Connection, Collaboration, and Creativity

CELEBRATION '19

*The **11th Annual** Colloquium on Undergraduate Research and Creative Activity*

Do great work

Self Portrait Jianrui Li '19

Program

May 3, 2019 • 4:30 pm – 6:00 pm

Gettysburg COLLEGE

The human figure has its own magic attraction. By painting human forms, I made something mortal merge something eternal. At that moment there is nothing but the feeling of being free and timelessness. As a young college senior, I hope to use my artworks to remember all the experience at Gettysburg College, all my fellow professors, and all my dear friends. After all, life is short and art is long.

发件人: Jianrui Li

A Welcome from the Provost

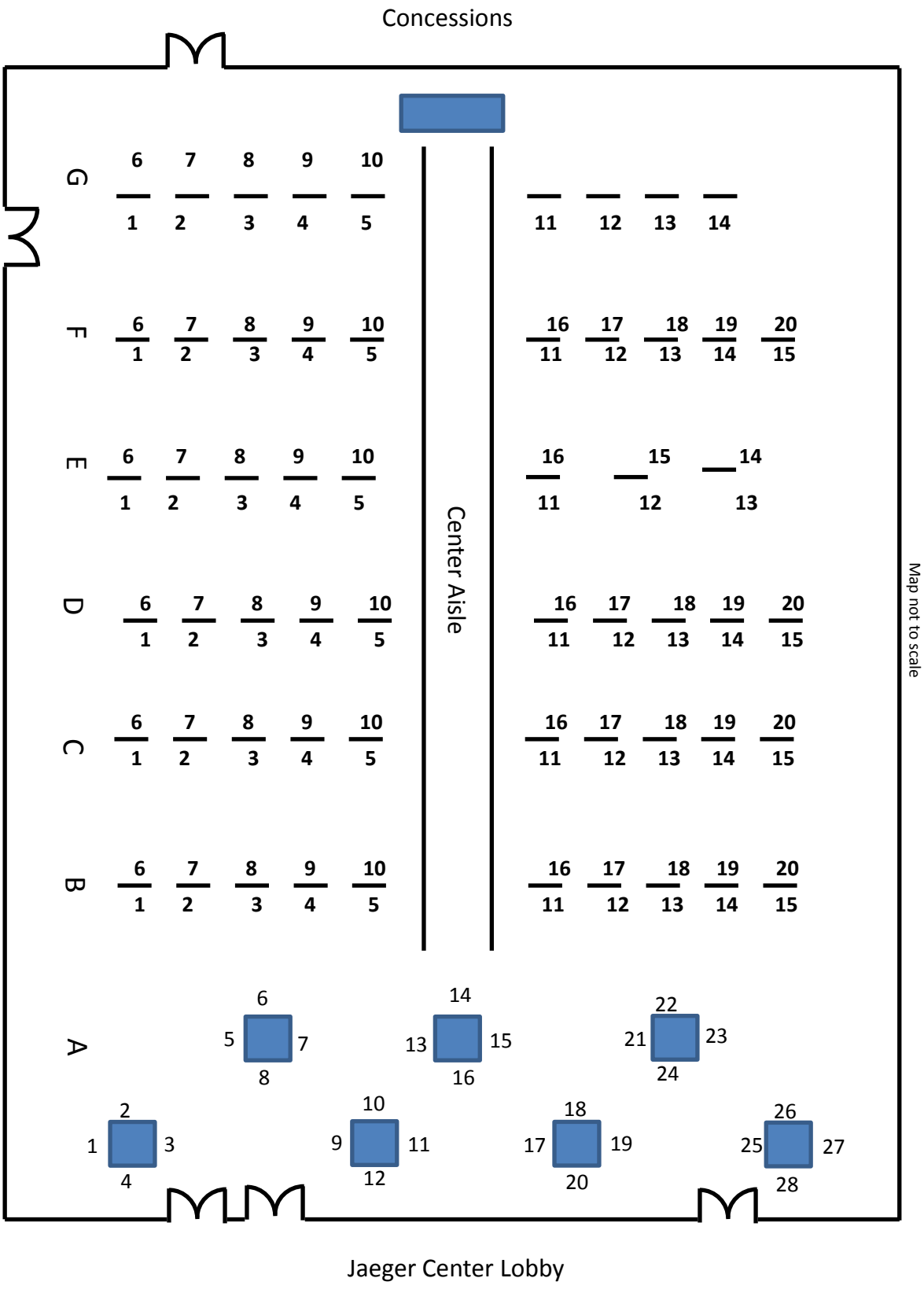
I want to welcome you to our annual colloquium on undergraduate research and creative activity, *Celebration.*

This event, which is in its 11th year, features our students presenting the results of the great work in which they have been engaged during the past year. Students from across the academic disciplines are demonstrating what's best about the Gettysburg College experience— intentional collaborations between students and their mentors such that students acquire both knowledge and skills that can be applied to many facets of their future personal and professional lives.

I hope you enjoy today's session as you make your way among the many posters depicting the intellectual curiosity and accomplishments of our students. Please know, however, that the excitement and energy generated throughout the room is due in no small measure to those of you attending the event.

The students and I are grateful for your support of *Celebration '19* and look forward to seeing you at *Celebration '20*.

Christopher J. Zappe, Ph.D.
Provost


Concessions
G
F
E
D
C
B
A
Center Aisle
Map not to scale
Jaeger Center Lobby

Student Index

Last Name, First Name	Class of	Page	Poster #
Cotter, Samantha	'22	52	A10
Dalzell, Hannah	'20	38	B16
Damiano, Tessa	'21	20	A26
De Lucia, Dean	'19	35	C9
Decker, Taylor	'21	20	A26
Deschamps, Ray	'20	49	A5
DeWitt, Ellie	'19	42, 44	G3, G2
DiElsi, Michaela	'20	39	B20
DiSalvo, Celia	'19	43	G1
Do, Thy	'19	12	D7
Duan, Emily	'20	5	E20
Dunning, Gabby	'21	41	C10
Eddy, Jasmin	'19	28	F12
Erkey, Celine	'19	9	E15
Ernst, Katie	'20	48	A8
Fernandes, Carolina	'22	19	A22
Finan, Abby	'19	39	D1
Ford, James	'19	34	C6
Fox, Madison	'19	17	E3
Fruchtl, Ben	'20	28	F15
Gaffney, Shannon	'19	36	D3
Gallagher, Brandon	'19	14	E11
Gardner, Jack	'19	15	E6
Gemma, Aly	'20	33	B11
Gilmore, Jen	'19	22	G9
Glance, Caitie	'20	51	B1
Glennon, Caroline	'19	51	B10
Gluhanich, Haley	'19	31	C15
Goldy, Gracie	'20	37	C14
Gonzales, Daniela	'20	41	C18
Grubb, Logan	'21	44	F7
Guo, Ruijia	'20	13	E5
Gustafson, Laura	'19	32	C4
Hall, Hayden	'19	30	C12
Hall, Max	'20	35, 41	C9, C10
Harcourt, Danny	'19	14	E11

Last Name, First Name	Class of	Page	Poster #
Harper, Bailey	'19	2	A3
Hauer, Abby	'21	43	F5
Hauk, Carolyn	'21	25	A13
Hauser, Annalise	'19	24	G12
Hellmuth, Hannah	'19	40	B12
Hickey, Jimmy	'20	52	B6
Hightower, Anna	'21	20	A24
Hoang, Thao	'19	8	C19
Hoang, Thao Ha	'20	41	C18
Howlett, Laurel	'19	33	D2
Hu, Jonathan	'19	30	C12
Hurwitz, Bekah	'19	40	B15
Igram, Quinn	'19	50	B5
Imperatore, Nina	'19	37	C14
Jones, Daniel	'22	26	A14
Kallimanis, Nancy	'19	10	D13
Kaplan, Sydney	'22	52	A10
Karlson, Kristen	'19	10	D13
Kavanagh, Caroline	'19	42	G4
Kennedy, Bridget	'21	26	A11
Kennedy, Katherine	'19	44	G6
Keohan, Tyler	'20	39	B20
Keyser, Emily	'19	43	G5
Keyton, Nevada	'20	34	C13
Kharel, Jivan	'20	13	D8
Kisak, Natalie	'19	21	G10
Klassen, Kevin	'19	17	E8
Kolarik, Hannah	'20	28	F15
Kotkiewicz, Jacki	'19	45	F10
Kratz, Megan	'21	20	A24
Kupersmith, Dani	'20	36	D3
La, Minh-Ha	'19	35	C17
Larson-Pollock, River	'21	6	E13
Lashutka, Annie	'20	39	D1
Lentz, Katherine	'20	34	B18
Li, Shiyu	'20	14	D10

Last Name, First Name	Class of	Page	Poster #
Lieberman, Miranda	'19	40	B14
Lilienfeld, Jules	'20	36	C16
Little, Sean	'19	45	F6
Lonergan, May	'21	19	A22
Luc, San	'20	7	E19
Ma, Bruce	'19	9	D15
Maccieri, Mateus	'19	13	D9
Maeyer, Lisa	'19	35	D6
Mann, Tyler	'20	15	A19
Maronna, Brittany	'19	37, 39	C3, C5
Martus, Rose	'19	27, 28	F14, F15
Maskin, Brooke	'20	28	F15
McCarney, Liam	'19	50	B8
McKenna, Pat	'20	42	F8
McKenzie, Marion	'19	23	G8
McQuade, Peter	'21	19	A21
McShan, Jordan	'19	12	E4
Mendez Vasquez, Jose	'19	48	A8
Menicali, Luca	'19	16	F1
Michel, Hanna	'20	36	B19
Miesemer, Lauren	'19	35	C9
Miller, Elizabeth	'19	16	F2
Mistretta, Tess	'19	31	C15
Molina, Hera	'22	19	A23
Montenegro, Candice	'20	39	D1
Montoya, Julia	'20	48	B2
Moore, Rebecca	'20	4	E12
Morehouse, Maggie	'19	38	B16
Morelli, Abby	'19	36	D3
Moyer, Maranda	'19	45	F9
Mugford, Emma	'19	32	D5
Murillo, Jose	'22	20	A25
Nadel, Ryan	'21	20	A26
Napoli, Robby	'19	27	F16
Nicolaou, Stella	'19	32, 37, 48	C2, C3, B7
Nicolau, Shelby	'20	30	C12

