2 SCHEDULE AT A GLANCE

3 WELCOME

4 KEYNOTE SPEAKER

5 ORAL PRESENTATIONS

Session I: Art History and Writing 6
Session II: Biology and General 9
Session III: Anthropology 11
Session IV: Mathematics 1 14
Session V: Mathematics 2 and General 16
Session VI: Chemistry 19
Session VII: Political Science and Sociology 21
Session VIII: Psychology 24
Session IX: History 27

30 POSTER PRESENTATIONS

Anthropology 30 Sociology 36
Applied Physics 31 History 37
Art - History 31 ESRM 37
Biology 32 Spanish 40
Chemistry 33 Psychology 40
Engineering 35 Computer Science 41 & 47
Communication 35 Information Technology 42
Art - Studio 35 & 37 Mathematics 42
General 35 Nursing 45
Health Science 36

48 CAMPUS, BUILDING, & ROOM MAPS
Welcome to the 9th annual Student Research Conference at CSU Channel Islands. Today we celebrate student research, scholarship, and creative activity at CSUCI. We also acknowledge the important efforts and products of our undergraduate and graduate students, and our mentoring faculty and staff.

This year’s celebration includes over 200 projects representing the work of over 365 students and faculty mentors. This work occurred in research-intensive courses, independent study courses, independent research courses, and through co-curricular efforts. It expresses interests of student scholars and the expertise of their mentors. Topics range from learning about the nursing behavior of Humpback whales to understanding the impact of an after-school educational STEAM academy. By researching alongside a faculty mentor, students engage with their discipline more deeply. They feed their curiosity in a way that develops skills to become life-long learners. There are all sorts of benefits to the student.

Faculty also benefit. At an undergraduate institution like CSUCI that expects excellence in the classroom as well as scholarly productivity, many faculty members work with undergraduates who want to immerse themselves in their field. Often, these students present at national and international conferences and become co-authors on manuscripts published in peer-reviewed journals. Last weekend, a group of CSUCI’s best research students traveled to Cal Poly to represent CSUCI in the annual CSU Research Competition. These students were:

- Jeannette Herrera
- Roby Ordonez
- Oliver Perez
- Jesus Bamford
- Corey Smith
- James Brewer
- Christina Brown
- Tiffany A. Darden
- Deirdre Bence
- Lynn M. Utley
- Jessica Maldonado

Ms. Bence’s presentation won second place in the Social and Behavioral Sciences Section of the competition! Many of these students are giving presentations at today’s conference. Please congratulate them on their accomplishments.

Thank you for taking time on a Saturday to immerse yourself in the excellent work of the students of CSU Channel Islands. We are proud of their work, and we know you will be deeply impressed by what you see.

Sincerely,
Allison Alvarado, Ph.D., Student Research Conference co-Lead
Sean Kelly, Ph.D., Student Research Conference co-Lead
Jason Miller, Ph.D., Senior Research Officer
Bruce Eric Kaplan, also known as BEK, is an American artist whose trademark single-panel cartoons, known for their ironic humor, frequently appear in The New Yorker. He is also the author of seven books for adults and three books for children. A screenwriter and producer, Kaplan has worked on Seinfeld and HBO’s Six Feet Under. He is currently a writer and executive producer for HBO’s Girls.
ORAL PRESENTATIONS

Oral presentations are organized into nine sessions. Presentations will be 15 minutes long, and there will be five minutes between presentations to allow for discussion and a transition to the next speaker. Moderators in each session will help keep presentations on schedule.

SESSION I: ART HISTORY AND WRITING

DEL NORTE 1500

11:00 in Del Norte 1500

The Zombie Apocalypse is Now!

*By:* Michael Walker  
*Mentor:* Stacey Anderson

*Abstract:* The fascination with zombies in pop culture is a New World phenomenon that originated from the slave trade of pre-independent Haiti and has now become an important narrative of the American psyche. No matter the differences in zombic stories, there are two major themes that appear to be consistent within the new archetype: firstly, the metaphor of biological alteration, and secondly, the symbolism of perpetual conflict between zombies and survivors in a dystopian setting. The narrative of zombies in our culture has a psychological importance to both the individual and society as a whole. Unfortunately, the current pop culture climate concerning zombies obscures the story’s cathartic importance. The potentially healing unconscious energies that have fueled zombic fascination for over a hundred years are have been kept hidden from consciousness by relegating zombic imagery to mere entertainment, or, most importantly, to literal potentialities of an apocalyptic future. This research project attempts to interpret the zombic cultural stories into a clear analysis (amplification) of the psychosomatic and psychosocial dangers of our present society that are currently repressed.

