

**Abstract:** Nemours/A.I. duPont Hospital for Children has developed an electronic screening tool to alert providers to children at risk for sepsis and septic shock. A shock score, ranging from 0 to 110, is dynamically calculated by the electronic medical record based on abnormal vital signs and clinical findings. At a score of 45 the patient is assessed at a shock huddle. The aim of this study was to evaluate the novel electronic screening tool. In addition, this study looked to determine the relationship between shock score and the pediatric early warning score (PEWS). 1,748 admissions were screened with the shock tool and 120 of the admissions resulted in a shock huddle. A retrospective chart review of the 120 shock huddles yielded information on demographics, interventions, and transfers. 40% of shock huddles necessitated interventions and the average age of the cohort was 11.7 years (IQR 9.5, 15). Additionally, 179 events (shock huddles, rapids responses, and code blues) were reviewed by retrospective chart review to determine the relationship between shock score and PEWS. The results showed an unexpected negative correlation. Further study is needed to evaluate this unexpected relationship and describe the impact of the shock tool on patient outcomes.

## Fiat Lux Spring 2018

**Student:** Krantz, Jackie

**Major:** Biology

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Tabatha Lehmann, Samantha Woerle, Paige Koetter, Mara Lammeyer, Felicia Coursen

**Presentation Type:** Performance

**Presentation Time:** 8:20-8:30

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

**Student:** Lameyer, Mara

**Major:** Biology

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Tabatha Lehmann, Samantha Woerle, Felicia Coursen, Paige Koetter, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 7:50-8:00

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

## Fiat Lux Spring 2018

**Student:** Layson, Coby

**Major:** Biology

**Faculty Mentor(s):** Wolovich, Christy; Jamielyn Daugherty

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Effect of Above-soil Water Conservation Products on Abiotic and Biotic Factors During Growth of Lagerstroemia

**Abstract:** Water conservation is a significant issue within the agricultural and horticultural communities; especially with rapid desertification and overconsumption of water associate with climate change. Above-soil water conservation products are designed to centralize water to the root system only as well as increase soil moisture, surface humidity, and surface temperature. We aimed to determine which above-soil water conservation products, black and white Tree T-Pees® or Treegators®, was most effective in Lagerstroemia, the Crape Myrtle. We found that there were significant differences in soil moisture levels between trees grown with the water conservation products and trees in the control group, which were provided with drip irrigation. Trees with water conservation products also began budding nearly twice as fast as those without them. These data provide insight to how farmers and nurseries can conserve water, while also providing better growing conditions for their plants. These products will also provide an efficient growing measure alternative for regions that experience drought and water scarcity.

**Student:** Lehmann, Tabatha

**Major:** English

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Paige Koetter, Samantha Woerle, Felicia Coursen, Mara Lammeyer, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 7:40-7:50

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

## Fiat Lux Spring 2018

**Student:** Little, Eileen

**Major:** Theatre Arts: Musical Theatre

**Faculty Mentor(s):** Roll, Christianne

**Presentation Type:** Oral

**Presentation Time:** 7:00-7:20

**Room:** Branscomb 201

**Title:** The Progression of Female Speech Patterns in American Musical Theatre in Relation to Pop Culture

**Abstract:** I will be exploring how female icons in the Golden Age of Musical Theatre (1943-1959) may have influenced the speech patterns and range of women of the time, in general. My research could possibly lead me to find that the opposite is true, that the way women in general already spoke, influenced the sound of the Golden Age of Musical Theatre. Additionally, I will be doing the same research on the voices of Modern Musical Theatre (2000-2017). I will then compare the results of what I find from each period, by interviewing women from both time periods on what they hear or have heard from both time periods. Then I will compare the vocal and speaking ranges of the females of the Golden Age of Musical Theatre and the Modern Age of Musical Theatre, to see if there have been any significant or notable changes over time.

**Student:** Mabile, Risley

**Major:** Chemistry

**Faculty Mentor(s):** Pepino, Ronald

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 109

**Title:** Misconceptions in Physics: Acceleration Without General Relativity

**Abstract:** In undergraduate modern physics courses, it is common that special relativity comprises the majority of what relativity is discussed, with only a brief mention of general relativity and its postulates. This is likely because of the prohibitive difficulty of having any detailed discussion of general relativity. There is a common misconception – even amongst some physicists – that general relativity is required to model situations with acceleration, and it is likely that this is a result of the way that relativity is discussed in a modern physics course. 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 switch of inertial frames. To keep things simplified, cases such as the twin paradox are used which have only one, instantaneous change in velocity. This can lead to the misconception that special relativity can only discuss inertial activity. This is not the case, and the ability to solve problems involving acceleration can easily be shown through specific, worked examples, such as the case of the twin paradox involving a more realistic acceleration. Using these examples, it is argued that acceleration in special relativity should be covered more adequately at the undergraduate level.

## Fiat Lux Spring 2018

**Student:** Martinet, Kristen

**Major:** Biology

**Faculty Mentor(s):** Langford, Gabriel

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 206

**Title:** A Comparative Analysis of the Commensal Diversity of Two Gopher Tortoise Populations in Central Florida

**Abstract:** Gopher tortoises (*Gopherus polyphemus*) are known as a keystone species because hundreds of commensals, animals that use burrows for shelter and foraging, frequent their burrows. Commensal diversity varies based on location and the age of the gopher tortoise community. However, no studies have accessed how commensal communities respond to gopher tortoise reintroductions. To determine the difference in commensal diversity between gopher tortoise populations, this study surveyed the commensals present in two Environmental Lands Program properties in central Florida: Circle B Bar Reserve (CBR), which has a relocated gopher tortoise population, and Lakeland Highlands Scrub (LHS), which has an undisturbed population. Pit fall traps, motion-activated field cameras, and a burrow camera were used to survey the burrow commensals both sites. Over 200 individual commensals spanning over 30 different species were found at each site during an eight-week sampling period. The distribution of species at each site was analyzed using Shannon's Diversity Index, and the two sites ultimately did not have statistically significantly different commensal diversity. The similarity of commensal populations could be attributed to the similarity of plants around the burrows and the existence of other burrow-dwelling species at CBR that allowed burrow commensals to live there without gopher tortoises.

**Student:** Marusko, Robert

**Major:** Biology

**Faculty Mentor(s):** Eubank, Jarod

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 207

**Title:** Exploration of Copper Based Metal Organic Frameworks

**Abstract:** In recent years, the field of metal-organic frameworks has seen dramatic increases in interest and exploration. Metal-organic frameworks, commonly referred to as MOFs, have been shown to be excellent candidates for the storage of fuels, capture of 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 field that has burgeoned more recently is the biomedical applications of these frameworks, and a particularly interesting area is their use as antimicrobial agents, which has direct correlations and implications to the fields of dentistry and medicine. One purpose of this particular project is 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) will be utilized for structure and phase confirmation. The expected bioactive materials will then be evaluated for their antimicrobial properties. Depending on the results, the materials can be tailored to access/include different factors (e.g., coordination/encapsulation of drug molecules) which may contribute to increasing the effectiveness of these properties.

## Fiat Lux Spring 2018

**Student:** McKenna, James

**Major:** English

**Faculty Mentor(s):** Bernheim, Erica

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 109

**Title:** Poetry Reading

**Abstract:** In her essay entitled “Poetry Is Not a Luxury,” Audre Lorde explains that “it is through poetry that we give name to those ideas which are—until the poem—nameless and formless, about to be birthed, but already felt.” This idea serves as the place from which my chapbook springs forth. Through my collection of poems, I plan to explore my queer, Asian diasporic, and biracial identities that have gone unspoken, but have certainly always been felt. Poetry is as much an affirmation that the poet is here as it is a declaration that they—and those they represent—are not going anywhere, refusing to continue being forgotten. For Fiat Lux, I will be reading six poems that are strung together by this theme, and will hold a brief discussion with questions and answers after.

**Student:** Meyer, William

**Major:** Communication: Interpersonal &  
Organizational Communication

**Faculty Mentor(s):** Mackie, Cara

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 207

**Title:** The Implications of Nonverbal Mirroring

**Abstract:** This presentation will cover the beginning of a qualitative study about Nonverbal Mirroring - the replication of another person’s nonverbal cues and ticks. Specifically, the study will examine whether agreement in opinion has any influence on whether or not a person is more likely to mirror another person’s nonverbal communication. Simply put, “Do we mirror the people that we agree with?” Participants will undergo a study in groups of three where they will be observed in the ways that they interact with each other, and the data collected will be analyzed for patterns of nonverbal mirroring. The presentation will introduce the concept of Nonverbal Mirroring, some themes of nonverbal communication that are expected to be encountered during the study, past studies of similar nature, and the methodology behind the study.