Last Name, First Name	Class of	Page	Poster #
Nikirk, Austin	'20	28	A20
Nisbett, Darby	'20	36	C16
Nonemaker, Sam	'22	52	A10
Paredes, Alexander	'20	8, 10	C19, D14
Parikh, Riya	'20	5	E16
Pavis, Jenna	'21	28	F15
Peduzzi, Olivia	'20	10, 11	D19, D20
Philippou, Zoe	'20	34, 36	B18, B19
Pierson, Sarah	'19	46	F3
Poff, Jake	'19	12	D7
Pontz, Ben	'20	42	F8
Porta, Lynn	'19	22	A9
Present, Haley	'19	35	C17
Redmond, Emily	'19	12	E4
Rich, Emma	'20	47	A17
Richart, Emma	'21	39	C5
Richwine, Lindsay	'21	48	B2
Robinson, Matt	'19	13	E5
Romano, Allison	'20	32	D5
Romero Nardelli, Nadia Yanina	'19	32	C2
Rowland, Jessica	'19	14	E11
Rozhkova, Polina	'19	18	F4
Russo, Jessica	'20	40	B12
Santiago, Logan	'19	27	F17
Santibanez Regalado, Jocey	'19	50	B3
Schnarr, Catherine	'21	19	A21
Seyfert, Luke	'20	31, 34	C7, C6
Shen, Weiqing	'19	36	C16
Simmers, Matt	'21	31	C7
Skinner, Haley	'19	18	E7
Skinner, Jake	'19	12	D7
Smolik, Ryan	'20	13	D8
Sobel, Ilana	'20	22	G13
Sorenson, Parker	'19	14	D10
Stauffer, Nic	'20	5	E20

Last Name, First Name	Class of	Page	Poster #
Stewart, Charlie	'19	13	D9
Stine, Hadley	'20	38	D4
Sullivan, Daisy	'19	33	B11
Tang, Tracy (Yidan)	'19	8,14	D16, E11
Tang, Ziyu	'19	40	B14
Tea, Edith	'19	30	C11
Thieringer, Raechyl	'19	40	B14
Thoms, Emma	'22	1	A1
Tremlett, Wynter	'19	31, 38	B17, B16
Troy, Katie	'21	52	B6
Van Buren, Jeannie	'19	38	D4
Vickers, Elli	'20	4, 6	E14, E13
Vorhaus, Molly	'19	23	G14
Wagner, Josh	'19	8	C20
Walker, Sara	'20	33, 52	C1, B6
Waters, Laura	'19	2	A2
Weinel, Nick	'19	13	D9
Whitsel, Amy	'19	39	B20
Wielk, Emily	'20	47	A18
Williams, Bri	'19	33	D2
Williamson, Charlie	'19	32, 39	C4, C5
Woodward, Claire	'20	6, 10	D18, D19
Wright, Jenna	'19	12	E4
Xie, Alex	'19	17	A27
Yang, Cindy	'20	6, 7	D11, D12
Ye, Zhaozhi	'20	30	C11
Zeltmann, Shannon	'21	25	A12
Zhan, Sen	'19	13	E5
Zhang, Jenny	'19	51	B9
Ziegler, Danny	'21	12	E2
Zimmann, Seth	'20	9	D15

Anthropology

The Psychological Importance of Forensic Identification to Families of Victims of Human Rights Violations

Poster #: A1

Student(s): Emma Thoms

Mentor(s): Buz Myers

Description: I examined case studies of forensic anthropology in foreign nations following human rights' violations, and how their identification of victims are beneficial to those directly affected, and holds the perpetrators accountable. I focused on a psychological phenomena "ambiguous loss" which is a destructive form of grief when it is not certain whether someone is alive or dead somewhere, and that identification of victims can provide closure to these families suffering in that limbo of not- knowing.

Art and Art History

Facing the Past: Ethics, Emotions, and Aesthetics in Holocaust Art

Poster #: A2
Student(s): Laura Waters
Mentor(s): Ian Isherwood
Description: Though there is a massive catalog of art from the Holocaust, it is often held at arm's length. Over the past year and a half, assisted by my time as a Kolbe Summer Scholar, my research has found that this distantiation, while ethically important in terms of avoiding the appropriation of trauma, effectively silences the artists who worked at great personal risk to preserve their voices and souls.

The Plains of Mars: European War Prints, 1750 – 1825

Poster #: A3
Student(s): Bailey Harper
Mentor(s): Shannon Egan
Description: As part of the Kolbe Summer Fellows Program, this research project sought to understand the ways in which war was depicted in prints from the late-eighteenth to early-nineteenth centuries. There are main differences in style between three major Western European nations: England, France, and Spain. While some artists used heroic, nationalist propaganda to support continuing warfare, others expressed the destruction and anguish felt by non-military casualties.

Biology

A GYF-domain protein damaged by a reciprocal translocation partially rescues G2/M defects in the fungus Aspergillus nidulans

Poster #: E17
Student(s): Morgan Brown
Mentor(s): Steven James
Description: We discovered a mutational event that simultaneously broke two genes, each of which acts to restrain cell division. One of these genes, gyfA, encodes a protein harboring a GYF domain, a small adaptor domain that binds to proline-rich sequences in other proteins. No GYF proteins have been studied in filamentous fungi, and little is known about their functions and binding partners in any organism. In this study, we demonstrate that mutations in gyfA partially relieve cell cycle defects

An epigenetic regulator represses transcription of an Aspergillus nidulans translocation mutant

Poster #: E18
Student(s): Kyra Buettner, Madelyn Class
Mentor(s): Steven James
Description: We discovered a single mutational event that simultaneously broke two genes, each of which independently acts to restrain the G2-M transition of the cell cycle. One of these broken genes, snxA1, exhibits cold- sensitive lethality due to strongly repressed mRNA and protein expression. Here we report that mutation of an epigenetic regulator, Set2 histone H3-lysine-36 methyltransferase, relieves snxA1 cold- sensitivity by restoring transcriptional proficiency to this mutant.

Identification and Characterization of Isolates from the Human Skin Microbiome

Poster #: E14
Student(s): Eliana Vickers
Mentor(s): Jennifer Powell
Description: With a wide range of niches varying in temperature, pH, moisture, and lipids, the skin hosts a diverse community of microbes. In this study, we explore the microbiome found at different areas of the skin, focusing on the elbow, palm, and scalp. A single bacterium was isolated from each skin site and characterized by phenotype, metabolism, antibiotic sensitivity, and growth assays. Isolates were then identified by 16s rRNA sequencing. This gives insight into the nature of the skin microbiome.

Immune Checkpoints in Cancer Treatment

Poster #: D17
Student(s): Matthew Cherubino
Mentor(s): Robert Garrity
Description: Despite the human immune system, cancer thrives in an extremely hostile environment. Immune checkpoint inhibitors are a novel and promising therapeutic for treating cancer in its late stages.

In the Passage of Hands: what all is transferred via contact?

Poster #: E12
Student(s): Rebecca Moore
Mentor(s): Jennifer Powell
Description: The human microflora is of high scientific attention for its role in bacterial and viral transmission. Bacteria were collected from the human skin and from a student ID card in an effort to further analyze the role of transmission. They were further investigated to identify species for both of these strains. It was found that the bacteria collected from my ID card, Servo, is gram positive bacillus and that the bacteria collected from my right hand thumb nail, Shake, is a gram positive coccus.

Isolation, Characterization, and Identification of an Unknown Microbe from the Wrist

Poster #: E16

Student(s): Riya Parikh

Mentor(s): Jennifer Powell

Description: A semester long research project was conducted in which an unknown microbe was swabbed from the wrist and multiple experiments were performed in order to characterize the bacterial sample, RP-1. DNA sequencing was done on RP-1 and then a phylogenic tree was constructed to identify its ancestors. Finally, phenotypic characterization was completed to give the closest species matches to RP-1 and all the data was pooled together to definitively identify RP-1.

Molecular Analysis of Genetic Variation for DIP-B Activity in Drosophila melanogaster

Poster #: E20

Student(s): Nicolas Stauffer, Yifei Duan

Mentor(s): Kazuo Hirazumi

Description: Two strains of Drosophila melanogaster that differ in DIP-B activity (CL55 with wild-type activity and NC25III with approximately one-ninth of the wild-type enzymatic activity) were used. To determine if differences in DIP-B enzymatic activity could be caused by variable quantity of DIP- B protein, Western analysis was conducted on samples of male and female adults from these two strains. Also, Dip-B gene sequences were compared to determine if there are SNPs in 5'UTR and coding sequences.

Mutation of a novel fungal protein disrupts microtubule stability and cell division in Aspergillus nidulans

Poster #: D18
Student(s): Claire Woodward
Mentor(s): Steven James
Description: A novel WD40-repeat protein has been implicated in microtubule stability and dynamics in A. nidulans. Deletion of this protein confers temperature-sensitive mitotic catastrophe and abnormal hyphal growth, as well as sensitivity to microtubule-destabilizing agents. To determine the molecular role of this protein in microtubule dynamics, functional analysis of the conserved N-terminus and affinity purification to determine binding partners will be performed.

My Microbe

Poster #: D11
Student(s): Cindy Yang
Mentor(s): Jennifer Powell
Description: None provided

Phylogeny and Distribution of the Symbiosis between Oophila Algae and Amphibians

Poster #: E13
Student(s): Eliana Vickers, River Larson-Pollock
Mentor(s): Ryan Kerney
Description: Amphibians across the globe have a symbiotic relationship with the Oophila algae that inhabit their egg capsules. In yellow spotted salamanders (A. maculatum), this Oophila amblystomatis even infiltrates embryonic cells. Previous studies have shown that all known amphibian symbiont algae in North America belong to the Oophila clade, which contains multiple subclades. In this study, we sequence algae present in frog egg masses from Sweden and determine their phylogeny.