11:20 in Del Norte 1500

Animated Marginalia in Monty Python and the Holy Grail

*By:* Julia Ravenswood-Mage  
*Mentor:* Alison Perchuk

*Abstract:* The film Monty Python and the Holy Grail (dir. Terry Gilliam and Terry Jones, 1975) contains numerous animated sequences in which drolleries, ripped straight out of medieval manuscripts, are manipulated to create humorous, and sometimes bawdy, vignettes. In this paper I explore the origins and possible meanings of these medieval images, and how these meanings relate to those of the film’s vignettes. In order to do this I first examine the many explanations that scholars have provided as to the origins of medieval drollery. I hope to arrive at an in-depth understanding of the possible intentions behind these images, in order to examine whether the filmmakers respond to these original intentions. I will also compare how the original drolleries relate to their original contexts. Additionally, the live action segments of the film are not completely isolated from the themes that can be found in drolleries. There are numerous depictions found throughout many different medieval manuscripts that depict rabbits being obsessively violent, fighting knights and wielding weapons. This theme features prominently in the live action segment of the film at the castle of Caer-bannog where King Arthur and his knights face of with a seemingly harmless white rabbit. This is just one of many instances in which the film creates these types of bridges. By critically analyzing the film in this way I hope to expose the many ways that medieval themes can be expressed and subverted within modern media, and the many ways in which medieval media can be consumed in a postmodern world. What is lost in translation from the page to the big screen is what I hope to uncover.

11:40 in Del Norte 1500

A Medieval Garden

*By:* Taylor Comden  
*Mentor:* Alison Perchuk

*Abstract:* For this Oral Presentation, I will explain my research, proposal and design for a self designed medieval garden on the CSUCI campus in a found open space on campus, create a display poster to summarize the overall project and present it to my peers. This undertaking will explore more in depth, the plant palette and its relation to Ethnobotany and/or traditional uses of each plant within a medieval as well as Native American context through writings and references researched. Plants can be characterized to have one or multiple of the following uses: religious symbolism, food, uses within the home (dye, cosmetic, soap, etc) medicinal, seasoning, poison, and possibly magic. I also plan to show detail areas of plant placement within the original design layout using a landscape design method of symbols and counts on a site planting plan. This project has helped me further my development within my art history degree as well as my landscape design profession because it incorporates the use of research methods from past and present to create and build a detailed and realistic project proposal. It has also touched on the importance of project presentations with graphics aid as well as public speaking to help describe the overall project’s goal.
**Oral Presentations - Session I**

12:00 in Del Norte 1500

**In the Shadow of the Horns: Black Metal and the Destruction of Norwegian Stave Churches**

*By:* Holden Molotsky  
*Mentor:* Alison Perchuk  

**Abstract:** In the summer of 1993, a twelfth century wooden church burned to ash outside of Bergen, Norway. The arson was part of a series of criminal acts, including arson, assault and murder, that engulfed the fledgling Norwegian black metal underground. What motivated these young men to take violent action against their society and each other? Why did they choose to target medieval stave churches? This paper will examine the relationship between modern Norwegian social and cultural identity, which is deeply rooted in Christian values, and Norway’s romanticized militaristic pagan history. The stave churches serve as a focal point for the conflict between these two identities: they simultaneously represent the country’s Norse heritage and the oppression that it faced, in the eyes of these young musicians, at the hands of a foreign, Eastern oppressor.

01:30 in Del Norte 1500

**The Modern Middle Ages: Film, Television, Video Games**

*By:* Gabriela Avila Vargas, Peter Blaber, Alec Burquez, Trinity Carrigan, Stephanie Diaz, Kate Gritz, Sara Rose Hall, Aryana Johnston, Mallory Keesler, Ericka Magana Mendez, Amber Thomas  
*Mentor:* Alison Perchuk  

**Abstract:** Students in UNIV 198: “Game of Thrones and the Modern Middle Ages” will share their investigations into visual presentations of the medieval in modern American and British culture. With investigations ranging from gender in Disney films to sexuality in BBC’s “Merlin,” from medieval warfare in “Assassin’s Creed” to the signing of modern paganism as medieval, these brief oral presentations and the accompanying panel discussion promise to demonstrate the enduring and multifaceted function of the category “medieval” in the modern world.