## Fiat Lux Spring 2018

**Student:** Mitchell, Allyson

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Sabra Washington

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Impact of Commercially Sold Dietary Supplements on Life History Traits in *C. elegans*

**Abstract:** Due to the rise in desire and popularity of commercially sold supplements, it is necessary to study their effects on the human body. Federal law does not obligate that supplements meet FDA requirements before they are marketed, therefore, hardly any research is done. Despite the lack of knowledge surrounding the world of dietary supplements, nearly 70% of people within the US consume supplements generating a revenue of \$14 billion per year. *Caenorhabditis elegans* are ideal model organisms because they are eukaryotes with DNA and have the ability to produce RNA and proteins similar to humans. To investigate the effects of six commercially sold supplements, stock solutions of each supplement was made in four different concentrations and plated along with a bacterial food source and the *C. elegans*, to test life span, fertility, and activity. The method consisted of nematode growth agar (NGM) plates with killed versions of their feeding strains and each respective supplement with a variation of four different concentrations streaked onto the plates. The supplements on top of the bacterial food source were taken up by the *C. elegans* located on the plate. The varying effects of the supplements on the *C. elegans* will be discussed.

**Student:** Morgan, Sophie

**Major:** Marine Biology

**Faculty Mentor(s):** Wolovich, Christy; An-Phong Le

**Co-presenters:** Campbell Peck

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The effects of Marine Antifouling Paint on *Crassostrea virginica*, and the Potential for Biomagnification in *Callinectes sapidus*

**Abstract:** Marine antifouling paint (MAP) is the primary method for reducing biofouling; the accumulation of biogenous material on submerged structures. This paint is comprised of heavy metals having been previously found to affect reproduction rates and cause cancer. These pollutants are entering the marine ecosystem through their common usage, in this study the possibility of bioaccumulation and potential for biomagnification of MAPs was observed. Oysters were chosen as they are filter feeders and a primary consumer. Blue crabs (*Callinectes sapidus*), were also tested, as they are a natural predator of the oyster. Ninety-six Eastern oysters (*Crassostrea virginica*) were introduced to varying amounts of two popular MAP's in three different trials. We compared levels of heavy metals in the water before paint was added, hour zero, and 24 hours after addition, using an atomic absorption spectrometer. Contaminated oyster meat was then fed to the crabs to test behavior and mortality in hopes of showing biomagnification occurring. We found that, at higher concentrations of paint, oysters were less able to filter water effectively. Interestingly, metal-free Sea Hawk Smart Solution had a higher mortality rate, as well as increased algal growth.

## Fiat Lux Spring 2018

**Student:** Morton, Emma

**Major:** Theatre Arts: Theatre Performance

**Faculty Mentor(s):** Bawek, Paul; James Beck, Mary T Albright, Laura Bertschinger

**Presentation Type:** Performance

**Presentation Time:** 7:00-7:10

**Room:** Branscomb 202

**Title:** Emma Noelle: A Peek into the Life of an Actress

**Abstract:** During my time here at Florida Southern I have dedicated countless hours of my life to performing and enhancing the skills that my craft requires, both on stage and off of it. Now that I am finally going off into the “real world” I want to use my presentation time to show the audience what it really means to be an actress in today’s society. I will perform a few pieces live from my audition package, as well as present my professional acting website, resume, headshots, my personal branding, and explain the reality of being a performer. The pieces I select will be between 45 seconds and a minute long so that I can demonstrate the full range of my acting abilities. This will also be a time where audience members can get a sneak peak at my upcoming senior project, which will take place this coming fall.

**Student:** Norrstrom, Helena

**Major:** Exercise Science

**Faculty Mentor(s):** Terrell, Sara

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 208

**Title:** Lower Extremity Kinematics For Division II Female Soccer Athletes Executing a Drop-Landing Task: A Comparison Between Landing on Stable and Unstable Surfaces

**Abstract:** Introduction: Female athletes suffer anterior cruciate ligament (ACL) injuries 4-6 times more than male athletes. Attenuating forces through joint flexion can control unsafe landing loads. This study assessed lower body kinematics during single-leg drop-landing tasks onto stable and unstable surfaces. Methods: Sixteen Division II female soccer players performed three single leg drop landings onto the floor, an Airex pad, and a Shuttle Balance™. Kinematic measures at the left and right ankle, knee and hip were assessed with Dartfish™ video analysis. Results: Total joint angle changes ( $\Delta$ ) at the left and right ankle, knee, and hip from initial contact to lowest landing point demonstrated greater joint flexion when landing on the floor ( $\Delta$ -201.85°), compared to the Airex ( $\Delta$ -196.43°) and the Shuttle Balance™ ( $\Delta$ -178.93°). Knee angle at initial contact was most reduced on the Shuttle Balance™ ( $\Delta$ -72.02°) compared to the floor ( $\Delta$ -83.46°), and Airex pad ( $\Delta$ -85.60°). Significantly larger total knee flexion occurred on the floor compared to the Shuttle Balance™ ( $p < .001$ ). Conclusions: The knee flexion angle at initial contact and total knee range of motion was reduced as the instability of the landing surfaces increased, indicating potential injury risk and a need to incorporate preventative training to master landing challenges.



## Fiat Lux Spring 2018

**Student:** Nottage, Christopher

**Major:** Psychology

**Faculty Mentor(s):** Nottage, Leilani

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Relationship Between Intense Hands On Learning and 2D and 3D Mental Rotation Ability in Chemistry Students

**Abstract:** The purpose of the current study is to determine the relationship between mental rotation ability in chemistry students and hands in learning. Chemistry students are required to have a knowledge of certain concepts such as atomic shape, molecular shape, chemical bonding, and chemical reactions (Huang & Lui, 2013). Previous research suggests that psychology students who have had hands on learning have score better on mental rotation exams compared to students who have not had the training (Smith et al., 2012).

**Student:** Ntagungira, Michel

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 210

**Title:** If Performance Enhancing Drugs are Illegal for Athletes.... Then Photoshop Should be Illegal to Models

**Abstract:** At the highest levels of sports today, the use of performance-enhancing drugs is so widespread that, when we're watching these pro-athletes, it's hard not to wonder how many have used these drugs. From the Tour de France to the MLB, from the NFL to the NBA, our admiration for the world's best athletes is increasingly undermined by a single, persistent question: Did they have illegal help, and, if so, how much? To make matters worse, this issue has turned into an arms race between increasingly sophisticated forms of cheating on one hand, and better detection and punishment on the other. So to solve this, should athletes have the freedom to do what is necessary to be the best at what they do or should rules and regulations on performance-enhancing drugs stay as they are?

## Fiat Lux Spring 2018

**Student:** Ojeda, Angelimarie  
**Faculty Mentor(s):** Foley, Linda  
**Presentation Type:** Poster  
**Presentation Time:** 5:30-6:45

**Major:** Nursing  
**Room:** Honeyman Pavilion

**Title:** Metformin and Infertility Due to PCOS

**Abstract:** Polycystic ovary syndrome (PCOS) is a disorder that can lead to infertility. Metformin has been used to treat the insulin resistance that PCOS can cause, and its use for ovulation induction in conjunction with other fertility drug has been highly debated. This literature review sought to answer the following question: In women with PCOS how does metformin affect pregnancy outcomes? It was found that metformin treatment in conjunction with standard fertility drugs such as clomiphene citrate and gonadotropins, increases the ovulation rate, the pregnancy rate, the live birth rate and decreases the risk of ovarian hyperstimulation syndrome (OHSS). In some studies, metformin also decreased the rate of canceled cycles of IVF and decreased the rate of early pregnancy loss and preterm delivery.

**Student:** O'Keefe, Lauren  
**Faculty Mentor(s):** Roll, Christianne  
**Presentation Type:** Oral  
**Presentation Time:** 8:00-8:20

**Major:** Theatre Arts: Musical Theatre  
**Room:** Branscomb 201

**Title:** The Change of Broadway Ensembles and Swings!

**Abstract:** What has been the change in the Broadway ensemble/swings from the beginning of the Golden Age of musical theatre to present day, what is the cause? The Broadway ensembles are much smaller; shows consisted of a cast of more than thirty ensemble members were as today there are no productions that include that many ensemble contracts. Another difference is what is happening backstage with the swings. Swings are actors that cover tracks in the show and there are multiple swings per show. Nevertheless, in 1968 there were only two actors credited for being a swing. In my opinion, the biggest change is what is expected from the ensemble, there used to be a dancing ensemble and a singing ensemble, it really was not until Oklahoma! (1943,) that dancers had to be able to act. However, now the ensemble members are now requiring to be a triple treat meaning being able to sing, dance, and act. Some shows even require the ensemble to tumble and play instruments as well. To further my research past the Internet and books I am going to reach out to members of whom are currently or have been a part of a Broadway ensemble.