The A-maize-ing Teopod Genes

Poster #: D12
Student(s): Cindy Yang
Mentor(s): David Wills
Description: None submitted

The roles of FSHR-1 in mediating innate immunity and oxidative stress in C. elegans

Poster #: E19
Student(s): San Luc
Mentor(s): Jennifer Powell
Description: One suggested method of recognizing potential pathogens in C. elegans is to detect early damages to cells, so that appropriate response can be activated. Then, a set or response including production of ROS will be activated to help fight off the pathogens, and at the same time will cause onxidative stress. In order to find out what is relationship between oxidative stress and innate immunity, antioxidants treatments and genetic tools such as RNAi to observe any phenotypic changes.

Chemistry

Application of Iron Catalysts to Lactonization of Diols

Poster #: D16
Student(s): Yidan Tang
Mentor(s): Timothy Funk
Description: This research project is a synthetic organic chemistry project that lies in the field of organometallics. We explore a class of iron catalysts that can perform oxidation and reduction reactions. My research focuses on exploring the substrate scope of this type of iron catalyst applying to the lactonization of diols.

Drug encapsulation and delivery via small unilamellar vesicle and giant unilamellar vesicle model

Poster #: C19
Student(s): Alexander Paredes, Thao Hoang
Mentor(s): Kurt Andresen, Shelli Frey
Description: To avoid the risk of adverse side effects, attention has been given to liposomal delivery systems to reduce drug exposure to biological tissue while maintaining its therapeutic effects. This study focuses on drug encapsulation efficiency and delivery of small unilamellar lipid vesicles (SUVs) and giant unilamellar vesicles (GUVs). Additionally, membrane fusion experiments may provide insight into model cytoplasmic drug delivery.

High Throughput Crystal Detection, an Application of Nonlinear Processes.

Poster #: C20
Student(s): Joshua Wagner
Mentor(s): Michael Wedlock
Description: The crystallization of active pharmaceutical ingredients in amorphous solid dispersions can result in decreased bioavailability and therefore reduced efficacy. Crystal detection is therefore critical in quantifying the effectiveness of drugs, both in formulation and for postproduction analysis. Triboluminescence has proven to be a robust and low-cost method to detect trace crystallinity within nominally amorphous solid- state formulations.

Phospholipid Vesicle Encapsulation of RNA

Poster #: D15

Student(s): Khang Ma, Seth Zimmann

Mentor(s): Shelli Frey

Description: Lipids are components of cell membranes in living organisms. Thusly, vesicles created from lipids can act as effective delivery mechanisms for drugs, DNA/RNA, and nanoparticles pertaining to disease treatment. In this experiment, physiologically relevant phospholipids and cholesterol are utilized to create vesicles encapsulating RNA with a methodology claimed to encapsulate at a rate of 40-43%. We will prove that this method functions and test different separation methods post-encapsulation.

Search for the Genetic Correlation between Coat Pigmentation, Blue Eyes and Cochleosaccular Deafness in a Pedigree of Spanish Mustangs

Poster #: E15

Student(s): Celine Erkey

Mentor(s): Koren Lipsett

Description: The correlation between loss of pigmentation, congenital deafness has been studied in many mammalian species. One pedigree of Spanish Mustangs has displayed this correlation, having two offspring exhibit mutant traits. Previous studies on exonic region were not able to confirm this mutation, and prompted analysis in the intronic region. High performance cloud computing is an innovative technique to process large amounts of data, providing a versatile technique for whole genome sequence analysis.

Synthesis, Resolution, and Racemization of 2, 8 Disubstituted Troger's Bases

Poster #: D13

Student(s): Kristen Karlson, Nancy Kallimanis

Mentor(s): Donald Jameson

Description: Troger's Base (TB) is a molecule that contains two substituted, aromatic rings and two chiral nitrogens. This property of chirality makes TB exist as two enantiomers, R,R and S,S, which when synthesized, creates a 50/50 mixture, called a racemic mixture. This mixture then undergoes a resolution to isolate one of the enantiomers. The one enantiomer undergoes an acid catalyzed racemization, which is monitored by polarimetry. Various disubstituted TB have been synthesized, resolved and monitored.

The interaction of transition metals with DNA and their effects on helical structure

Poster #: D19

Student(s): Helen Woodward, Olivia Peduzzi

Mentor(s): Kurt Anderson, Shelli Frey

Description: Free Zn and Ti cations' interaction with DNA has not been extensively documented. In this study, we show the structural changes caused by metal-DNA interaction using circular dichroism and thermodynamic constants using isothermal titration calorimetry. We monitored hydrolytic cleavage of DNA in response to metal addition and determined any preferential binding of metal to DNA. These findings can demonstrate the role of transition metal interactions with DNA in vivo.

Titanium bound mini-metalloenzymes' use in DNA cleavage and catalysis

Poster #: D14

Student(s): Alexander Paredes

Mentor(s): Katherine Buettner

Description: Because of its high oxidation, Ti is prone to covalently bond in water, causing TiO2 or TiO3 to form. This causes Ti to be avoided in aqueous chemistry. However, nature has developed ways to protect metals from reacting with water. Here, we synthesize de novo proteins and form hydrolysis-avoiding Ti complexes, then use these complexes in catalytic and DNA cleavage analysis. These catalysts can then be produced using bacterial expression of the proteins, which is a greener alternative with Ti.

Towards new vanadium enzymes

Poster #: D20

Student(s): Olivia Peduzzi

Mentor(s): Katherine Buettner

Description: Vanadium is underused in biological applications because it is reactive in water. We can use V in water by employing the binding sites of naturally- occurring metal binding proteins to show how they can prevent hydrolysis. Due Ferri proteins mimic the binding sites of iron binding proteins and make it possible to investigate if V can bind to de novo proteins. Spectroscopic data shows that V binds to our proteins; it has never been reported that a de novo protein could bind to V metal.

Classics

Does Knowing Latin Actually Help on the SAT?

Poster #: A4

Student(s): Nicole Bauer

Mentor(s): Jennifer Bloomquist

Description: This project examined if students in AP Latin scored higher than students with no knowledge of Latin on the English vocabulary portion of the Scholastic Aptitude Test (SAT). In addition to testing current AP Latin students, students in lower levels of Latin and those who graduated from the same Latin program in the previous academic year were both studied to see how their vocabulary progresses over the four years and if they retain the same vocabulary abilities one year after taking the course.

Computer Science

Clay Creations

Poster #: E4
Student(s): Emily Redmond, Jenna Wright, Jordan McShan
Mentor(s): Clifton Presser, Rodney Tosten
Description: Clay Creations is a website dedicated to the Gettysburg College Community. Our goal was to provide a platform for Gettysburg College art students to sell their work and provide the community a unique marketplace for local, original art.

Computer Generation of Birds of a Feather Puzzles

Poster #: E2
Student(s): Daniel Ziegler
Mentor(s): Todd Neller
Description: In this project, we implement a computer-aided design process to generate high-quality Birds of a Feather solitaire card puzzles. In each iteration, we generate puzzles via combinatorial optimization of an objective function. Through this iterative improvement process, we demonstrate the importance of the halfway solvability ratio in quality puzzle design. We relate our observations to recent work on tension in puzzle design, and suggest next steps for more efficient puzzle generation.

Data Delivery Alexa Skill

Poster #: D7
Student(s): Jacob Poff, Jerome Skinner, Thy Do
Mentor(s): Clifton Presser, Rodney Tosten
Description: The Alexa Skill is created for OEM Data Delivery (Operations and Equipment Management Data Delivery) company. The skill uses
RESTful API calls to help workers in the off-highway industry hands-free retrieve important information of a piece of machinery.

Efficient Solving of Birds of a Feather Puzzles

Poster #: D8
Student(s): Jivan Kharel, Ryan Smolik
Mentor(s): Todd Neller
Description: In our research, we worked to create an efficient solver for the solitaire game Birds of a Feather. We created a new variant of depth-first search that we called Best-n Depth First Search that achieved a 99.56% reduction in overall search time over 100,000 puzzle seeds. We evaluated a number of potential node-ordering search features and pruning tests and preformed an analysis of solvability prediction with such search features.

Gettysburg Digest Mobile

Poster #: E5
Student(s): Matthew Ainsworth, Matthew Robinson, Ruijia Guo, Sen Zhan
Mentor(s): Clifton Presser, Rodney Tosten
Description: None provided

Gettysburg: A Walk Through Time

Poster #: D9
Student(s): Charles Stewart, Mateus Maccieri, Nicholas Weinel
Mentor(s): Clifton Presser, Gavin Foster, Rodney Tosten
Description: Tasked with building a mobile tour guide application for the Adams County Historical Society. The goal was to track the user around Gettysburg using geo-location, while displaying facts about each site in text and in Augmented Reality pinned to the buildings. We were required to build an application that would function on both iOS and Android system. This was accomplished by using React Native as our main coding platform.

The It Kit

Poster #: E11

Student(s): Brandon Gallagher, Daniel Harcourt, Jessica Rowland, Yidan Tang

Mentor(s): Clifton Presser, Rodney Tosten

Description: The It Kit is an online store built during the Computer Science capstone course for Gettysburg Alumni, Erin Sweeney. At Gettysburg Erin participated in the Entrepreneurial Fellowship program to develop a business plan for The It Kit, a subscription box service for girls aged 12- 16 focusing on hygiene and beauty products. The online store includes a playful style, customizable and editable beauty profile, product search, product education, and multiple subscription options.

Trains AI

Poster #: D10

Student(s): Naufa Amirani, Parker Sorenson, Shiyu Li

Mentor(s): Clifton Presser

Description: None provided.

Economics

Allocating in the Presence of Dominance: A Mean-Variance Portfolio Choice Economic Experiment

Poster #: E6
Student(s): John Gardner
Mentor(s): John Cadigan
Description: For my Senior Honors Thesis, I have designed a mean-variance portfolio choice economic experiment. Using the on campus recruiting system, students are randomly recruited and asked to participate in one of three experimental treatments conducted in the Gettysburg Lab for Experimental Economics. I evaluated subjects capital allocation decisions in relation to the mean-variance optimal solution.