**Oral Presentations - Session II**

**SESSION II: BIOLOGY AND GENERAL DEL NORTE 1530**

11:00 in Del Norte 1530

**Areal Observations of Nursing Behavior in Hawaii’s Humpback Whales**

*By:* Andrea Mendez-Bye, Melody Udangamuwa and Andrew Martinez De Murga  
*Mentors:* Rachel Cartwright and Cindy Wyels  

**Abstract:** Baleen whales play a key ecological role within marine systems. While many life history details are well documented, there are few records on nursing, especially in humpback whales. During the first six months of a humpback whale calf’s life, they grow at a rapid rate, increasing in length by up to 1.7 cm per day and gaining weight at a rate of 28 kg per day. As calves do not feed independently, energy to sustain this constant growth comes from the mother’s milk, meaning calves will drink 55 gallons of milk per day. Currently there is very little knowledge describing detailed nursing behaviors for this species, as nursing is very easily disturbed. In this study, we analyzed aerial imagery to see if we could observe and describe nursing. Approximately 25% of mother-calf pairs observed were seen nursing. Nursing, occurs in short bouts and, the mother continues in slow travel during the duration of nursing. These data comprise the first quantitative descriptions of nursing for this species and can be applied to ensure that this vital behavior is not disturbed.

11:20 in Del Norte 1530

**Eye in the Sky; The Determination of Which Small UAV System is Best Suited for Capturing Aerial Imagery and Documenting Behavior on the Breeding and Feeding Grounds of Humpback Whales**

*By:* John Daly, Nick Sevier and Bryan Anilao  
*Mentor:* Rachel Cartwright  

**Abstract:** Recently unmanned aerial vehicles (UAVs) have become an essential tool for capturing aerial imagery and are particularly useful for scientific community in conservation, ecological, environmental, and geographic research. This project focused on determining the UAV best suited for the purposes of aerial photogrammetry of Humpback whales in their natural environment. The requirements of the research required the UAV to have; accurate and reliable imagery capabilities, an adequate flight time, water resistance, and general ease of use. Initially waterproofing of the UAV was considered a primary concern, a Splash Drone and Aquacopter were tested as a solution to this issue. Unfortunately, the waterproofing of these two UAVs reduced their flight time significantly, and their altimeter accuracy required for precise photometric sizing was questionable at best. In lieu of these waterproof UAVs, a DJI Phantom 3 Pro was tested for the application of
Oral presentations - SESSION II

photogrammetry in a marine environment. The Phantom 3 lacks water resistance, but excels in all other regards when compared to the waterproof alternatives. Thus, it was chosen as the platform to be used in the research of behavior on the breeding and feeding grounds of Humpback whales.

11:40 in Del Norte 1530
360 Degree/Panoramic Photography
By: Kirra Rector
Mentors: Sean Kelly and Matt Cook
Abstract: I’ve been working with Sean Kelly and his SURF students this semester to institute a new 360 degree photo technology they could use in their research on Santa Rosa Island. We have gotten a RICOH THETA Camera that allows for this to be done. Over the course of the last month or so I have gotten a chance to get to learn not only how to use the RICOH technology, but also how to teach others how to use it as well. I also have gotten a chance to learn to use a turntable and capture images of artifacts that way.

Oral presentations - SESSION III

SESSION III: ANTHROPOLOGY
DEL NORTE 1535

11:00 in Del Norte 1535
Island Ranchers: An Analysis of Historic Artifacts from Santa Rosa Island
By: Rachael Bowman
Mentor: Colleen Delaney
Abstract: In 2016 CSU Channel Islands conducted a field school on Santa Rosa Island during which small-scale excavations were conducted to identify possible features and material culture of historical significance. Using a combination of surface observations, auger sampling, and unit excavation, artifacts were recovered that are associated with the people who ranched the island in the 19th and 20th centuries. Based on my detailed analysis of these artifacts, I will discuss the specific time periods and activities that they represent as well as the insights they provide into the daily lives of ranchers and their families. Additionally, this data will be used to help us better understand the American West and how island life is not as secluded as we might think.

11:20 in Del Norte 1535
Saving the World One Festival At A Time: Harnessing Individualism and Solidarity within the EDM/MAAF Counterculture
By: Amanda Wurtz
Mentors: Colleen Delaney and Jennifer Perry
Abstract: This study is a based on a multi-sited ethnography that holistically investigates a person’s personal and collective identity by means of interplay of etic and emic perspectives. This report covers the choice of living a life that is alternative to the dominant Western culture and focuses on the phenomena of there being a blending of cultural norms that then begins a shift in behavioral mechanisms in people who not only participate in counter-cultural activities but are also considered to be a part of the counterculture. This research draws parallels to the counterculture that existed in the 1960’s and to that of the modern day subculture of the Electronic Dance Music/Music and Arts Festival scene (EDM/MAAF). The core hypothesis of this study is based off of the countercultures successful expansion of ones identity for decades and that the manifestations of strong feelings of solidarity and individualism that seem to permanently cause a positive as well as have a direct improvement of livelihoods for disfranchised individuals. The research investigates the activities that participants engage in within the setting of EDM/MAAF scene while one experiences profound spontaneous communitas through learning the distinct ethos or rather emblematic idea of there being peace, love, unity that one should have for oneself as well as others.
Scare Tactics: Do Captive Gibbons Respond Appropriately to Potentially Dangerous Stimuli?