## Fiat Lux Spring 2018

**Student:** Orsini, Alyvia

**Major:** Biotechnology

**Faculty Mentor(s):** Banks, Susan

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Effect of EPI on Cardiomyocytes Under Induced Stress Caused by H<sub>2</sub>O<sub>2</sub>

**Abstract:** The leading cause of mortality in America is cardiovascular disease (CVD), which includes numerous problems like heart attack and strokes. During a heart attack, cardiomyocyte cell apoptosis leads to irreversible cell damage and long-term problems. The flavanol epicatechin (EPI), which can be found in cocoa or dark chocolate, has been used in several studies and shown positive effects on the growth and development of cardiomyocyte cells. This research focused on adding EPI to cardiomyocyte cells in vitro and studying the effects under induced stress from the addition of H<sub>2</sub>O<sub>2</sub> to the medium, which mimics the effects of a heart attack. Results were examined using cell death count in order to study the effects of adding EPI and H<sub>2</sub>O<sub>2</sub> to the medium. Ideally, immunofluorescence staining would have been used to study the amount of actin and alpha-actinin, which are a major part of the CDC42 pathway within the cardiomyocytes. Several smaller pathways within CDC42 directly affect the development of actin. There was a correlation of decreased cell death with the addition of EPI while under induced stress from H<sub>2</sub>O<sub>2</sub>. Unfortunately, the immunofluorescence staining did not work, however future research should include this.

**Student:** Osborne, Alyssa

**Major:** Marine Biology

**Faculty Mentor(s):** Taylor, Kristian

**Presentation Type:** Oral

**Presentation Time:** 8:20-8:40

**Room:** Christoverson 108

**Title:** A Proposed Study on the Visual Acuity of the Photoreceptors on the Telson of *Limulus polyphemus*

**Abstract:** The genus *Limulus* is approximately 235 million years old and has been very successful, surviving multiple mass extinction events. This has led to the genus being widely studied with some of the focus on their visual system. There have been numerous papers investigating the impacts that the photoreceptors have on the circadian clock of the organisms. Preliminary research has been conducted on the photoreceptors located in the telson, the spine located on the posterior of the organism, but it has not yet been determined if these photoreceptors are used for anything other than the circadian rhythm. To determine the visual acuity of the telson a stimulus and light will be used to cast a shadow over *Limulus* specimen to see if a flight response is elicited. In order to make sure that only the telson is exposed to light, the rest of the visual system will be impaired. If a flight response is elicited, this would suggest that the photoreceptors on the telson are responsive to visible light.

## Fiat Lux Spring 2018

**Student:** Parker, Nicolas

**Major:** Theatre Arts: Musical Theatre

**Faculty Mentor(s):** Roll, Christianne

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Branscomb 201

**Title:** From George Gershwin to Lin-Manuel Miranda: What Makes a Pulitzer Prize-Winning Musical?

**Abstract:** In 1931, the George and Ira Gershwin's hit musical 'Of Thee I Sing' was the first musical to win a Pulitzer prize. 87 years and countless musicals later, only 8 more musicals have received this honor. What makes a Pulitzer Prize-winning musical? In this presentation, I will be comparing the 9 winning titles and analyzing the selection process for the Pulitzer prize.

**Student:** Pericone, Lauren

**Major:** Nursing

**Faculty Mentor(s):** Foley, Linda

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Assisted Reproductive Technology and its Global Impact on Maternal and Fetal Health

**Abstract:** Assisted reproductive technology made a grand entrance in 1981 as a method of infertility treatment. Five million babies born through assisted reproductive technology are not all healthy and pose negative consequences for our healthcare system. A literature review was completed to answer the question: In singleton pregnant, women, what is the effect of assisted reproductive technology on maternal and neonatal outcomes? Assisted reproductive technology was found to have negative outcomes on both maternal and fetal health. These outcomes included gestational hypertension, preterm birth, and low birth weights. In addition to the consequences to mother and fetus, the cost and demand for resources within health care systems has increased, directly affecting health care providers. Finally, assisted reproductive technology, as a cure for infertility, does not address the underlying causes such as endometriosis, which can lead to the negative outcomes mentioned previously. The negative consequences of assisted reproductive technology need to be brought to light and new solutions, such as adoption, need to be readdressed. A new focused drive will improve the health of women, decrease the rate of sick infants, and help provide a quality life to 140 million orphans.

## Fiat Lux Spring 2018

**Student:** Peters, Trevor

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 108

**Title:** Cuba's Castro Crisis: Treating the Pathology of Failure

**Abstract:** The medical condition for Cuban citizens has been a compelling topic of discussion since Fidel Castro came into power in 1959. Those who favor the socialist medical policy template boast about Cuba's published medical records and ability to serve all citizens at little to no cost. Those who oppose this mode acknowledge the fact that all citizens are covered in their medical system, but argue that the average citizen does not receive proper care and are not treated in sanitary facilities in a timely manner. My research delves into the issue that is the poor medical conditions for the Cuban people and what methods can be used by the government to implement policies or ideas that will increase the overall health of the Cuban people. The purpose of this study is to identify policy alternatives that would allow for qualified doctors to request appropriate equipment, add more staff to each facility, and create sanitary environments that meet international qualifications of a medical environment, as reflected in the UN's International Covenant on Economic, Social and Cultural Rights.

**Student:** Pfanz, Rachael

**Major:** Elementary Education

**Faculty Mentor(s):** Rakes, Lori; Rebecca Powell

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Does Reading With Expression Matter?

**Abstract:** The objective of my research was to understand why reading with proper expression is important because it is so often easily over looked or not held in as high esteem as other aspects of fluency. It also can be hard to measure. I worked with a case study student at a school for students with reading difficulties. After administering various assessments to narrow down what skills I would work on him with, I found that the main factor impeding his literacy progress was his inability to read with expression. In trying to explain what area I would work on with him, he was puzzled as to why reading with expression was going to be our main focus. And I couldn't give him a detailed explanation as to why either so that sparked my research. I used weekly research based fluency interventions and instruction and monitored his progress using data to improve his expression and aid his overall literacy.

## Fiat Lux Spring 2018

**Student:** Ramirez, Stephanie  
**Faculty Mentor(s):** Law, Charlie  
**Co-presenters:** Meghan Vadala  
**Co-author(s):** Meghan Vadala  
**Presentation Type:** Poster  
**Presentation Time:** 7:15-8:30

**Major:** Psychology  
**Room:** Honeyman Pavilion

**Title:** Antecedents to School Retention: Inclusion vs. Exclusion

**Abstract:** In various organizations inclusion has shown positive outcomes such as, increased job satisfaction and increased commitment to their organization (Findler, Wind, & Mor Barak, 2007) . On the other hand, exclusion has been related to negative feelings of job satisfaction (Ryan & Kossek, 2008). Different intensities of exclusion, such as discrimination, may impact other factors such as student burnout. In this study different types of discrimination were looked at to see relationships between type of discrimination and feelings of school commitment, school satisfaction, and student burnout. Surveys were given to a range of students at a private college which included questions asking if they have ever felt discriminated against by their: race, sex, sexual orientation, religion, and disabilities. Those were also followed by questions covering how they have been included or excluded. Racial discrimination and disability discrimination were related to personal burnout. Religious discrimination was related to lower school satisfaction and commitment. Other institutions should encourage their staff to ensure feelings of inclusion for their students and should create programs that help students feel included. Future studies should expand the sample population to include more diverse groups, expanding from a demographically homogeneous population.