Bitcoin Mining in China: The Past, Present & Future

Poster #: A19
Student(s): Tyler Mann
Mentor(s): Rimvydas Baltaduonis
Description: To explore the natural, political and economic factors that led to China controlling approximately 70% of all Bitcoin mining and the energy implications associated with this multifaceted modern phenomenon. Policy statements, scholarly works and press releases were gleaned for information on Bitcoin mining in China. The energy implications were analyzed by combining government and third-party energy data to analyze consumption, production, and intensity trends over the last decade.

Clean Water and the Education Gender Gap According to National Income

Poster #: F2

Student(s): Elizabeth Miller

Mentor(s): Linus Nyiwul

Description: This paper is an econometric analysis of the percentage of population with access to improved drinking water and female progression rate to secondary school based on the gross national income per capita. Using instrumental regressions and a Tobit model, the results of this paper indicate a statistically significant relationship between access to clean drinking water and the progression rate of females to secondary school in the context of the ratio of females to males in secondary school.

Fiscal Policy Upon Exit from A Monetary Union: A Dynamic Stochastic General Equilibrium Approach.

Poster #: F1

Student(s): Luca Menicali

Mentor(s): Linus Nyiwul, Tsu-ting Lin

Description: This paper investigates volatility and fiscal policy when the government of a small-open economy leaves a monetary union. I build a Dynamic Stochastic General Equilibrium model for a small-open economy without monetary policy independence and solve it to find the optimal simple fiscal rule that minimizes economic volatility. I then mimic exit from a monetary union by endogenizing the interest rate and exchange rate, and specifying a tariff to compile policy recommendations.

Institutions and the Income of the Elite

Poster #: E9

Student(s): Colleen Campbell

Mentor(s): Linus Nyiwul

Description: This project will use regression analysis to test the impact of political and economic institutions on the income of the elite.

Price-Earnings Ratio Mean Reversion and Implications for Optimal Portfolio Construction

Poster #: E8
Student(s): Kevin Klassen
Mentor(s): John Cadigan
Description: I conducted an empirical investigation to determine whether the price- earnings ratio of a stock exhibits mean reverting behavior. After finding that they do, I examined the theoretical implications for optimal weights in a two risky asset portfolio.

The ASEAN Free Trade Area Effect: A Structural Gravity Re-Assessment Using Disaggregated Industrial Bilateral Trade Data

Poster #: A27
Student(s): Alexander Xie
Mentor(s): M. Ivanova Reyes
Description: This study uses the structural gravity model of international trade to quantify the effects of the ASEAN Free Trade Area (AFTA) on bilateral trade flows of industrial goods among its ten member countries. I employ the theoretically-consistent approach of estimating the gravity equation with the Poisson Pseudo Maximum Likelihood estimator and three-way high-dimensional fixed effects. I find an AFTA trade volume effect of 46.32% that is statistically significant at the 10% level.

The Effect of the Earned Income Tax Credit on Wages in the Lower Income Distribution

Poster #: E3
Student(s): Madison Fox
Mentor(s): Brendan Cushing-Daniels, Linus Nyiwul
Description: The Earned Income Tax Credit (EITC) is a tax credit for low-income working individuals. Since its enactment in 1975, the EITC has reduced the number of people in poverty. Previous research finds that the EITC has been very successful in increasing labor force participation, especially among single mothers. My research adds to the prior literature on the EITC by studying the effect of the EITC on wages in the lower income distribution.

The Probability of Reaching Settlement and the Determinants of Settlement Amounts in Securities Class Action Lawsuits

Poster #: F4

Student(s): Polina Rozhkova

Mentor(s): John Cadigan, Linus Nyiwul, Tsu-ting Lin

Description: This paper examines the determinants of settlement amounts in securities class action suits as well as the factors that increase the probability of a case reaching settlement. I implement a tobit model and a two-part hurdle model in addition to the standard OLS regression in order to account for the cases that fail to settle.

Unsustainable Sustainability: Do Policies that Increase Environmental Performance Exacerbate Income Inequality?

Poster #: E7

Student(s): Haley Skinner

Mentor(s): Linus Nyiwul

Description: International pressure to meet climate and sustainability goals are mounting. Countries attempting to industrialize in the age of sustainability are tasked with industrializing using low-carbon industries. The transition to a "green" economy requires elimination of some jobs and skillsets that may upset social equality. This paper empirically examines the hypothesis that environmental policies which lead to increased environmental leads to increased income inequality in developing countries.

Education

Broadway Mania!

Poster #: A21
Student(s): Alexandra Bruder, Catherine Schnarr, Peter McQuade
Mentor(s): Chloe Ruff
Description: For our Educational Psychology lab, we had an ASAP program where we had students create their own play. We will be showing what was completed in the program, and what we learned as teachers.

Educational Psychology ASAP Program

Poster #: A22
Student(s): Carolina Fernandes, John Carroll, May Lonergan
Mentor(s): Chloe Ruff
Description: We will be presenting about our after school teaching experience with our educational psychology class

Play With Your Food: A Study in Educational Psychology

Poster #: A23
Student(s): Jacob Molina, Summer Burton
Mentor(s): Chloe Ruff
Description: A six-week after school program for students grades 3-5 used to analyze the theories of Educational Psychology in a real life classroom. This program was based around incorporating food into the classroom to develop skills involving the scientific method and farm to table. Includes topics, such as: motivation, learning theories, and cognitive development.

Score More Sports Olympics

Poster #: A24
Student(s): Anna Hightower, Kiley Aymar, Liza Barr, Megan Kratz
Mentor(s): Chloe Ruff
Description: For our group session over the span of six weeks, we encouraged students to learn the value of good sportsmanship as well as the rules of a variety of sports and games.

Super Sport Spectacular and Educational Psychology Field Lab

Poster #: A25
Student(s): Alexandra Charney, Brian Buechele, Jose Murillo
Mentor(s): Chloe Ruff
Description: We will introduce an after school activity that we designed, taught, and assessed for our educational psychology field lab.

Team Adventure Games After School Program Project EDU 201

Poster #: A26
Student(s): Ryan Nadel, Taylor Decker, Tessa Damiano
Mentor(s): Chloe Ruff
Description: Our group created, planned, and executed a 6 week after-school program for a local elementary school as part of the ASAP program for EDU 201 students. Our program (team adventure games) was designed to improve the co-operation and teamwork skills of our group of 3rd-5th graders.

Environmental Studies

Blue Sky Olympics: Satellite Observations of Emissions Control During the 2008 Beijing Olympics

Poster #: G7
Student(s): Lincoln Butcher
Mentor(s): Rutherford Platt
Description: China imposed short-term emission control regulations on industry and transportation to quickly improve air quality during certain events, including the 2008 summer Olympic Games. This study observes trends in regional AOD and temporal change in AOD during the Olympic emissions reduction program. 2008 observations are referenced against AOD observations from 2003 to 2013, within 9-day intervals from June 23rd to October 24th and 40 km bands extending up to 240 km from the Beijing city limits.

Comparing climate perceptions and reality around Kedarnath Wildlife Sanctuary, India

Poster #: G10
Student(s): Natalie Kisak
Mentor(s): Rutherford Platt
Description: Climate change impacts local agricultural communities because of the threat new weather patterns pose to their livelihood. But how aware are they of changes? This study looks at 16 Himalayan villages in India to evaluate if local perceptions agree with climate trends, using survey and remotely-sensed data. There is consensus for most variables, although perceptions differ on the extent of change and notably contrast winter temperature. These results can help locals understand changes and adapt.

Comparison of Periglacial Block Fields and Talus Slopes in South Central Pennsylvania and Northern Maryland

Poster #: G13
Student(s): Ilana Sobel
Mentor(s): Sarah Principato
Description: Relict periglacial boulder fields, or block fields, are scattered across south-central Pennsylvania and northern Maryland. A combination of digital analyses using Google Earth Pro and fieldwork were used to investigate block fields at different scales. Fieldwork focused on two block fields, which were compared with fieldwork conducted on two talus slopes. The importance of geomorphic processes on formation of block fields compared to talus slopes were examined as part of this pilot study.

Evaluating the effects of riparian water politics in the Middle East on environmental water supply and riparian community agency over water resources

Poster #: A9
Student(s): E. Lynn Porta
Mentor(s): Andrew Wilson, Roy Dawes, Stephen Stern
Description: This work takes a statistical approach to connecting political and diplomatic characteristics of treaties regarding water resources in the Middle East, to any change in water accessibility and availability following a treaty; such analysis could work towards establishing the ideal conditions for successful multi-party management of water resources that address resource needs, demands, and asymmetries in water-scarce regions.

Impact of Recreational Boat Noise on Eastern Oyster (Crassostrea virginica) Larvae Settlement

Poster #: G9
Student(s): Jennifer Gilmore
Mentor(s): Andrew Wilson
Description: Underwater anthropogenic noise, sound generated by human activities, has concerning effects on marine habitats. Does recreational boat noise decrease oyster larvae settlement?

The Personal Element: How Film Affects Audience Climate Change Belief, Concern, and Behavior

Poster #: A28
Student(s): Brittany Bondi
Mentor(s): Sarah Principato
Description: This study seeks to understand if an environmental film, The Human Element, can increase belief in climate change and inspire eco-friendly action in the short and longer-term. We screened a film to students at Gettysburg College and Alma College. Participants took a total of 3 surveys: one pre-film and two-post film. Between taking surveys 2 and 3, half of participants received weekly supplemental information on climate change via a custom website, while the other half served as a control.

Using streamlined landforms to reconstruct and compare paleo-ice flow paths in Bárðardalur, north Iceland and northwestern Pennsylvania

Poster #: G8
Student(s): Marion McKenzie
Mentor(s): Sarah Principato
Description: The properties of streamlined landforms and paleo-flow indicators in the valley of Bárðardalur, north Iceland and northwestern Pennsylvania (NWPA) were quantified using a combination of spatial analyses and fieldwork. At least 148 streamlined landforms were identified in Bárðardalur and at least 312 streamlined landforms were identified in NWPA. Bedrock composition and geothermal gradient are being used to analyze influences on the presence of streamlined landforms.