By: Tiffany Darden

Mentors: Colleen Delaney and Mathew Campbell

Abstract: Due to low predation rates in the wild, it is currently thought that captive gibbons do not need predator training prior to release, however, there is no quantifiable evidence to support this. To quantify it, this study examined the predator-avoidance behaviors of captive gibbons when exposed to potentially dangerous stimuli and looked at the implications of these responses to a successful re-introduction to the wild. The research was conducted at the Gibbon Conservation Center (GCC) in Santa Clarita, California with twelve captive gibbons from four species: three Javan gibbons (Hylobates moloch), three pileated gibbons (Hylobates pileatus), three eastern hoolock gibbons (Hoolock leuconedys), and three northern white-cheeked gibbons (Nomascus leucogenys). The responses to the following stimuli were recorded: one naturalistic predator and two controls. A live snake was used as the potentially dangerous, naturalistic predator, a jumbo rat was used as the harmless live stimulus, and brightly colored blocks were used as the novel inanimate object. During all phases of testing, behavioral responses were recorded using a live-scoring of data, a video camera, and a field recorder. The behavioral variables used to measure effects of stimuli are in accordance with a study done on the anti-predator response of wild gibbons to compare behavioral results. The results of this study provide quantifiable evidence important to future release criteria of captive gibbons.

The Natural History of the Channel Islands

By: Madison Harden, Samantha Gonzalez and Riley Richman

Mentor: Sean Kelly

Abstract: The California Channel Islands are located in the Pacific Ocean, west of Ventura County. The purpose of this project is to create an interactive digital exhibition and archive that tells the story of the California Channel Islands. The Channel Islands present a geographical, environmental, anthropological, and zoological history through digital presentation and creating a permanent research archive focused on the Islands. The Channel Islands have existed for thousands of years. They broke off from San Diego and moved upward towards their current location. First occupied by the Chumash and Tongva bands of Native Americans. Spanish explorers subsequently colonized the Islands. The first Europeans to arrive described lush islands teeming with wildlife. In the 1800s and 1900s, the Islands were dominated by cattle and sheep ranchers. Non-native species decimated the islands. By the 1980s, the National Park Service began to reclaim the Islands. We present three-dimensional photos of artifacts from the Channel Islands to discuss the natural history of the islands and also the impacts on them from the native and non-indigenous populations. These photographic data of the artifacts will be available for public use in future endeavors of educating about the California Channel Islands. This interactive, digital collection will allow the informing of others, preserving the public’s ability to access such data and help in creating a lasting impact on the education of the natural history of the Channel Islands.
SESSION IV: MATHEMATICS 1
DEL NORTE 1545

11:00 in Del Norte 1545
Representations for Clifford Algebras Having Up to Four Generators
By: Ricardo Suarez Mentor: Brian Sittinger
Abstract: Clifford algebras were originally introduced to generalize the set of quaternions to higher dimensions. Since these algebras are vector spaces, we can apply methods from Linear Algebra to better understand them. In particular, we can view its elements as matrices by using techniques of Representation Theory. Although such results are already known in the context of spinors, we propose to derive these representations through projection maps. By using properties of these projections derived from primitive idempotents, we can reduce the dimensions of the matrix representations and often obtain minimal representations. More specifically, we find such representations for Clifford algebras having up to four generators. Besides giving matrix representations over R, we explore the possibilities of matrix representations over C and H as well.

11:20 in Del Norte 1545
On Clifford Algebras with Less Than Five Generators
By: Ricardo Suarez Mentor: Brian Sittinger
Abstract: Clifford algebras were originally introduced to generalize the set of quaternions to higher dimensions. Since these algebras are vector spaces, we can apply methods from Linear Algebra to better understand them. In particular, we can view its elements as matrices by using techniques of Representation Theory. Although such results are already known in the context of spinors, we propose to derive these representations through projection maps. By using properties of these projections derived from primitive idempotents, we can reduce the dimensions of the matrix representations and often obtain minimal representations. More specifically, we find such representations for Clifford algebras having up to four generators. Besides giving matrix representations over R, we explore the possibilities of matrix representations over C and H as well.

11:40 in Del Norte 1545
Skeletal Modeling of the Corpus Callosum I: One-Dimensional Shape Representations
By: Robben Teufel, Robert Aroutiounian and Rosa Moreno
Mentor: Kathryn Leonard
Abstract: Diagnosing schizophrenia is currently a process of trained symptom observation and individual interpretation by doctors. The objective of this research project is to automate diagnosis by developing an algorithm which categorizes MRI-scanned brain images as healthy or schizophrenic based entirely on shape information of the corpus callosum. We utilize a skeletal shape model called the Blum medial axis (BMA) to capture local symmetries within the boundary curves of our corpus callosum images. We then use a depth measure called the Extended Distance Function to measure the visual salience of various paths through the BMA. Finally, we use the most salient path to automate the process of decomposing the BMA into three subparts associated with the genu, body, and splenium of the corpus callosum. In this process, we reduce the image of a corpus callosum to a one-dimensional representation of the boundary curve which retains much of the same shape information.