**Student:** Riley, Laura  
**Faculty Mentor(s):** Le, An-Phong  
**Presentation Type:** Oral  
**Presentation Time:** 5:30-6:00

**Major:** Chemistry  
**Room:** Christoverson 112

**Title:** Effect of Regional Cooking on the Volatile Content of Garlic and Chile Peppers: A Food Pairing Analysis

**Abstract:** As ingredient availability is increasing globally, culinary artists are tasked with creating new and innovative recipes for consumers. One technique that is producing creative ways of combining food, flavors, and aroma is the food pairing hypothesis. The food pairing hypothesis claims that ingredients that share flavor compounds and aroma volatiles will pair well and taste well together when used in a recipe or dish. Cooking treatments, such as sautéing and roasting of ingredients, have also shown to produce significant effects on volatile compounds and are expected to propagate to the larger dish. To compare regional trends in food pairing, garlic and chile peppers were prepared in several different ways according to authentic recipes retrieved through database searches. Volatile compounds of the samples were collected by headspace solid phase microextraction and analyzed by gas chromatography with mass spectrometry. It was found that different preparations of garlic and chile peppers produced a change in the volatile compounds detected after sautéing and roasting. This research will allow new understanding of cuisines from different areas of the world and how they differ on the chemical level.

## Fiat Lux Spring 2018

**Student:** Robinson, Jeffrey

**Major:** Music: Music Education

**Faculty Mentor(s):** Burke, Lawrence

**Co-presenters:** Mateo Garcia Guerra, Olivia Jones, Emily Hammell

**Presentation Type:** Performance

**Presentation Time:** 7:20-7:30

**Room:** Branscomb 202

**Title:** Bird Ballad

**Abstract:** Many people listen to bird songs, but few ever realize how complex they can be. By recording a bird song and slowing it down greatly in audio software, we are able to transcribe bird songs to actual music. Using these transcriptions, we can create full compositions using the bird songs as a melodic basis.

**Student:** Rodolosi, Marjorie

**Major:** Biology

**Faculty Mentor(s):** Banks, Susan; Brittany Gasper

**Co-presenters:** Olivia Silwa

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Characterizing the Interaction Between Annexin A2 and the Parkinson's Disease Linked Protein  $\alpha$ -synuclein

**Abstract:** Parkinson's Disease (PD) is a neurodegenerative disorder with symptoms appearing only after extensive neuronal loss in the region of the brain responsible for fine motor movement control. Current treatments for PD only reduce symptoms and more information is needed about the underlying biology of the disorder to guide the development of new therapeutics. Mutations in or an increased expression of  $\alpha$ -synuclein have been linked to inherited forms of PD.  $\alpha$ -synuclein is normally present at the synapse, the point of communication between neurons. Excess  $\alpha$ -synuclein disrupts synaptic vesicle trafficking, a highly regulated cellular process essential for neuronal function. We propose excess  $\alpha$ -synuclein could be binding to other proteins present at the synapse and preventing them from functioning during synaptic vesicle trafficking. Preliminary data suggest a potential interaction between  $\alpha$ -synuclein and members of a family of synaptic proteins called Annexins. One of the family members, Annexin A2 (AA2), plays a regulatory role in synaptic vesicle trafficking. Standard protein pull-down assays and Western blotting were used to determine if  $\alpha$ -synuclein and AA2 interact. If excess  $\alpha$ -synuclein interacts with AA2, it could explain some of the synaptic defects observed under conditions that mimic PD.

## Fiat Lux Spring 2018

**Student:** Rossi, Haley

**Major:** Spanish

**Faculty Mentor(s):** Garr, Melissa

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 207

**Title:** A Freudian View of Don Quijote

**Abstract:** Miguel Cervantes' novel Don Quijote is well known for challenging literary traditions of other epic stories of its time by featuring a hero who is likely insane. However, the extent of psychological themes in Don Quijote is far from limited to the hallucinations the protagonist sees throughout the story. Another example of these themes lies in the layers of the protagonist's personality. Respectable Alonso Quijano and impulsive Quijote are two sides of the same character that appear to act in line with the Freudian idea of superego and id, respectively. Cide Hamete Benengeli, the fictional author of Quijote's tale, represents the balancing ego. Benengeli exists in a layer of narration between Quijote's and our own reality, but there is evidence to suggest that he is yet another facet of the protagonist, such as the fact that he claims all of the events in the book to be true; even events like Quijote happening upon an army of giants that magically transform into windmills. In this way, Benengeli presents a balance between Quijano and Quijote similar to the concept of the ego by acknowledging Quijote's fantasies, but expressing them in a socially acceptable way – writing – for the sake of Quijano.

**Student:** Royse, Michaela

**Major:** Political Science

**Faculty Mentor(s):** McHugh, Kelly; Bruce Anderson

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:20

**Room:** Christoverson 108

**Title:** Cats Out of the Bag: How Plastic Bags are a Detriment to Our Environment

**Abstract:** Plastic single-use bags at stores may be beneficial for consumers, but they entail a heavy environmental burden. Astoundingly, consumers use 100 billion plastic bags in the United States every year (Earth Policy Institute, 2014). This modern day convenience is having a lasting effect on the environment and species that live within it. One of the most important concerns and detriments for the bags are the materials such as oil and petroleum that go into making them. Additionally, the bags are mass produced for a very low cost, making them convenient for consumers and businesses alike. This paper will focus on the issue of single-use plastic bags while examining the literature on the problem. Furthermore, through the Bardach Model I will review policy options by conducting a cost, benefit, analysis that best impacts the consumer, businesses, and most importantly the environment.



## Fiat Lux Spring 2018

**Student:** Santoli, Emily

**Major:** Biology

**Faculty Mentor(s):** Morvillo, Nancy

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 207

**Title:** The Epigenetic Effects of a Paternal High-sugar Diet in *Drosophila Melanogaster*

**Abstract:** As the rate of type 2 diabetes mellitus steadily increases in the United States and the adverse health effects of insulin resistance in humans are examined, developing a greater understanding of the epigenetic mechanisms that contribute to this disease has become a major priority in the medical community. It is known that genetics is a factor in susceptibility to the development of type 2 diabetes, but the epigenetic factors that also contribute to this disease have yet to be studied in detail. *Drosophila melanogaster* is a widely utilized model organism because of the prominent genetic similarities to mammalian pathologies and metabolism. *Drosophila* insulin-like peptides (DILPs) share sequence, structural and functional similarities with insulin in vertebrates. The insulin/insulin-like signaling pathway (IIS) in *Drosophila* is propagated by DILPs, regulated by nutrition, and analogous to the insulin pathway in humans. This study examines the DNA methylation of the DILP genes when the first generation of male flies are fed varying levels of sugar in their diets.

**Student:** Santoli, Emily

**Major:** Biology

**Faculty Mentor(s):** Morvillo, Nancy

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** The Epigenetic Effects of a Paternal High-sugar Diet in *Drosophila melanogaster*

**Abstract:** As the rate of type 2 diabetes mellitus steadily increases in the United States and the adverse health effects of insulin resistance in humans are examined, developing a greater understanding of the epigenetic mechanisms that contribute to this disease has become a major priority in the medical community. It is known that genetics is a factor in susceptibility to the development of type 2 diabetes, but the epigenetic factors that also contribute to this disease have yet to be studied in detail. *Drosophila melanogaster* is a widely utilized model organism because of the prominent genetic similarities to mammalian pathologies and metabolism. *Drosophila* insulin-like peptides (DILPs) share sequence, structural and functional similarities with insulin in vertebrates. The insulin/insulin-like signaling pathway (IIS) in *Drosophila* is propagated by DILPs, regulated by nutrition, and analogous to the insulin pathway in humans. This study examines the DNA methylation of the DILP genes when the first generation of male flies are fed varying levels of sugar in their diets.

## Fiat Lux Spring 2018

**Student:** Schreiner, Bailey

**Major:** Business Administration

**Faculty Mentor(s):** Hamilton, Brian

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 208

**Title:** United Methodist Polity and 21st Century Post-Fordist Capitalism in the United States

**Abstract:** United Methodist polity and 21st century post-Fordist capitalism in the United States are deeply interconnected and can bear more fruit together than apart. This connection exists because the value structures found within capitalism are deeply rooted in Christian history. While some decision makers have remained faithful to the original purpose of the value structures found within these fields, others have not. The historical value structures, namely abundance, connectionalism, and innovation, have been betrayed in part by both fields. United Methodists and business leaders can learn something new about their operations by examining these consistencies and deviations. United Methodists ought to recall their innovative roots in the Protestant Reformation and in the life of John Wesley, the founder of the Methodism. Businesspeople in the United States ought to recall the roots capitalism has in Christian history and make movements toward noncompetitive connectionalism and a mind-set of abundance. With greater awareness of the relationship that exists between these fields, we can explore practical solutions to some of the greatest problems church and business leaders are facing today.