Wolves Are Wild: A Collection of Narratives on Rescued Wolves and Wolfdogs

Poster #: G14
Student(s): Molly Vorhaus
Mentor(s): Monica Ogra
Description: The stories, illustrations, and poetry in this project were created to highlight the problems created by the practice of keeping a wolf or wolfdog in captivity by portraying these issues through the lives of the people and animals who have experienced them. This project documents problems ranging from abuse, to animal hoarding, to separation anxiety, and to maltreatment -- all while telling true life stories of real wolves and wolfdogs.

Yellowstone in Transition: An Analysis of the Potential Impacts of Climate Change on Wildfire Regimes and Post Fire Regeneration in the Greater Yellowstone Ecosystem

Poster #: G12

Student(s): Annalise Hauser

Mentor(s): Rutherford Platt

Description: In response to climate change, the Greater Yellowstone Ecosystem (GYE) is expected to undergo changes in fire regimes due to rising temperatures and more frequent and severe drought periods. The purpose of this study was to perform a long term remote sensing analysis of the changes in fire characteristics and post-fire regeneration in the GYE.

Front Cover

Jianrui Li ’19
1st place: *Self Portrait*
Medium: print on paper

Yirui Jia ‘19
Jurors Award: *Seaweed Loop*
Medium: ceramic

Elise Quick ‘21
2nd place: *Stump Feet*
Medium: wood and liquid plastic sculpture

Laura Waters ’19
3rd place: *Selbstmord*
Medium: multimedia piece using paper and glass

Mara Smeltzer ‘21
Honorable Mention: *Worm*
Medium: ceramic

Mary Riggs ‘22
Honorable Mention: *Family Objects*
Medium: cut paper

History

A Monument to Culture and Achievement: The Samurai Suit of Armor and Katana at Gettysburg College

Poster #: A13
Student(s): Carolyn Hauk
Mentor(s): Michael Birkner
Description: A samurai suit and katana in Musselman library symbolize hundreds of years of the ancient Samurai tradition in Japan and relations between the U.S. and the Pacific during World War II as narrated by Major General Charles A. Willoughby. As part of Professor Birkner's "Hidden in Plain Sight" project for Historical Methods, this research illuminates the connection between the college and an ancient culture half way around the globe as well as one of the murkiest mysteries at Gettysburg College.

A Tradition of Bells: An Early History of Glatfelter Bell and Hall

Poster #: A12
Student(s): Shannon Zaltmann
Mentor(s): Michael Birkner
Description: In this class, each student found a hidden object on campus and wrote a history of behind it. Glatfelter Bell is something people hear hourly on campus, yet often forget it is there. This history looks at the tradition of having a bell on campus, going into some history of the original times the bell would ring, some short stories of the bell, and the mainly establishment of Glatfelter Hall, which led to the purchase of the current bell in Glatfelter, which replaced the original bell on campus.

Resilience Against Adversity: Gettysburg College's 1996 Flood Recovery

Poster #: A11

Student(s): Bridget Kennedy

Mentor(s): Michael Birkner

Description: This project is the first original research conducted on the millennium storm that hit the Gettysburg area in June of 1996 and its effect on the local and college communities. Despite the fact that 53 of the College's 57 buildings were inundated with flood waters, Gettysburg College was able to completely recover in time to welcome students back for the Fall semester. This project examines the damages of the storm in detail and what made the College's miraculous recovery possible.

Interdisciplinary Studies

The C. Hunter Ritchie Project of the Non-Standard Grammar associated with Linguistic Hedges that is influenced on Children.

Poster #: A14

Student(s): Daniel Jones

Mentor(s): Jennifer Bloomquist

Description: This study examines the questions of do children develop a habitual usage pattern of the word "like" as a linguistic hedge when describing things in a casual conversation, and if so, when is this pattern developed, and for which gender? It goes in depth by looking at early gender stereotypes, parenting styles, and other circumstances, all of which could affect this style of a child's early language usage.

Music

A New Music Studio: Moving Toward Inclusivity in the Private Studio

Poster #: F14
Student(s): Rose Martus
Mentor(s): Brent Talbot
Description: In the world of classical music, knowledge and skill are passed down from teacher to student through one-on-one lessons. These occur outside of a school's general music curriculum and are an out of pocket expense for families. This leaves a large number of students unable to meet the same level of musicianship as their peers. How can private studio instructors accommodate disadvantaged students? Examining the needs of both the students and the teachers provides an answer.

Final Teaching Portfolio

Poster #: F16
Student(s): Robert Napoli
Mentor(s): Brent Talbot
Description: A portfolio of all work in the Student Teaching Seminar this semester, including my personal website.

Music Education Student Teaching Capstone

Poster #: F13
Student(s): Elizabeth Buscher
Mentor(s): Brent Talbot
Description: Music Education portfolio

Music Student Teaching Capstone

Poster #: F17
Student(s): Logan Santiago
Mentor(s): Brent Talbot
Description: Music Education Portfolio

Stressing Perceptions: The fInE Line

Poster #: F15

Student(s): Benjamin Fruchtl, Brooke Maskin, Hannah Kolarik, Jenna Pavis, Rose Martus

Mentor(s): Brent Talbot

Description: There are a number of societal issues regarding the perceptions on mental illness and the stigma against getting help, specifically in college students. Students feel as if they are alone and don't know how to ask for help. Through modeling the college conservatory experience, this musical discusses methods by which peers and professors can be friends and mentors for those struggling with mental illness. Our research addresses how we can change our language and interactions to be more inclusive.

Student Teaching Portfolio Presentation

Poster #: F12

Student(s): Jasmin Eddy

Mentor(s): Brent Talbot

Description: Throughout my student teaching experience I have created a portfolio that outlines my accomplishments over the past four years of study and I will use it to showcase myself for prospective employers.

Stylistic Tendencies in the Art Song and Poetry of Amy Beach

Poster #: A20

Student(s): Austin Nikirk

Mentor(s): William O'Hara

Description: Comprehensive analysis of five art songs composed by American composer Amy Beach, and a poetic study of the settings, all written by the composer or her husband.

Organization and Management Studies

The Gender Role-Perception Theory: A Proposed Explanation for the Lack of Maternity Leave Policy in the United States

Poster #: A6

Student(s): Erica Boucher

Mentor(s): Heather Odle-Dusseau

Description: There is a lack of maternity leave policy in the United States, but there is no adequate explanation for this lack of policy. While there are some current theories used to explain this problem, they are not able to fully explain why there is not maternity policy in the United States. A new proposed theory, the gender role-perception theory, bring together two theories in order to explain this lack.

Philosophy

On the Moral Value of Replicants in the Film Blade Runner

Poster #: A15

Student(s): Alyssa Chapman

Mentor(s): Vernon Cisney

Description: The Film Blade Runner, directed by Ridley Scott, explores the moral value of manufactured beings barely distinguishable from humans. In my presentation, I explain how the theoretical moral value of replicants compares to humans as well as why replicants will never be created.

Physics

DNA Compaction Induced by Histone-like Gold Nanoparticles

Poster #: C12

Student(s): Hayden Hall, Jonathan Hu, Shelby Nicolau

Mentor(s): Kurt Andresen, Shelli Frey

Description: Investigations of DNA-histone interactions are essential for understanding high order DNA assemblies like chromatin and their possible applications in drug delivery and gene regulation. The work presented here aims to model histones using cationic gold nanoparticles. Through techniques like circular dichroism, transmission electron microscopy, and inductively coupled plasma-atomic emission spectroscopy, the nature of nanoparticle induced DNA compaction will be studied.

The Effect of Sodium Salts on the Membranes of Phospholipids

Poster #: C11

Student(s): Lebiley Tea, Zhaozhi Ye

Mentor(s): Shelli Frey

Description: The research aims to determine the effect of sodium salts on physiologically relevant neutral DPPC and negatively charged DOPG: DPPC membranes. A Langmuir trough is used to perform pressurearea isotherms of lipid monolayers on at the air/salt solution interface at room temperature and Laurdan fluorescence is then used to determine the phase changes in the membrane formed in sodium salts. Our research follows the study of chaotropic anions' effect on membrane fluidity by Christoforou (2012).

Psychology

"Sticks and Stones"? has become "Pixels and Texts"?: Predictors of Cyberbullying in Adults

Poster #: C7
Student(s): Luke Seyfert, Matthew Simmers
Mentor(s): Christopher Barlett
Description: Cyberbullying perpetration has become a world-wide concern for many and scholars are attempting to uncover the variables that predict cyberbullying in an effort to reduce the likelihood that people will harm others online. The current study presents a correlational study testing the theoretical predictors, plausible moderating variables, and mediating processes that influence cyberbullying perpetration in adults

Blue Banana, Red Lime?: An Examination of How Color and Olfactory Routes Influence Flavor Identification

Poster #: C15
Student(s): Haley Gluhanich, Marcella Mistretta
Mentor(s): Daniel McCall
Description: This study examined the effects that color (an appropriate color for a flavor or an inappropriate color for a flavor) and olfactory route (orthonasal: sniffing or retronasal: through eating/drinking) have on flavor identification. We predicted that when a solution has an "appropriate" color for the flavor and when the odor is presented orthonasally, participants will better be able to identify the flavor.

Disordered eating, social media, and self-compassion in college women

Poster #: B17
Student(s): Wynter Tremlett
Mentor(s): Kathy Berenson
Description: The objective of this research is to study the effects that various social media accounts have on the moods of college women. Instagram in particular will be utilized; four conditions will be used. There will be one control, or travel image, and three experimental conditions: 'fitspiration', transformation, and healthy eating posts. Each participant will only receive one of the above conditions.

Does Odor Emotionality Change with Levels of Alexithymia?