12:00 in Del Norte 1545
Skeletal Modeling of the Corpus Callosum II: Geometry-Based Classification for Automated Schizophrenia Diagnosis
By: Robben Teufel, Robert Aroutiounian and Rosa Moreno
Mentor: Kathryn Leonard
Abstract: Medical results have indicated that the shape of the corpus callosum, which consists of the genu, body, and splenium, differs among schizophrenic patients compared to normal controls. In particular, one study noted that the size of the corpus callosum is smaller anteriorly in the genu of schizophrenic corpora callosa and that schizophrenic corpora callosa exhibit a downward bowing. The goal of this project is to quantify these observations using a skeletal shape model called the Blum medial axis (BMA) and to ultimately classify healthy and schizophrenic corpora callosa using machine learning algorithms. We extract the most visually salient path through the BMA with a depth measure called the Extended Distance Function and then compute curvature along this path. Additionally, to quantify the size difference of the genu, we compute Shape Tubularity, which measures the tube-like qualities of shape parts. We apply supervised and unsupervised learning techniques to these features to distinguish between healthy and schizophrenic brain images.
Patient & Healthcare Experience in The Emergency Room
By: Marissa Gallichio  Mentor: Carol Mack
Abstract: Many patients come to visit the emergency room each day. A good majority of the patients have to deal with waiting for long periods of time to be seen with many other patients. Reasons for the overcrowding is usually because patients do not know reasons to come or not to come to the ER. Another big issue is that patients come to the emergency room because they don’t have a primary care provider and coming to the emergency room is the only way to get help. This causes emergency rooms to become crowded and healthcare workers, such as nurses, to be overworked and stressed. For these healthcare workers that means that the quality of care could be compromised as a result. This is an extensive literature review nurses and patients experiences, specifically, in the ER. Nurses were compared to nurses on other units such as Oncology, Intensive Care, and nephrology units. Among these groups the ER nurses felt less compassion satisfaction. The results were that over 80 percent of nurses felt burnout as well as over 80 percent felt fatigued, which left patients feeling dissatisfied. It was also found that 30 percent of all ER visits were non-urgent and that many of the visitors came to the ER because they had no primary care provider in the first place. This leaves them with high medical costs and because they feel they have no where else to turn for health services.

How the Channel Islands Became a National Park: Creating a Digital Public Policy Archive
By: Zachary Lotshaw, Edward Hernandez, Leslie Sanchez and Sandra Castillo
Abstract: The Channel Islands National Park was passed into law on March 3, 1980. We will tell the story of the creation of the Channel Islands National Park by focusing on the policy process that led to its creation. This project preserves and presents information in a digital and interactive platform, accessible to students and faculty for research and educational purposes. We digitized archival documents including interviews and documents about the process to create the National Park. Also the acquisition of land privately owned during the passage of the Bill that instituted the Park. We incorporate environmental reports written and images depicting the differences in the impact that the previous landowners, and the current Park Service ownership, has had on the islands. We included maps depicting the different areas of the Islands and their land ownership statuses over the years, and how they are today. We compile our data into a digital time-line where people can view the decade’s long process that created the Channel Islands National Park as we know it today. This research will inform people about the complicated and extraordinary process that led to the creation of a National Park. The information we have gathered is very useful for further research into public policy about the National Park Service. Our preservation efforts are a resource for educators to use in their presentations and for educational purposes. Finally, the digitized material and data allow this research to have an impact on those that utilize it.
An Exploration of Indian Culture through Biotechnology and Medical Perspectives

*By:* Lynn Utley, Jessica Mendoza and Richard Pineda  
*Mentor:* Nitika Parmar

**Abstract:** With its rich history and ancient traditions, India provides breadth and diversity in its many languages, religious traditions, architecture, and customs. Through its medley of cultural realms, Indian culture provides a distinctive outlook on science, medicine, and technology to western perceptions. A short term travel abroad course allowed Channel Islands students to explore areas of Indian biotechnology, medical, and cultural perspectives. Several premier biotechnology institutions were visited to examine areas of energy and conservation research, innovation of microbial technology, plant engineering, and medical research. An emphasis was placed on conservation and sustainability at Govardhan Eco Village, where students adapted to living in a pure, sustainable environment to maximize resource utilization while limiting waste production. Indian medical perspectives were observed at Bhakti Vedanta Hospital and research institute in Mumbai. At this hospital, allopathic medicine is supported through a variety of eastern practices including ayurvedic and panchakarma, homeopathy, acupuncture, pain management, yoga therapy, and spiritual care. This innovative vision provides a holistic approach to patient care by focusing on the body, mind and soul. In addition to science and medicine, Indian culture was experienced through exposure to cuisine, architecture, festivals, handicrafts, and culminated with new friendships and global perspectives.