## Fiat Lux Spring 2018

**Student:** Schwirian, Kristina

**Major:** Psychology

**Faculty Mentor(s):** Quinlivan, Deah

**Co-presenters:** Suzette Calderon, Gabriella Guzman

**Co-author(s):** Jordan King

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Perception of Differences in Leadership Based on Gender and Transactional vs. Transformational Leadership Style

**Abstract:** This research study examined perceptions of different leaders based on their gender (one male and one female), as well as two different leadership styles: transformational and transactional. Many researchers have explored gender and leadership issues since the 1970s (Aldoory & Toth, 2004). These studies have shown people criticize women more harshly than men (Abel & Meltzer, 2007), especially in traditionally masculine jobs compared to traditionally feminine jobs (Bobbitt-Zeher, 2011). Amidst the many revelations found, researchers identified two types of leadership styles: transactional and transformational. Transactional leaders are authoritative that are more likely to give out concise orders, focus solely on getting results, and reward only those that benefit the company. Transformational leaders are more likely to have charismatic qualities and would communicate to others with eloquence. (Aldoory & Toth, 2004) The researchers of this study examined how the use of different gender pronouns affects the overall perception of a leader. Researchers explored these issues by using a 2 (Gender Pronoun: male, female) X 2 (Leadership Style: transactional, transformational) between-participants design. They randomly assigned each participant to one of four groups (male, transactional; male, transformational; female, transactional; female, transformational). The target population for this study was students at Florida Southern College. Participants included students from introductory psychology, criminology, and sociology courses. These students were compensated through research participation credits. The demographics of the participants were males and females of various ethnicities with ages that ranged from 17-26. All participants were given an informed consent and were treated in accordance to APA ethical guidelines. Participants read their given vignette and answered questions about both their perception of the leader and their personal views on leadership. Participants were also given a questionnaire on religiosity, meant to identify bias that could be associated with a religious background, as well as a questionnaire on family gender roles, meant to inform the researchers of the participants' experience with gender roles throughout childhood. Participants also filled out a form with their demographics. Examples of questions to gauge their perception of the leader included, "I would be willing to work for this CEO.", "This CEO is productive", and "This CEO is unoriginal." These questions were answered using a Likert scale with a "1" meaning "Strongly Disagree" and a "5" meaning "Strongly Agree." Examples of questions assessing their personal leadership views include "I consider myself a leader", "You cannot be emotionally involved and also be an effective leader", and "An effective leader enhances others' self-worth"; these questions were answered using the same Likert scale. At the end of the study, participants received a debriefing form to explain the true purpose of the study. Participants were asked to sign this form, agreeing to not tell others the details of the study to avoid demand characteristics in later participants. Researchers hypothesized that this study would find that participants would view the transformational leader as more positive compared to the transactional leader. It was also believed that there would be an overall more positive view of male leaders than female leaders.

## Fiat Lux Spring 2018

**Student:** Sessums, Joshua

**Major:** Chemistry

**Faculty Mentor(s):** Gauthier, Carmen; Brittany Gasper

**Presentation Type:** Oral

**Presentation Time:** 6:30-7:00

**Room:** Christoverson 112

**Title:** A Study on Metal Organic Materials Impact on Streptococcus Mutans Growth Profile

**Abstract:** Antibiotic resistance is a growing concern that has impacted medicine heavily. Periodontics, a specialty branch that studies and treats conditions that adversely, has been especially impacted by the growth in periodontal disease and the decline in . Metal Organic Materials (MOM) are a broad class of compounds composed of metals linked to an organic compound in a uniform repeating lattice pattern. They are gaining increasing attention for their antibacterial properties. In this project we synthesized Copper Hydroxy Nanoball, a discrete MOM, and Copper Formate, a polymeric MOM. Both MOMs contain copper, a trace element that is notable for its ability to actively penetrate biofilms and limit bacterial viability. Each MOM was uploaded into a biopolymer matrix in the shape of a pellet. Chitosan was chosen as delivery vehicle because of its ability to control the release of MOM and also because of its antimicrobial and antibacterial properties. Bacterial growth activity was assessed in the presence of the composite material. More specifically, Streptococcus mutans was chosen because of its primary role in initiating periodontal infections.

**Student:** Skiba, Emma

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 208

**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 will make bracelets which will be presented as either increasing awareness for Autism Spectrum Disorder (ASD) or having no external purpose. The awareness for ASD condition will include assigning meaning to the materials used and highlighting the potential for it to bring future social awareness. The researcher predicts that the participants who are in the awareness condition will be altruistically motivated to complete more bracelets than the participants without a purpose. After the study is completed, the researcher will have to opportunity to sell the bracelets to raise funds for an ASD charity and continue to raise awareness for people with autism. This research has the potential to show that awareness can influence a change in personal behavior by inspiring altruistic motivation.

## Fiata Lux Spring 2018

**Student:** Sliwa, Madeline

**Major:** Biology

**Faculty Mentor(s):** Wolovich, Christy; Brittany Gasper

**Co-author(s):** Megan Blomquist, Guerbine Fils-aime

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** An Experimental Investigation of Insect Foraging and Energetic Condition of Aotus Nancymaee Using Urinary c-peptide Levels

**Abstract:** Aotus nancymaee (the Owl Monkey) is a nocturnal New World primate that frequently forages for insects, which have a higher fat and protein content than their fruit and plant counterparts. Following food ingestion, proinsulin is formed in the body and cleaved into insulin and C-peptide. C-peptide levels have been linked to food availability, with higher C-peptide levels corresponding to increased food availability. C-peptide levels can be noninvasively measured via urine. The use of hormone analysis has linked lower energetic condition to decreased food availability, which could have implications in the field of primate conservation and habitat deforestation. Owl Monkeys at the DuMond Conservancy were presented with insects, and the number of attempts and successful insect captures were measured for each individual. Urine was collected from each monkey and will be analyzed for C-peptide levels using C-peptide ELISA. These values will then be related to the number of attempts and successful captures of insects to determine a relationship between C-peptide levels and foraging motivation.

**Student:** Sliwa, Madeline

**Major:** Biology

**Faculty Mentor(s):** Wolovich, Christy; Brittany Gasper

**Co-presenters:** Lauren Newman

**Co-author(s):** Megan Blomquist, Guerbine Fils-aime

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** An Experimental Investigation of Insect Foraging and Energetic Condition of Aotus Nancymaee Using Urinary c-peptide Levels

**Abstract:** Aotus nancymaee (the Owl Monkey) is a nocturnal New World primate that frequently forages for insects, which have a higher fat and protein content than their fruit and plant counterparts. Following food ingestion, proinsulin is formed in the body and cleaved into insulin and C-peptide. C-peptide levels have been linked to food availability, with higher C-peptide levels corresponding to increased food availability. C-peptide levels can be noninvasively measured via urine. The use of hormone analysis has linked lower energetic condition to decreased food availability, which could have implications in the field of primate conservation and habitat deforestation. Owl Monkeys at the DuMond Conservancy were presented with insects, and the number of attempts and successful insect captures were measured for each individual. Urine was collected from each monkey and will be analyzed for C-peptide levels using C-peptide ELISA. These values will then be related to the number of attempts and successful captures of insects to determine a relationship between C-peptide levels and foraging motivation.

## Fiat Lux Spring 2018

**Student:** Smith, Olivia

**Major:** Accounting

**Faculty Mentor(s):** Omelchenko, Kira

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 109

**Title:** Mastering the Violin Concerto: My Experience in Vidin, Bulgaria with Dr. Kira Omelchenko

**Abstract:** In 2017, Dr. Kira Omelchenko and I jointly auditioned to attend the International Institute for Conductor's summer intensive program, Mastering the Concerto. We were both accepted, and through the help of Florida Southern College's Grant Committee, were able to attend the program in July 2017. We spent two weeks in Vidin, Bulgaria, a small town just across the Danube from Romania. The program accepted seven violinists, including myself, two pianists, and two conductors from around the world. We had rehearsals twice a day and two large performances at the end of the two weeks. At the final concert, I performed the first movement of Khachaturian's violin concerto. This was a moment in my life I will never forget— this presentation will not only explain the great experiences Dr. Omelchenko and I had, but hopefully inspire others to pursue educational trips while a student or faculty member at Florida Southern College.