Poster #: C4
Student(s): Charles Williamson, Laura Gustafson
Mentor(s): Daniel McCall
Description: Alexithymia refers to difficulty in processing emotional stimuli. Previous research has shown that differences in levels of alexithymia lead to altered responses to odorants. We investigated whether alexithymia would alter people's perception of whether an odor conveyed a happy, sad, fearful, or angry emotion. We predicted that those high in alexithymia would be less consistent in their ratings of the odors than those low in alexithymia.

Does the American Flag Still Promote "Liberty and Justice for All"? The Effect of U.S. Flag Exposure on Intergroup Relations During Trump's Presidency

Poster #: C2
Student(s): Nadia Romero Nardelli, Stella Nicolaou
Mentor(s): Sahana Mukherjee
Description: Prior research found that exposure to the U.S. flag activated core egalitarian values and reduced outgroup hostility among highly nationalistic individuals. The current research seeks to evaluate whether these results still hold under Trump's presidency. Given that Trump's prejudiced rhetoric utilizes "free speech" to justify prejudice, it is possible that highly nationalistic individuals exposed to the flag may show enhanced outgroup hostility compared to the no flag exposure condition.

Effect of Play and Praise on Mastery Motivation in Preschoolers

Poster #: D5
Student(s): Allison Romano, Emma Mugford, Oia Cassar
Mentor(s): Kathleen Cain
Description: None provided

Effects of Comprehension Difficulty and Room Brightness on Perceptual and Cognitive Tasks

Poster #: D2

Student(s): Brianna Williams, Laurel Howlett

Mentor(s): Rebecca Fincher-Kiefer

Description: The goal of our study is to examine light-dark metaphors concerning comprehension and if they reflect a real difference in our perception of brightness and cognitive performance. We predicted that in an easy comprehension condition, participants would perform better on the cognitive task and would perceive the room to be brighter in the light condition than in the dark condition, however, these cognitive and perceptual differences would be reduced in the difficult comprehension condition.

Embodied Stability: The Effect of Physical Stability and Self Esteem on Perceived Relationship Stability

Poster #: C1

Student(s): Jennifer Balter, Sara Walker

Mentor(s): Rebecca Fincher-Kiefer

Description: Our research looks at how physical instability interacted with a self- esteem prime to affect perception of stability in a target friendship. We expected a significant interaction of self-esteem and physical stability, such that those primed with low self-esteem would perceive less relationship stability in the physically unstable condition compared to those in both the physically stable condition and those primed with high self-esteem.

Emotional Eating: How Do Pleasant and Unpleasant Stimuli Affect Chocolate Cravings?

Poster #: B11

Student(s): Alyssa Gemma, Daisy Sullivan

Mentor(s): Daniel McCall

Description: Two studies explored the effects of positive and negative sensory stimuli on cravings. Experiment 1 found that unpleasant odors interfered with chocolate cravings. Experiment 2 tested whether the same effect occurs with positive or negative videos. We predicted that chocolate cravings would increase with an unpleasant video due to the effects of emotionality on eating behavior.

Man of Many Hats: The Role of Political Party Identification and Group Symbols on Patriotism

Poster #: C6
Student(s): James Ford, Kelsey Clark, Luke Seyfert
Mentor(s): Sahana Mukherjee
Description: The current research is interested in the group symbols and how they influence the ways we think about the world. Research focuses on the effect that seeing hats with group symbols (i.e. an American flag or "Make America Great Again") differentially affects the levels of blind patriotism, critical patriotism, nationalism, and assimilationist national identity based on levels of identity with the two major American political parties.

Natural Vs. Synthetic: Perception of Hand Sanitizer

Poster #: C13
Student(s): Nevada Keyton
Mentor(s): Brian Meier
Description: Studies have shown natural biases to exist for individuals choosing natural medicines and foods over their synthetic counterparts. My study expands on pre-existing studies by looking at whether this same trend applies to other objects, such as hand sanitizer. Participants in my study were asked to sample a hand sanitizer, described as having either 'synthetic' or 'natural' ingredients. The weight of the container is measured after application to the hands to examine the amount used.

Perceiving and Labeling Odors Based on Categorical Cues

Poster #: B18
Student(s): Katherine Lentz, Zoe Philippou
Mentor(s): Daniel McCall
Description: We attempt to expand on past research by examining the effect of categories so that we can determine if even just the suggestion of what the odor might be will aid in the accuracy odor identification. We predict that food labels will be more accurately identified than nonfood odors and that there will be a greater experience of pleasantness and edibility and familiarity with food odors based on past correlations.

Preschooler's social judgments based on Gender

Poster #: C9

Student(s): Dean De Lucia, Lauren Miesemer, Max Hall

Mentor(s): Kathleen Cain

Description: This project aims to study the significance of children's judgements on good and bad behaviors. It hopes to help better understand how and why children make certain decisions based on gender.

Re-Conceptualizing Strength in an Online Context and its Impact on Cyberbullying

Poster #: C17

Student(s): Haley Present, Minh-Ha La

Mentor(s): Christopher Barlett

Description: One defining characteristic of traditional bullying is a power imbalance between the bully and the victim. Here, power imbalance could mean physical stature or popularity. However, without the face-to-face interactions in cyberbullying, the power imbalance component of bullying needs re-conceptualized. This study seeks to empirically re-define power imbalance by looking at the absence of physical strength, popularity, and online computer skills to see its influence on cyberbullying perpetration.

Recognition and Memory Recall of U.S. Historical Events and Recognition and Word Choice in Gettysburg College Sports Articles

Poster #: D6

Student(s): Lisa Maeyer

Mentor(s): Sahana Mukherjee

Description: This project consists of four studies. The Pilot Study assessed how valence of historical images impacted psychological perceptions. Study 1 investigated temporal distancing, memory, and emotion (PANAS) and used select photos from the Pilot Study. Study 2 examined people's recognition and memory recall of U.S. historical events, and how their memory influences their willingness to take present/future action. Study 3 evaluated whether visual imagery could also be conveyed via words (vs. color).

The Dangers of Instant Gram-Ification: Short-term Effects of Social Media Use in Emerging Adulthood

Poster #: B19
Student(s): Hanna Michel, Zoe Philippou
Mentor(s): Natalie Barlett
Description: As smartphones have become more popular, young adults have near-constant access to social media. Despite growing access, there is much left to understand about the impacts of this media type. This study examined relationships between media use, health, and cognition, and the impact on attention immediately after social media use. Participants answered questions on media use, health, and cognitive function before viewing social media, news, or magazines. Findings and implications are discussed.

The Effects of Flag and National Anthem Exposure on Nationalist and Patriotic Attitudes

Poster #: C16
Student(s): Darby Nisbett, Julianne Lilienfeld, Weiqing Shen
Mentor(s): Sahana Mukherjee
Description: We examined effect of national symbols on people's affective state, as well as emotions and beliefs specific to the nation. Participants were exposed to the national flag or a Gettysburg symbol (G) as well as the U.S. national anthem or the Gettysburg alma mater. The Gettysburg symbol and song served as our control. We examined whether national symbols have an additive effect.

The Effects of Gender on Children's Selective Trust

Poster #: D3
Student(s): Abigail Morelli, Danielle Kupersmith, Shannon Gaffney
Mentor(s): Kathleen Cain
Description: We examined the influence of gender on children's willingness to agree with the non-conventional usage of a common object. Specifically, we investigated whether children would be more likely to find the alternative use of the common object acceptable when supported by an endorser who is the same sex as they are, compared to an endorser of the opposite sex**.**

The Effects of Ketamine on Social Avoidance in F344 and SD rats

Poster #: C3

Student(s): Brittany Maronna, Stella Nicolaou

Mentor(s): Stephen Siviy

Description: Social anxiety has the pathological feature of avoidance behavior and can be manipulated to be studied in rodents whom are thought to have similar emotional behaviors to humans. Both SD and F344 rats were used to compare their social behaviors after receiving a subanesthetic dose of ketamine (10 mg/kg) or saline in a paradigm that assesses social approach and avoidance behaviors as a model of anxiety.

The Effects of Label Accuracy on Odor Perception

Poster #: C14

Student(s): Grace Goldy, Nina Imperatore

Mentor(s): Daniel McCall

Description: Past studies have demonstrated that odor labels influence perceived pleasantness, intensity, and familiarity ratings of odors. In this study, we investigated whether these effects occur even when the labels are inaccurate. One group rated odors that had positive and negative accurate labels, while another group rated them with inaccurate labels. We predicted there would be significant differences in ratings of positive and negatively labeled odors, regardless of odor label accuracy.

The Effects of Neuroscientific and Chemical Terminology on Judgments of Explanation Satisfaction

Poster #: B16
Student(s): Hannah Dalzell, Margaret Morehouse, Wynter Tremlett
Mentor(s): Kevin Wilson
Description: The Effects of Neuroscientific and Chemical Terminology on Judgments of Explanation Satisfaction

The Effects of Praise and Mindsets on Academic Achievement in Preschoolers

Poster #: D4
Student(s): Alexa Bushey, Hadley Stine, Jean Van Buren
Mentor(s): Kathleen Cain
Description: None provided

The Impact of Internal versus External Life Stressors on Levels of Perceived Burdensomeness in the LGBQ Community

Poster #: B13
Student(s): Mary Buckley
Mentor(s): Kathy Berenson
Description: The impact of internal and external gay-related stressors on the development of perceived burdensomeness and thwarted belongingness in the LGBQ community is not well understood in the current literature. In the present study, we administered online questionnaires to college students from various sexualities in order to measure their experience with internal and external discrimination and perceived rejection, in relation to the interpersonal psychological theory of suicide.

The Impact of Neuroscience on Legal Decisions

Poster #: B20

Student(s): Amy Whitsel, Michaela DiElsi, Tyler Keohan

Mentor(s): Kevin Wilson

Description: Neurolaw involves the use brain information in an attempt to sway jury members, or judges, in favor of a particular argument, due to the perceived persuasive nature of neuroscience. We hypothesize that when neuroimagery is placed at the beginning of the defenses argument the jury will be more sympathetic towards the defendant and rate them as less dangerous, due to the effect of serial positioning on cognitive representations.