Assessing the Effect of Game-Based Polynomial Activities

*By:* Susan Milne  
*Mentor:* Ivona Grzegorczyk

**Abstract:** We designed activities teaching simplifying polynomials to under-prepared college algebra students. The activities were designed to visually, verbally and kinetically reinforce the concept of combining like terms as well as adding, subtracting and simplifying polynomials. We compared learning achievement and attitudes of a group of students who played a card game, then worked in groups to create their own polynomials and complete a worksheet, to a control group who was taught in a traditional classroom. Our results show improvement of student performance with an increase of the overall attitude improvement towards learning of algebra.
configuration of the 2’/3’-hydroxyl moieties using an enantioselective reducing catalyst. Oxidation followed by enantioselective reduction provided an efficient route toward the synthesis of target molecules. This method produced the desired xylo- and arabinobio-configurations among both purines and pyrimidines, including adenosine, cytidine, and uridine derivatives, with up to 98% diastereomeric excess (de). The resulting nucleoside xylofuranoside derivatives were further modified by nucleophilic addition of N3 to elicit ribonucleoside guanidine (RNG) precursors. This approach may increase efficiency in the generation of nucleoside precursors of interest along with the production of xylo-and arabinofuranoside prodrugs such as cytarabine and vidarabine.

12:00 in Del Norte 1555
Giant Brown Kelp as Biosentinel of Environmental Mercury Differs Geographically
By: Jeyla Fendi and Kelci Skinner Mentor: Simone Aloisio
Abstract: Mercury in its organic and inorganic forms is a global health concern, and persists as a pollutant in the marine environment. It is projected to increase over time due to global climate change, making it a matter of interest. As mercury enters the aquatic system it is converted into its organic form, methylmercury. This form is one that biomagnifies and becomes toxic as it travels up the food chain. Our study investigated establishing Macrocystis pyrifera (giant brown kelp) as a biosentinel of environmental mercury due to being a fast-growing producer that becomes toxic as it travels up the food chain. Our study investigated establishing Macrocystis pyrifera (giant brown kelp) as a biosentinel of environmental mercury due to being a fast-growing producer that is both widespread and abundant. This species has the potential to serve as an indicator of current levels of mercury in the ocean surface, through the contributions of non-point and point source pollution. The study area included kelp forests off of the coast of Southern California from Santa Barbara, Ventura, Los Angeles, Long Beach and Santa Rosa Island. Mercury was quantified in samples through thermal decomposition, followed by amalgamation and atomic absorption spectroscopy. Results showed high levels of mercury near the Port of Long Beach (avg: 125.5 ppb, std: 25.1) and low levels in Ventura County (avg: 036 ppb, std: 02). Anthropogenic factors as well as point source pollution could be the reason for varying concentrations among beaches. Santa Rosa Island had moderate levels of mercury (avg: 46.1 ppb, std: 9.8), which may be a result of upwelling and unique ocean currents from surrounding waters. The implications of this study showed that there are locational differences affecting the concentrations of mercury in Giant Brown Kelp. This must be taken in consideration when using this species as a bioindicator for mercury analysis.
11:40 in Del Norte 2530
Evaluation of STEAM Academy
By: Mary McKenzie, Lizette Niero, Maria Ajungo and Enia Garcia
Mentors: Dennis Downey and J. Brooke Ernest
Abstract: Our research is focused on the implementation of an after-school educational enrichment program focusing on STEAM (Science, Technology, Engineering, Arts, & Mathematics) activities sponsored by El Centrito Family Learning Centers, which serves the Oxnard community. STEAM is a new concept that has evolved from STEM fields, in which the Arts are integrated in the disciplines of Science, Technology, Engineering and Math. El Centrito offers a STEAM Academy, which is an after school and summer enrichment program, where the main goal is to teach elementary and junior high age students that math and science can be fun, using a hands-on approach, while encouraging the students to explore education using their creativity. The objective of this study is to assess the impacts of STEAM Academy participation on the students, as well as the level of satisfaction and enjoyment associated with students' participation. The research findings will represent an important contribution to our community partner, El Centrito. First, the research will help them to better understand which activities are more or less enjoyable for the students (here, assuming that greater enjoyment will produce greater engagement with the materials). Second, it will provide a sense of students’ own assessment of whether their enrollment in the STEAM Academy might be contributing to greater academic success, or greater comfort with STEM subjects. Third, it will give El Centrito staff a clearer understanding of whether their students act effectively as promoters of their programs in the community. Finally, it will provide a gauge of students’ interests in working on STEAM activities at home with their family – which would help to promote greater parental engagement in their children’s education. Ultimately, the findings will not only help El Centrito, but the community as a whole.