**Student:** Smith, Olivia

**Major:** Accounting

**Faculty Mentor(s):** Cahalan, Ryan

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 206

**Title:** Technologies Transforming the World of Accounting

**Abstract:** The world of accounting is becoming more and more automated each year. Although some new technologies threaten to take away accounting jobs, many of them actually augment the skills accountants already have. This thesis looks into newer technologies that accountants can start using in the near future. Drones are available to take inventory counts and update ledgers through the cloud. Computer systems can be integrated through robotic process automation and adaptive learning. Most importantly, blockchain networks are being developed for public and private use. Most famously used by Bitcoin, a blockchain is a decentralized global ledger of all transactions that takes out the need for an intermediary, such as a bank. Although blockchain claims to be un-hackable, the many apps that work with it, such as digital wallets and smart contracts, are not as protected. New technologies come with new bottlenecks, all of which need to be considered before the world of accounting – or any other industry – considers making a large investment.

## Fiat Lux Spring 2018

**Student:** Snyder, Rebecca

**Major:** Political Science

**Faculty Mentor(s):** McHugh, Kelly; Bruce Anderson

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 108

**Title:** You Missed Your Shot: A Bardach Policy Examination of Vaccine-Preventable Diseases and Their Re-Emergence in the United States

**Abstract:** The re-emergence of vaccine-preventable diseases in the United States poses a rapidly-developing public health crisis that exposes young, elderly, immuno-compromised, and even vaccinated individuals to significant risks for infection (Phadke, 2016). In 2000, the respiratory disease Rubeola (or Measles) was declared eradicated from the United States. According to Dr. Anne Schuchat, Director of the National Center for Immunization and Respiratory Diseases of the CDC, “a highly effective vaccination program and a strong public health system for detecting and responding to measles cases and outbreaks” were the bases for this determination. Despite reaching high levels of immunization, since the year 2000, measles and several other vaccine-preventable diseases (or VPD’s) have seen a startling rise in numbers. This examination will discuss the particular VPD’s of Rubeola (or Measles), Pertussis (or Whooping Cough), and Mumps, and their marked increases in recorded incidences in the last twenty years following widespread inoculation and a period of substantial decline. I examine current policy regarding mandatory vaccination and its ramifications on the re-emergence of VPD’s, suggest policy alternatives aimed at reducing individual reported case numbers of VPD’s, and propose the most beneficial policy option for achieving this as determined through a Bardach Policy Model.

**Student:** Stacy, Kara

**Major:** Music: Music Education

**Faculty Mentor(s):** Burke, Lawrence

**Co-presenters:** Ipek Mirza, Emily Tirado

**Presentation Type:** Performance

**Presentation Time:** 7:10-7:20

**Room:** Branscomb 202

**Title:** The Renaissance Motet

**Abstract:** This short piece demonstrates the prominent musical form of the Renaissance period, the motet. The motet is a traditional compositional style, comprised of three or more independent musical lines, based around the same tonal center but with varying texts and rhythms. Motets were the grandfather of many other musical styles, such as the fugue or theme and variations. While motets were predominantly written on sacred texts and performed in church settings, motets could be written on any subject the composer desired. It was created as a part of the History of Music I class, and celebrates the composer and performer’s love for chicken nuggets. Every line uses different texts, each finding a different way to proclaim the love of chicken nuggets. While it may be a comical text, it does seriously represent the musical style of motets and can be used to demonstrate the musical style of the Renaissance period. We will accompany the performance with a small PowerPoint presentation giving historical background and further explaining the theoretical aspects of the motet form.

## Fiat Lux Spring 2018

**Student:** Stein, Samantha

**Major:** Marine Biology

**Faculty Mentor(s):** Taylor, Kristian

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 209

**Title:** A Proposed Study on the Force Exertion Abilities of the Ochre Sea Star, *Pisaster ochraceus*

**Abstract:** Much research has been done over time regarding sea stars and the different feeding mechanisms that they exhibit. The most common method exhibited is extra-oral feeding, in which the sea star opens a bivalve and everts its stomach into the bivalve for consumption. However, there is a lack of information regarding an important part of this feeding behavior: how much arm strength sea stars can exert. One of the only studies that covers this topic was published in 1956 and has not been replicated since. This proposal provides a brief overview of sea star biology and ecology, reviews the aforementioned study, and suggests ways to bring the outdated methods into the 21st century. The ultimate goal of the project is to determine how much force a specific species of sea star, *Pisaster ochraceus*, can exert when opening bivalves for feeding. *P. ochraceus* is an intertidal species native to the Pacific Northwest region of North America, so the study has been designed to replicate their native habitat and prey availability.

**Student:** Stemle, Leyna

**Major:** Marine Biology

**Faculty Mentor(s):** Langford, Gabriel

**Co-author(s):** Kristen Martinet

**Presentation Type:** Oral

**Presentation Time:** 7:20-7:40

**Room:** Christoverson 207

**Title:** Life History Traits and Spatial Ecology of the Striped Mud Turtle, *Kinosternon baurii*, in Central Florida

**Abstract:** The ecology of the striped mud turtle (*Kinosternon baurii*) has been understudied in Florida. Previous studies have consistently found that they have small home ranges, but have been inconclusive on nesting periods and habitat preference. We conducted a mark – recapture and telemetry study at Circle B Bar Reserve (CBR), a restored wetland in Central Florida, to assess the population size, health, and movement of *K. baurii*. Our data indicates that these turtles have a small home range. The health of the turtles was generally good, as our marked turtles had clear eyes, energetic movements, and undamaged bodies. Our population was small (38 adults) and we recaptured many of the same turtles. However, unmarked turtles were caught occasionally, and multiple age classes were found, and the ratio of the population was 65.4 % female. Given the low population size, the future of *K. baurii* at CBR must be carefully monitored, especially with encroaching urbanization and increased attendance here. If numbers of *K. baurii* continue to decline, management practices will be key to conserve them. Overall, our study provides additional knowledge on *K. baurii* ecology, populations, and movements, which local reserves can use to better protect the turtles and their habitat.



## Fiat Lux Spring 2018

**Student:** Sund, Benjamin

**Major:** Biology

**Faculty Mentor(s):** Brandon, Christopher

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 108

**Title:** Identifying the Potential Functional Role of an Unknown Opsin Gene in the Freshwater Crustacean, *Daphnia*, Using Tissue Specific Gene Expression Analysis

**Abstract:** Opsins are a large family of proteins that have diverse roles in signal transduction, but are particularly well known for their key part in vision. Arthropopsins are a subfamily of opsins that were discovered in 2011 in a freshwater crustacean *Daphnia*. Arthropopsins are closely related to visual opsins; however, a few studies on velvet worms and jumping spiders have suggested a potential role of arthropopsins in chemosensory. Despite the initial discovery in *Daphnia*, there has been no research on the potential functional role of arthropopsins in *Daphnia*. This study will aim to test the hypothesis that arthropopsins have a non-visual functional role in *Daphnia*. To test this hypothesis, a relative gene expression assay, qPCR, will be performed on the three tissue types eye, neural, and non-neural. I predict that gene expression of arthropopsins in the neural tissue will be significantly greater than in the eye and non-neural tissue. The tissue will be separated through microdissection and collected and prepared for gene expression analysis using qPCR. The analysis of tissue-specific arthropopsin expression will allow for a better understanding of the potential functional role of the protein in *Daphnia* and other organisms.

**Student:** Tabet, Christian

**Major:** English

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Tabatha Lehmann, Paige Koetter, Samantha Woerle, Felicia Coursen, Mara Lammeyer, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 7:30-7:40

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.

## Fiat Lux Spring 2018

**Student:** Tovo, Anna

**Major:** Biology

**Faculty Mentor(s):** Gasper, Brittany

**Co-presenters:** Alexandra Geary

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Effects of Vitamin D Supplementation on Diabetic *D. melanogaster*

**Abstract:** Diabetes Mellitus is a disease that results in too much sugar present in the blood. There are two types of Diabetes Mellitus, type 1 and type 2. Type 1 diabetes is characterized by lack of all insulin production, whereas type 2 diabetes is characterized by insulin insensitivity in the body. This insensitivity requires more insulin production for the breakdown of glucose. Research has shown that Type 2 diabetes is more prominent in individuals that are prone to vitamin D deficiency. Due to *Drosophila melanogaster* being an ideal model organism for the study of metabolic processes in humans, we developed a method to observe the effects of Vitamin D supplementation on diabetic *D. melanogaster*. To create a diabetic model of *D. melanogaster* a high sugar diet was implemented, next a glucose oxidase test was used to confirm elevated glucose levels. Vitamin D supplement was added to their diet and glucose levels were evaluated again. The effects of the vitamin D supplementation on the sugar levels in diabetic and non-diabetic models of *Drosophila* are discussed.