The Implications of Stereotypical Biases on the Acceptance of Diversity in Greek Life

Poster #: D1

Student(s): Abigail Finan, Annie Lashutka, Candice Montenegro

Mentor(s): Sahana Mukherjee

Description: Our research is aimed at determining how stereotypical racial biases influence people's perspectives of minority groups on campus. Specifically, we looked to see how these biases influenced the acceptance of minority students into Greek Life organizations. We compared subjects perceived aggression, danger and evaluations of treatment towards black and white students and interpreted our results based on the Standards Shifting Theory.

The Influence of Media Violence Exposure on Cyberbullying: Direct or Indirect (or Both)

Poster #: C5

Student(s): Brittany Maronna, Charles Williamson, Emma Richart

Mentor(s): Christopher Barlett

Description: The literature has recently explored the role that media violence exposure has on cyberbullying with authors concluding that there is a direct link. We used a multi-wave longitudinal study to examine this purported causal relationship in a sample of emerging adults. Based on the theory, we proposed that media violence exposure would not directly predict cyberbullying, but indirectly through other learned aggression knowledge structures.

The Prestige of Neuroscience and Environmental Science on Explanation Quality

Poster #: B15
Student(s): Arianna Bacon, Barbara Benowitz, Rebekah Hurwitz
Mentor(s): Kevin Wilson
Description: We looked at the effects of the influence of neuroscience on perception of prestige when compared to the influence of environmental studies and if one had more of an influence on quality of explanation for a given phenomenon.

The Role of Ego Depletion in Weight Judgments Embodying Importance

Poster #: B12
Student(s): Hannah Hellmuth, Jessica Russo
Mentor(s): Rebecca Fincher-Kiefer
Description: The level of importance of an object can be altered by one's perception of its weight, just as the experience of weight has the ability to alter judgments of importance. We predicted that objects found to be more important to the participant would be perceived as heavier, but more so for those who were cognitively depleted due to a lack of judgment resources.

The Role of Independent and Interdependent Self-Construals and Comfort on Relationships and Accessibility of Knowledge

Poster #: B14
Student(s): Miranda Lieberman, Raechyl Thieringer, Ziyu Tang
Mentor(s): Rebecca Fincher-Kiefer
Description: Because independent self-construals focus on the self while interdependent self-construals focus on others, we investigated the effect that self-construals have on the experience of physical warmth and relevant accessibility of knowledge. Results indicated that those with interdependent thinking found more caring words and had higher ratings on interpersonal closeness when experiencing cold than those with independent thinking. When experiencing warmth, however, this effect was reduced.

Unpleasant Odors Reduce Chocolate Cravings

Poster #: C18

Student(s): Daniela Gonzales, Thao Ha Hoang

Mentor(s): Daniel McCall

Description: Two experiments examined the effects of odors on chocolate cravings. Participants rated their craving levels after viewing images of chocolate foods while inhaling odors. In experiment 1 an unpleasant odor reduced chocolate cravings. In experiment 2, we presented the same odor with positive or negative labels. We predicted that the negative label would reduce cravings. These findings can suggest potential ways to curb craving by inhaling an unpleasant scent and avoiding pleasant scents.

You're Not Anonymous Online

Poster #: C10

Student(s): Gabrielle Dunning, Jasmine Bishop, Max Hall

Mentor(s): Christopher Barlett

Description: Validation of a Theory-Derived Cyberbullying Intervention Project: The current study tests the validity of an intervention used to reduce cyberbullying perpetration. Participants were randomly assigned to watch either (a) videos that explains how un-anonymous one is online, (b) videos that explain how miscommunication happens online, or (c) no videos. Results suggest a successful intervention at reducing cyberbullying.

Public Policy

A Nationwide Assessment of Prostitution and Human Trafficking Courts

Poster #: G4
Student(s): Caroline Kavanagh
Mentor(s): Anne Douds
Description: This capstone for my Public Policy major examines how courts are responding to the issues of prostitution and human trafficking. Since there is no literature that describes how all Prostitution Courts and Human Trafficking Courts operate, we cannot develop policy that makes these programs as effective as they can be. My projects looks at all of these courts in existence and synthesized all the data pertaining to them.

Analysis of Recommended Chapter 49 Revisions

Poster #: G3
Student(s): Caroline DeWitt
Mentor(s): David Powell
Description: This project will analyze the proposed revisions to Chapter 49, which is Pennsylvania state legislation regarding teacher certification.

Assessing the Tenants Rights Landscape

Poster #: F8
Student(s): Benjamin Pontz, Patrick McKenna
Mentor(s): Anne Douds
Description: This project aims to illuminate the best practices to protect tenants for retaliation for reporting habitability concerns through a mixed methods, interview-based project of housing professionals nationwide.

College can be expensive: Income Share Agreements could be the answer at Gettysburg College

Poster #: G1
Student(s): Celia DiSalvo
Mentor(s): Anne Douds, Drew Murphy
Description: My Capstone Project examines the history and structure of Income Share Agreements as a unique tuition alternative for students to fund their higher education. Specifically, through interviews with key college administrators I explored whether Income Share Agreements are appropriate and responsible public policy to implement at independent liberal arts schools such as Gettysburg College.

Economic Impact of Marsy's Law: A Case Study

Poster #: F5
Student(s): Abigail Hauer
Mentor(s): Anne Douds
Description: Marsy's Law, a proposed state constitutional amendment, expands rights delineated to crime victims. Although Marsy's Law has existed in state Constitutions for over 10 years, there is little research on the economic impacts of it. This project will conduct a county-level case study to assess whether the passage of Marsy's Law and its expansion of state Constitutional rights to victims, specifically with bail hearings, will have an economic impact on the Adams County criminal justice system.

From Taft-Hartley to Today: The Impact of Right-to-Work Laws on Minority Wages

Poster #: G5
Student(s): Emily Keyser
Mentor(s): Anne Douds, Charles Weise
Description: My project explores the impact of right-to-work legislation on wages of non-white laborers in the United States using an OLS regression model.

Having The Talk: The Impact of Sex Education on Promoting Women's Health and Agency

Poster #: G6
Student(s): Katherine Kennedy
Mentor(s): Anne Douds
Description: This research assesses the impact of sex education on women's health and agency. There is great disparity in state policies on sex education. This research focuses on Pennsylvania's education policy, as it is one of 12 states that requires only STD/HIV education. This research interviews female college students who attended primary and secondary schools in Pennsylvania. The interviews measure how various approaches to sex education shape women's ideologies on sexual health and wellbeing.

Landscape of Services to Help High School Students with IEPs Transition to Postsecondary Programs

Poster #: G2
Student(s): Caroline DeWitt
Mentor(s): Anne Douds
Description: The goal of my project is to understand what types of postsecondary transition programs exist in Adams County High Schools for students who have IEPs.

Music - It Isn't Just Food for the Soul, It Can Feed a Whole Community: A Systematic Review

Poster #: F7
Student(s): Logan Grubb
Mentor(s): Anne Douds
Description: This project, inspired by a passion for music and a desire to ensure its presence in our communities, explores, through a systematic study, the current literature that exists on community-based music programs and how they have impacted community health and well-being. Particular interest was paid to how community-music programs can fill in the educational and intellectual gaps created by the absence of music programs in schools.

Quota Controversy: A Systematic Review of Gender Quotas on Corporate Boards and Firm Profitability

Poster #: F9
Student(s): Maranda Moyer
Mentor(s): Anne Douds
Description: This project examines gender inequality, and the use of gender quotas on corporate boards. Specifically, it explores the prevailing literature on mandating gender quotas on corporate boards and the relationship between gender quotas and corporate profitability.

Rapid Re-Housing Rapidly Failing? A Qualitative Study of Rapid Re-Housing and its Impact on Homelessness

Poster #: F10
Student(s): Jacqueline Kotkiewicz
Mentor(s): Anne Douds
Description: This research explores an aspect of housing insecurity. Specifically, it looks at the U.S. Department of Housing and Urban Development's (HUD's) program Rapid Re-housing and its effectiveness in reducing homelessness. Rapid Re-housing is an intervention to quickly get individuals/families out of homeless shelters and into permanent housing. This qualitative study consists of interviews of professionals that implement Rapid Re-housing within Pennsylvania.

Ready to Work? An Evaluation of Career and Technical Education in Adams County

Poster #: F6
Student(s): Sean Little
Mentor(s): Anne Douds
Description: A project describing the landscape of Career and Technical Education and evaluating the effectiveness of CTE in Adams County high schools utilizing literature review and a survey of administrators.

Sunny Side Up for Second Breakfast: An Implementation Evaluation Study of Gettysburg Area High School Breakfast Program
Poster #: F3
Student(s): Sarah Pierson
Mentor(s): Anne Douds
Description: An evaluation of alternative breakfast program models in Gettysburg Area High School and recommendations for the future.

The Cause of the Under-counts: A Regression Analysis of Erie County Census Data and Response Rates
Poster #: E10
Student(s): Colleen Campbell
Mentor(s): Anne Douds
Description: This project will use Erie County Census data to determine whether demographic factors limit local survey response rates.

Sociology

Bi-Cultural Comparison of Maternity Leave and Working Motherhood: An Analysis of Working Mothers in Denmark and the United States

Poster #: A17
Student(s): Emma Rich
Mentor(s): Alecea Standlee
Description: In a cross-cultural comparison, Denmark and the United States are compared in terms of maternity leave and maternal rights. To highlight the influence of mothers working, birth rates prior to and after entering the workforce and different approaches to maternity leave are examined. The timeline aims to uncover how maternity leave rights have shifted overtime and how policies are amended to create more acceptable maternal policies.

Larry Nassar and #MeToo: How Traditional Media Responds to Allegations of Sexual Abuse

Poster #: A18
Student(s): Emily Wielk
Mentor(s): Cassie Hays
Description: This project looked at the ways in which traditional news sources responded to the allegations of sexual abuse against Larry Nassar. Using content analysis, the sources were analyzed to trace how Nassar was portrayed. In additon, it traced the impact of #MeToo in bringing these accusations into the public purview and whether or not it shifted how the case unfolded.