12:00 in Del Norte 2530
Isn’t that Discrimination!? How an Employee’s Race, Class, and Gender affect People’s Perceptions of Family Responsibilities Discrimination
By: Lindsey Trimble O’Connor, Sandya Sriram, Naveena Rai, Lauren Chumbley and Leticia Garcia
Mentor: Lindsey Trimble O’Connor
Abstract: Family responsibilities discrimination (FRD) refers to the discrimination caretakers face due to their family responsibilities. Workers who experience FRD are less satisfied with work and less productive; FRD therefore not only impacts workers, but employers as well (Dickson 2008). Despite these potentially negative consequences, people do not easily recognize FRD, making it hard to for them distinguish when they or someone else are being discriminated against (Sallee 2012). This is concerning because when individuals are not aware of what is considered FRD, they are unlikely to report it, or help others in the same situation (Sallee 2012). To understand what affects whether people perceive FRD, we will analyze how an employee’s race, class, and gender influences whether people see the employee has having experienced FRD. To conduct our study, we will use Qualtrics to administer an online survey experiment. Respondents will be given a randomly selected transcript of a fictitious interaction between an employee and supervisor, which describes a situation some may deem FRD; the employee’s race, class, and gender will vary from transcript to transcript. We will then ask respondents whether they believe the situation described in the transcript to be FRD. We expect that people’s perceptions of FRD will depend on the race, class, and gender of the employee described in the transcript. We believe that respondents will be more likely to call the situation discrimination when the victim is described as white and upper class than when they are black or working class. Moreover, we predict that respondents will be more likely to think the situation is discriminatory when the employee is a woman than when the employee is a man. We expect our findings will show how one’s prior perceptions of race, class, and gender influence whether someone views a situation as discriminatory.
SESSION VIII: PSYCHOLOGY
DEL NORTE 2550

11:00 in Del Norte 2550
A Dangerous Fame: The Role of Positive and Negative Fame in Managing Concerns About Death
By: Zenaida Flores, Brandy Linares, Anabel Ontiveros, Erin Soebbbing and Trent Pugmire
Mentor: Melissa Soenke
Abstract: Terror management theory (Greenberg, Pyszczynski, & Solomon, 1986) states that awareness of our own mortality can cause anxiety that we manage using two systems: cultural world-views and self-esteem. These offer ways to transcend death through literal immortality (afterlife) or symbolic immortality (leaving a lasting legacy). One way to achieve symbolic immortality is through fame. The current study investigates whether negative fame functions similarly to positive fame in managing existential concerns. Participants were reminded of death (mortality salience; MS) or a control topic and then presented with one of three casting calls to identify their interest in being cast in a good, antagonist, or behind the scenes role on a reality show. We hypothesize that MS participants will be more interested in fame than control participants, and that MS participants will be most interested in positive fame, followed by negative, and then the behind the scenes role.

11:20 in Del Norte 2550
Developmental Differences in Rapid Facial Mimicry in Captive Chimpanzees
By: Kourtney Phillips and Cathleen Cox (Los Angeles Zoo and Botanical Gardens)
Mentor: Matthew Campbell
Abstract: Rapid facial mimicry (RFM) is the automatic, involuntary replication of another individual’s facial expression. It is thought to depend upon perception-action mechanisms and play a role in empathy. Basic forms of empathy like emotional contagion are present from birth in primates, and more complex forms, to the extent they exist, require maturation. The present longitudinal and cross-sectional study explored the development of RFM in chimpanzees as a marker of the development of empathy in this species. We observed a colony of eighteen chimpanzees (Pan troglodytes) at the Los Angeles Zoo from 2013 to 2016, with the primary focus being the five infants. One infant was born in 2012, two in 2013, and two in 2014. Thus, we have both longitudinal tracking of each infant over time and comparisons across age categories. Infant-infant and infant-adult interactions were video-recorded and coded frame by frame with resolution under 50 milliseconds. Seeing and copying another individual’s facial expression was labeled as either rapid facial mimicry (≤1s) or delayed facial mimicry (1-3s). RFM was found at higher rates in the 2-3 and 3-4 year age groups, suggesting development of this form of mimicry. The results support existing evidence of development of empathic processes in chimpanzees, such as yawn contagion and laugh replication. However, RFM was seen at an earlier age than these other processes, suggesting different developmental trajectories.