**Student:** Trainer, Nicholas

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Bromfield Lee, Deborah

**Presentation Type:** Oral

**Presentation Time:** 6:00-6:30

**Room:** Christoverson 112

**Title:** Greener Synthesis of Poly-1,3-Isobenzofurandione-4,7-diphenyl

**Abstract:** Poly(P-phenylene) is an organic polymer that has semiconductive properties. Organic semiconductors are becoming an increasingly utilized piece of electronics nowadays. This is due to them being a more environmentally friendly alternative to the standard inorganic semiconductors found almost ubiquitously in devices. This polymer will be synthesized via a Diels-Alder reaction between 1,4-diphenyl-1,3-butadiene and maleic anhydride followed by subsequent dehydroaromatization to the resulting terphenyl compound. Following this, a bromination will be done to add functionality to the terphenyls followed by an Ullman homocoupling or Suzuki polycondensation to form the desired polymer. The first step produced moderate yields (~60%) of 4,7-diphenyl-3a,4,7,7a-tetrahydro-2-benzofuran-1,3-dione and a purification has been conducted to mostly remove the starting materials. From here, the product has been oxidized using two different methods to provide minimal results. Further optimization must be conducted to the previous reactions to produce more significant yields. Following this, the rest of the synthesis can be conducted to finish synthesis of the polymer.

## Fiat Lux Spring 2018

**Student:** Trecartin, Scott

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 210

**Title:** Gimme Shelter: Sheltered Workshops and Wages

**Abstract:** “Sheltered workshops” were originally intended as a humanitarian response to physical and intellectual disability, providing training and jobs for people who needed special aid in achieving employment. However, in recent years, it has become apparent that these workshops have an ugly underside in which clients are exploited as workers exempt from the requirements of minimum wage and benefits. . Intellectual and physically disabled workers face discrimination, wage cuts and lower unemployment rates systematically around the country. There have been instances of workers only making two dollars a day and less. These practices often exploit these workers to work more and get paid less. This paper will examine and weigh courses of action to remedy this situation through a cost benefit risk analysis. It will then recommend steps taken to reduce the exploitation of workers by these workshops.

**Student:** Trudel, John

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 6:40-7:00

**Room:** Christoverson 209

**Title:** An Imminent Algal Threat: A Policy Analysis for Improving Lake Hollingsworth’s Water Quality

**Abstract:** Of thirty-eight lakes found in the city of Lakeland, Florida, five are failing to meet state water quality standards, as determined by the trophic state index. Using Lake Hollingsworth as a case study, this paper identifies current water quality policies in the city, which are directly related to lake water quality. I then attempt to determine which policies are most effective through comparison with other Florida lake restoration efforts, like those used to address Lake Apopka, located near Orlando. The three major policies examined include dredging, the installation of filtration systems around the lake, and controlling local landscaping regulations. I plan on using interviews with Lakeland government officials, including the city manager, and looking at reports from the EPA and the Polk County Water Atlas for data. Ideally, the best policy for Lakeland to adopt, or continue, should prove to be the most effective and practical while having the most reasonable, ideally cheapest, cost to taxpayers. A more likely conclusion, however, will likely point towards some combination from elements of the policies addressed.

## Fiat Lux Spring 2018

**Student:** VanDenDriessche, Ashlyn

**Major:** Accounting

**Faculty Mentor(s):** Clements, Lynn

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 206

**Title:** A Digital World Without Rules: Revenue Recognition and Virtual Goods

**Abstract:** Virtual goods have exploded into a multi-billion-dollar industry (Fortune, 2016). However, the accounting for virtual goods lags in comparison to the industry's growth. Accountants need to understand how companies should recognize revenue from these goods. Generally Accepted Accounting Principles requires revenue to be recognized when it is realized or realizable. With virtual goods, this is difficult to determine since they are considered intangible and never truly in the consumer's possession. In 2012, accounting firm Ernst & Young explained a template for revenue recognition of virtual goods that included three bases: game based, user based, and item based ("Recognizing Revenue on the Sale of Virtual Goods," 2012). In 2014, a new revenue recognition standard was issued by the Financial Accounting Standards Board to establish principles to ensure useful information is reported to users of financial statements with regards to the amount, timing, nature, and uncertainty of revenue contracts ("Why did the FASB issue a new standard on revenue recognition?," n.d.). This presentation will explore the old and new revenue recognition standards, explain the emergence of virtual goods, explore Ernst & Young's models for revenue recognition of virtual goods, and explain how the new revenue recognition standard relates to virtual goods.

**Student:** Vaughn, Marlie

**Major:** Psychology

**Faculty Mentor(s):** Law, Charlie

**Presentation Type:** Poster

**Presentation Time:** 5:30-6:45

**Room:** Honeyman Pavilion

**Title:** Inclusion and Exclusion in the Workplace: A Tale of Two Outcomes

**Abstract:** My poster presentation is on research Dr. Charlie Law and I did during the Summer of 2017 through a grant awarded to us by Florida Southern College. It is Industrial/Organizational psychological research on the effects of perceptions of inclusion and exclusion in the military workplace. Industrial/Organizational psychology is a branch of psychology that applies psychological theories and principles to organizations. Working with DEOMI (Defense Equal Opportunity Management Institute), our sample size was taken from students enrolled in a military human relations course. The workplace factors we looked for effects in were job satisfaction, organizational commitment, counterproductive work behavior, and employee burnout. We also tested to see if and how bullying effected these four factors. Our results suggested that inclusion and exclusion are two separate constructs as opposed to being opposite ends of the same spectrum. We discuss the methods of our research, as well as further describe our results and the implications they have, and ideas for further research.

## Fiat Lux Spring 2018

**Student:** Wagler, Amanda

**Major:** Biochemistry & Molecular Biology

**Faculty Mentor(s):** Bromfield Lee, Deborah; Brittany Gasper

**Presentation Type:** Oral

**Presentation Time:** 8:40-9:00

**Room:** Christoverson 209

**Title:** Isolation, Purification, and Characterization of Prodigiosin

**Abstract:** Bacteria develop resistance to drugs due to improper uses of antibiotics and mutations. Therefore, the need for new antibiotics is increasing. The search for new sources of drugs can be found in nature or inspired by nature. Bacteria themselves can be a source of new drugs through metabolites, which are organic compounds made by the bacteria that ward off other species. The two strains of *Vibrio* explored in this project have been found to produce metabolites which show activity. Due to its characteristic pink color, we speculate that the secondary metabolite produced by the two *Vibrio* species is a type of prodigiosin, an antibacterial compound that could be an effective alternative to antibiotics that are currently on the market due to a low built-up resistance by infectious bacteria. This project aims to confirm the identity of the prodigiosin structure, including three phases: extraction, purification, and characterization. We will extract the metabolite from MI-1 and MI-2 strains using liquid-liquid extraction and solid phase extraction. Purification will include chromatography methods. We will use spectroscopy methods such as NMR, mass spectrometry, and ultraviolet-visible spectroscopy to identify the compound.

**Student:** Wahner, Diana

**Major:** Environmental Studies

**Faculty Mentor(s):** Gasper, Brittany; Christy Wolovich, Eric Kjellmark

**Co-presenters:** Aaron Williams

**Presentation Type:** Poster

**Presentation Time:** 8:30-3:30

**Room:** Honeyman Pavilion

**Title:** Assessment of Composition and Transference of Gut microbiota throughout life stages of *Danaus plexippus*

**Abstract:** One of the most easily identifiable butterflies is the Monarch butterfly. Known for its bright array of orange shades and white dots while being outlined in black. Organisms that may prey upon the Monarchs are in for a rude awakening; as monarchs have toxic chemicals they create from nutrients absorbed through their food sources and environment. The ability *Danaus plexippus* has to create and tolerate toxins has brought attention of researchers worldwide to their stomach capabilities. However, literature analysis on the composition of the gut microbiome (GM) in *D. plexippus* is sparse despite the popularity and attention Monarchs receive. Available data on the GM of these organisms indicates a minute number of host microbial species. *D. plexippus* feed primarily on *Asclepias curassavica* during their larval stages as caterpillars. *A. curassavica* is a non-native tropical milkweed prevalent in Florida. *D. plexippus* were obtained as eggs and nurtured to adulthood in butterfly tents with underwater cuttings of *A. curassavica*. Bacteria from the organisms in larval, chrysalis and adult stages were extracted from Frass, frozen gut extraction, and water droplet defecation. After collection, bacteria were cultured and identified through gram-staining, PCR and biochemical tests. The results indicate diversity of microbial species in the larval stage, with a significant decrease in diversity as adults.