Spanish

"Better Borracho?" A study of the effects of alcohol on the competency of non-native Spanish-speakers.

Poster #: B2
Student(s): Julia Montoya, Lindsay Richwine
Mentor(s): Kent Yager
Description: This project explores the question, "Do we really speak Spanish better when we're drunk or is it just our perception?" In controlled tests, this project evaluates the effect that different quantities of alcohol have on the accent of non-native Spanish-speakers. Hypothesizing that small quantities of alcohol could loosen a person's linguistic inhibitions and improve their accent, our research evaluates both the speech of the participants and their perception of their own ability.

"¿Dónde está Santiago Maldonado?": Ecos y resonancias de la última dictadura militar en la Argentina

Poster #: B7
Student(s): Stella Nicolaou
Mentor(s): Christopher Oechler
Description: Este proyecto intenta explicar la reacción y la movilización de la gente ante la desaparición de Santiago Maldonado en 2017 a traves de examinar el clima de represión e impunidad institucional que se ha vivido en la Argentina desde 1976 (comienzo de la dictadura militar) hasta hoy.

A Linguistic Analysis in Gender Differences

Poster #: A8
Student(s): Jose Mendez Vasquez, Katherine Ernst
Mentor(s): Kent Yager
Description: This study will attempt to determine whether or not there is a difference in the ability of women and men to imitate accents of a new language, specifically Spanish. We will test non-native speakers from different levels of Spanish classes to see if there is a difference in how women versus men pronounce different words. We will take into account how long each participant has been learning Spanish.

Cómo los dialectos del español regional afectan la pronunciación y la ortografía de las palabras

Poster #: A5
Student(s): Raymond Deschamps
Mentor(s): Kent Yager
Description: Esta investigación analizará a estudiantes universitarios de Gettysburg que crecieron con el español para ver cómo pronuncian las palabras en español y cómo esa pronunciación juega un papel importante en cómo escriben la palabra. A los participantes se les dará una lista de varias palabras en inglés que luego van a traducir al español verbalmente y luego se les pedirá que lo escriban de la forma en que creen que debe ser escrito.

El feminicidio en Ciudad Juárez: Su pasado, presente y futuro

Poster #: B4
Student(s): Celeste Campbell
Mentor(s): Christopher Oechler
Description: I investigate the gender violence in Ciudad Juárez, a Mexican city close to the United States border. The causes of the femicide include an intersection of economic, social, and political factors. However, since the late 1990s there have been many reactions to the violence, such as art, literature, and community organizations. The people of Ciudad Juárez have not remained silent about femicide, which suggests that the problem will not necessarily remain engrained in its culture.

La Evolución de la Baja por Maternidad en España y Una Investigación en las Razones

Poster #: A7
Student(s): Erica Boucher
Mentor(s): Christopher Oechler
Description: A study on the evolution of maternity/paternity leave in Spain (from the time of Franco to present day), along with a discussion of the possible reasons for the evolution such as participation in the EU, the history of Span, and machismo.

La mujer y el trabajo en España: las barreras que existan

Poster #: B5
Student(s): Quinn Igram
Mentor(s): Christopher Oechler
Description: This project will address the barriers that impact the working woman in Spain. Specifically, it will analyze the historical context of Spain and how this has influenced the ability of women to work, and perceptions of society towards working females. Is this a norm in society? Is it frowned upon? The research will address the presence of a glass ceiling in the Spanish workplace, workplace bullying against women, and the gender pay gap.

La violencia doméstica en México y en el Perú

Poster #: B3
Student(s): Jocelyne Santibanez Regalado
Mentor(s): Christopher Oechler
Description: A comparison in domestic violence in Mexico and in Peru to see if there are similar cultures. I plan to use data to back up the differences or similarities but will overall present how domestic violence is seen in each individual place.

Peronism in Argentine Politics

Poster #: B8
Student(s): Liam McCarney
Mentor(s): Christopher Oechler
Description: I will present about the legacy of Juan Perón and his politics on the political system of Argentina. This will involve a brief presentation on Juan Perón as president of Argentina and then will continue to analyze how Peronism remains present in Argentine politics today. Finally I will analyze how the scope of Peronism has shifted a bit with recent presidents Nestor and Cristina Kirchner.

The Spanish Pronunciation Ability of the Gettysburg College Choir

Poster #: A9
Student(s): Caitlin Glance
Mentor(s): Kent Yager, Robert Natter
Description: This study is designed to track the improvement of Spanish pronunciation amongst the members of the Gettysburg College Choir. Students are assessed before their tour in Puerto Rico, as well as after the tour. The project considers individual language background, motivation, and ability to imitate. All members are fluent in English, so this study will see how they apply their already prevalent language skills to learning how to pronounce sounds and phrases that are unique to the Spanish language.

The Transnational Family: Las narrativas de las familias migrantes y el efecto en la estructura familiar

Poster #: B10
Student(s): Caroline Glennon
Mentor(s): Christopher Oechler
Description: Human migration presents an infinite number of obstacles, however this research focuses on how migration transforms, reforms and often forms families. In order to do this, the research also considers what family means within this context. This research focuses on Latin American migration.

The effect of different accents on the pronunciation of students in Spanish / el efecto de acentos diferentes en la pronunciación de estudiantes en español.

Poster #: B9
Student(s): Jenny Zhang
Mentor(s): Kent Yager
Description: In this project, we will be observing the differences in the pronunciation of students of Spanish of different levels and different backgrounds, and investigating the reactions of native speakers to their accents and pronunciations in Spanish. En este investigación, el problema de interés es las diferencias en la pronunciación de estudiantes de español de niveles y origenes diferentes, y los reacciones de hablantes nativos a su pronunciación.

Variacion Regional del Fonema /s/

Poster #: B6

Student(s): James Hickey, Katherine Troy, Sara Walker

Mentor(s): Kent Yager

Description: None provided

Women, Gender, & Sexuality Studies

LGBTQ+ Conversion and Reparative Therapy

Poster #: A10

Student(s): Samantha Cotter, Samuel Nonemaker, Sydney Kaplan

Mentor(s): Stephanie Sellers

Description: Our project defines and examines the long-term effects of Conversion Therapy, which is an aggressive process meant to convert LGBTQ- identifying people to a heterosexual or strict gender binary identity. We demonstrate that Conversion Therapy is a pseudoscience and its methods are ineffective, often amount to torture, and should be illegal.

Acknowledgements

Celebration '19 would not have been possible if it weren't for the efforts of a good many people on campus. For this reason, we wish to thank the following:

Instructional Technology: Gavin Foster, Bharath Srinivansan and John Whitehouse for facilitation of the online registration and scheduling processes.

College Scheduling Coordinator: Cathy Zarrella;

Ricoh Printing Services: Kate Brautigam, Gene Hockley, and Stace Pickett;

Catering Services: Ali O'Brien & Dean Anthony and staff;

Facilities Services;

Student and staff volunteers;

Members of the *Celebration '18* Planning Committee: Jim Baer, Shannon Egan, Mallory Jallas, Craig Lair, Brad Lancaster, Lily Shea '21, and Carolyn Tuckey, for their continued support throughout the process;

And, most of all…
The student presenters and their faculty mentors
Thanks to everyone for your efforts!

Maureen Forrestal and Paula Baer Celebration '18 Co-coordinators

Mentors

Mentor	Department
Kazuo Hiraizumi	Biology
Steven William James	Biology
Ryan Kerney	Biology
Jennifer Ruth Powell	Biology
David Michael Wills	Biology
Katherine Michelle Buettner	Chemistry
Shelli Lynne Frey	Chemistry
Timothy William Funk	Chemistry
Robert R. Garrity	Chemistry
Donald L. Jameson	Chemistry
Koren Alayne Lipsett	Chemistry
Michael R. Wedlock	Chemistry
Ian Andrew Isherwood	Civil War Era Studies
Todd W. Neller	Computer Science
Clifton G. M. Presser	Computer Science
Rimvydas Baltaduonis	Economics
John J. Cadigan	Economics
Brendan Cushing-Daniels	Economics
Tsu-ting Tim Lin	Economics
Drew Evan Murphy	Economics
Linus Mabughi Nyiwul	Economics
M. Ivanova Reyes	Economics
Charles L. Weise	Economics
David James Powell	Education
Chloe Ruff	Education
Monica Vini Ogra	Environmental Studies
Rutherford Vance Platt	Environmental Studies
Sarah Marie Principato	Environmental Studies

Andrew Mark Wilson	Environmental Studies
Michael J. Birkner	History
Gavin Foster	Information Technology Office
Rodney Scott Tosten	Information Technology Office
Vernon W. Cisney	Interdisciplinary Studies
Stephanie Ann Sellers	Interdisciplinary Studies
Jeffery M. Williams	Interdisciplinary Studies
Heather N. Odle-Dusseau	Management
Kurt Andresen	Physics
Roy Adrian Dawes	Political Science
Jennifer Patrice Collins Bloomquist	Provost's Office
Christopher Paul Barlett	Psychology
Natalie Dawn Barlett	Psychology
Kathy Rae Berenson	Psychology
Kathleen M. Cain	Psychology
Rebecca H. Fincher-Kiefer	Psychology
Daniel D. McCall	Psychology
Brian P. Meier	Psychology
Sahana Mukherjee	Psychology
Stephen M. Siviy	Psychology
Kevin Donald Wilson	Psychology
Anne Douds	Public Policy Program
Charles D. Myers	Religious Studies
Stephen Jay Stern	Religious Studies
Shannon Egan	Schmucker Art Gallery
Cassie Megan Hays	Sociology
Alecea Irene Standlee	Sociology
Christopher Carl Oechler	Spanish
Kent D. Yager	Spanish
Robert Natter	Sunderman Cons. of Music
William Evan O'Hara	Sunderman Cons. of Music
Marta Robertson	Sunderman Cons. of Music
Brent Cumner Talbot	Sunderman Cons. of Music

Gettysburg
COLLEGE