## Fiat Lux Spring 2018

**Student:** Wargat, Bryanna

**Major:** Marine Biology

**Faculty Mentor(s):** Habegger, Laura

**Presentation Type:** Oral

**Presentation Time:** 8:00-8:20

**Room:** Christoverson 207

**Title:** Characterizing the Histological Composition of Albinism in Sharks

**Abstract:** Chondrichthyan species have been present for 400 million years, and, in that time, the skin also known as the integument has evolved to develop specific structures. The integument is comprised of a relatively thick dermis and a thinner epidermis in which chromatophores are present. Melanophores, a type of chromatophore, produce melanin which generates brown and black pigmentation responsible for skin coloration. Albinism, in most vertebrates, is described as the lack of melanin production. To date, at least 26 shark species have been reported to experience albinism, including the blacktip shark (*Carcharhinus limbatus*). Despite the many recordings of albinism in various shark species, the histological characterization of their integument has never been described. In this study, histological differences were computed and compared between an albino blacktip shark and one of normal coloration. Tissue samples from several areas of the body were taken, and the presence of melanin in the same areas of the two specimens were quantified and compared. As such, the histological differences that may be responsible for this coloration pattern were evaluated and the possible causes discussed.

**Student:** Webb, Patrick

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 6:20-6:40

**Room:** Christoverson 209

**Title:** Counties Taking Action: Local Policy and the Opioid Epidemic

**Abstract:** Since 2013, the rate of opioid overdoses in Arizona has increased by 74 percent. The burden of this alarming rate impacts Arizona's public health, public safety, and raises costs substantially on public services such as law enforcement, hospitals, and public services. Thus, the opioid epidemic in Arizona is not only a humanitarian crisis, but a public health crisis, as well. This paper examines possible policy options Arizona counties may enact by completing a case study on Mohave County, Arizona as a representative for Arizona counties. Through analysis of distinct challenges Mohave County faces, findings can be made regarding what issues are not being alleviated by federal and state responses to the opioid epidemic at the county level. The expected findings from this analysis are that an increase in medically assisted treatment facilities, along with funding of extant programs should act as Arizona counties primary prevention strategy in combating the opioid epidemic.

## Fiat Lux Spring 2018

**Student:** Weiland, Melissa

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 7:40-8:00

**Room:** Christoverson 210

**Title:** Unplanned Parenthood: Dealing with Teenage Pregnancy “Hotspots”

**Abstract:** The rate of unwanted teenage pregnancy has decreased dramatically in the developed world, but the United States still holds the highest rate, which can be attributed to certain hotspots, adjusted for poverty and education levels. The rate of teenage pregnancy in the United States has experienced a decline in recent decades; it can be attributed to the availability of family planning services and the ACA requiring all healthcare companies to cover all FDA-approved birth control methods. Despite this, the rates in these hotspots, including Houston, TX, Denver, CO, Washington, D.C., and St. Louis, MO, have remained well above the national average.

This paper aims to identify the main causes for the hotspots and develop policy solution to reduce the pregnancy rates in these areas. This paper uses research from several different outlets to draw a conclusion of where the problem is, why there is a problem, and what specifically could be causing those hotspots to remain when the rest of the country is on an upward trend.

**Student:** Wells, Tyler

**Major:** Political Science

**Faculty Mentor(s):** Anderson, Bruce; Kelly McHugh

**Presentation Type:** Oral

**Presentation Time:** 5:20-5:40

**Room:** Branscomb 203

**Title:** Gambling Your Life Away

**Abstract:** Pathological gambling is a mental disorder that causes victims and their families to suffer numerous consequences such as neurological disorders, bankruptcy, and domestic abuse in the household. Gambling has always been present within society; however, gambling has constantly been perceived as a poor-decision and budgeting on behalf of the gambler. My paper aims to demonstrate that gambling is an illness of the mind that allows for and perpetuates addiction, similar to alcoholism, within the gambler. It also differentiates between “at risk” gambling, problem gambling, and pathological gambling. My paper utilizes the Bardach model and assesses these policy options: do nothing, increase education, increase medical services, and increase government regulation of gambling. A qualitative measure of the gambling issue involves conducting personal interviews with pathological gamblers. The participants must have a history of compulsive gambling. The goal of the interview is to identify the self-reported influences that led to gambling. Through the utilization of scholarly articles and data from case studies regarding pathological gambling, my paper will attempt to prove pathological gambling is a public problem because it is a mental illness rather than the classic perceptive of a sinner and criminal.

## Fiat Lux Spring 2018

**Student:** Welsh, Brianna

**Major:** Psychology

**Faculty Mentor(s):** Smith, Patrick; Charlie Law, Leilani Goodmon

**Co-presenters:** Kristina Schwirian

**Co-author(s):** Emma Skiba, Charly Coogan

**Presentation Type:** Poster

**Presentation Time:** 7:15-8:30

**Room:** Honeyman Pavilion

**Title:** I-scream for Society: Manufacturing Information and its Relationship to Consumer's Attitudes and Perceptions of Taste

**Abstract:** Human trafficking is a prominent criminal industry used in the manufacturing of everyday products, and current events reveal a growing sensitivity to social issues in the food industry. Based on previous research showing that negative information can impact a consumer's attitudes toward a product, the purpose of the present study was to determine whether appetitive, consummatory, or both types of behavior may be influenced with a direct manipulation of social concerns towards a fictional food product. The researchers also assessed if the participant's knowledge of the use of human trafficking correlated with the effect of negative information on attitude and taste perception. The results demonstrated that participants, regardless of human trafficking awareness, rated the ice cream paired with the negative vignette significantly lower than those participants who received the neutral vignette in terms of certain consummatory and appetitive attitudes. These results demonstrate that attitudes about commercialized food are biased by social stigmatization, and those with greater awareness of such stigmatization may be more biased in both perceptual inclinations and the likelihood of actually purchasing the product.

**Student:** Woerle, Samantha

**Major:** Biology

**Faculty Mentor(s):** Bernheim, Erica

**Co-presenters:** Christian Tabet, Paige Koetter, Christian Tabet, Felicia Coursen, Mara Lammeyer, Jackie Krantz

**Presentation Type:** Performance

**Presentation Time:** 7:20-7:30

**Room:** Christoverson 109

**Title:** The Creative Revision Process

**Abstract:** This panel will walk the audience through a writer's creative process, specifically focusing on revision and how it impacts a text. Each of the panelists will share an example of their own "before and after," piece from ENG 2023, explaining how they made decisions about what their text would be about and what each text might be trying to do.



## Fiat Lux Spring 2018

**Student:** Worcester, Ashlyn  
**Faculty Mentor(s):** Le, An-Phong  
**Presentation Type:** Oral  
**Presentation Time:** 5:00-5:30

**Major:** Chemistry  
**Room:** Christoverson 112

**Title:** Increasing Resolution in Latent Fingerprint Images Through the Use of Size-Differentiated Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>-Au Nanoparticles

**Abstract:** Latent fingerprints (LFPs) are produced when the raised portion, or ridge, of an individual's fingerprint contacts a surface and deposits residue in a pattern that mimics that of the ridge detail. LFPs are inherently invisible and therefore must be enhanced using powders or chemicals prior to analysis. A lack of quantitative data on the individuality of fingerprints has led to heightened resistance against the use of LFPs as evidence in criminal investigation. To combat this, enhancement methods must be created that produce visible prints while preserving the minute details contained within them that are crucial to an accurate analysis. Layered nanoparticles (NPs) containing magnetite, silica, and gold (Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>-Au) have shown promise due to their magnetic character, stability, and preference for print residue, offering easy application and high resolution when applied to both porous and nonporous surfaces. The effect of particle size was investigated through synthesis of Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>-Au NPs with magnetite cores of 30, 50-100, and 5000 nm when applied to LFPs on a variety of surfaces with differing porosities, such as wood, glass, plastic, index cards, copy paper, and a lab table. Results were compared to those obtained using charcoal, magnetic, and fluorescent powders on the same surfaces to determine whether Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>-Au is a more accurate means of LFP development.

**Student:** Yumul, Sean  
**Faculty Mentor(s):** Le, An-Phong  
**Presentation Type:** Oral  
**Presentation Time:** 8:40-9:00

**Major:** Biology  
**Room:** Christoverson 111

**Title:** Analysis of Heterocyclic Aromatic Amine Formation and Migration in Meat

**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.

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