11:40 in Del Norte 2550
What are the Psychosocial Predictors of Academic Success in First Generation University Students?
By: Oliver Perez, Jeannette Herrera and Roby Ordonez
Mentors: Kimmy Kee-Rose and HyeSun Lee
Abstract: Over the past decade, research has attempted to identify correlates of academic success in college students. The data further reveal that first generation students who work part-time and participate in fewer social activities on campus would be less likely to perform well academically compared to their peers who are non-first generation students. This ongoing study attempts to expand upon previous research in this area by examining self-esteem, achievement motives, and adaptation to college as predictors of academic success in a sample of 92 university students. For the interim analyses, data are currently available on 52 first generation and 40 non-first generation students. Participants’ self-esteem was measured using the Rosenberg Self-Esteem Scale and achievement motives were assessed using the Work and Family Orientation Questionnaire. In addition, adjustment to college was tested using the Student Adaptation to College Questionnaire, whereas academic success was assessed using GPA. In a series of multiple regression analyses, academic success was regressed on the 8 predictors (self-esteem, work motives, mastery motives, competitive motives, academic adjustment, social adjustment, personal-emotional adjustment, and attachment), using a simultaneous procedure. For first generation students, the regression was significant, F(8, 43)=2.47, p=.027, R2 = 0.31. Among the predictors, work motives (B=.33; t=2.03, p=.049) and personal-emotional adjustment (B=.44, t=2.47, p=.017) were significant determinants of academic success. However, for non-first generation students, the regression yielded a trend-level significance, F(8, 31)=2.09, p=.067, R2 = 0.35. Among the predictors, mastery motives (B=.35, t=2.04, p=.05) and social adjustment (B=.45, t=2.16, p=.043) were significant determinants of academic success. Overall, findings from this study may potentially expand our understanding of the role of self-esteem, achievement motives, and adaptation processes on academic success among university students from different generations.
12:00 in Del Norte 2550

The Impact of Social Support on Positive Emotion and Recovery Following the Death of a Spouse

By: Amanda VanBuskirk and Melissa Soenke

Mentor: Melissa Soenke

Abstract: Research into coping with the death of someone close indicates wide differences in how individuals deal with this experience. Despite these differences, having social support has been shown to be an important factor in why certain people have an easier time coping with loss. Social support as a coping strategy comes in two forms: emotional and instrumental. Emotional social support occurs when an individual seeks social contact to gain moral support or sympathy and understanding, such as a friend who is there for you to vent to. Instrumental social support involves more tangible gains such as assistance or useful information. The current study examined grief blogs kept by women after the deaths of their husbands to determine how different types of coping and social support relate to recovery from the loss over a two year period. To do this, we examined the grief blogs of 29 women after the deaths of their husbands. We collected 3 posts from four different time points: immediately after the loss, 3 months, 6 months, 1 year, and 2 years after the loss. These posts were analyzed using language analysis software (Language Inquisition and Word Count) and content coded by independent raters. We hypothesized that the women whose blogs indicate that they have emotional social support will show more positive emotion over the course of the two years following the loss.

11:00 in Del Norte 2555

The Entire World in its Embrace: Manifest Destiny and American Imperialism Under the Polk Presidency, 1845-1848

By: Nicholas Lawrence Mentor: Julia Ornelas-Higdon

Abstract: Under the administration of James Polk between 1845 and 1848, Manifest Destiny promoted a belief in divine right by Providence. This drove mass territorial expansion, garnering more land in four years than any other President. Manifest Destiny was seeped into all aspects of social life, including religion, racial ideology, and national identity. This paper examines how Manifest Destiny affected popular opinion and racial ideology during this period. While some scholars identify a correlation between Manifest Destiny and American imperialist tactics, a majority tries to separate these ideologies into separate categories, based off rigid political party lines. However, this project argues that the promotion of Manifest Destiny served as justification for American imperialism in expanding the Union. An analysis of historical sources, including The Diary of James K. Polk, The Democratic Review (1845-1848), and speeches and publications from leading figures of the time, including George Bancroft and Walt Whitman, reveals striking similarities between the concepts of Manifest Destiny and imperialism. In addition, racial ideology proved a driving factor in territorial expansion. With the annexation of Texas, the Southern states were successful in expanding slavery and displacing thousands of native Mexicans. In regards to the Oregon Territory, the Northern states attempted to counterbalance the expansion of slavery, further impacting Native Americans. By exploring the concept of Manifest Destiny under historical and social headings, the lasting impacts of territorial expansion in American discourse will be revealed.
11:20 in Del Norte 2555
Peintre-philosophe: Jacques-Louis David and The French Revolution
By: Deirdre Bence  Mentor: Amy Caldwell
Abstract: Jacques-Louis David has been renowned the world over as one of the greatest artists of any era. During the French Revolution, he was known as the ‘Pageant-Master of the Republic.’ However, his contributions to the Revolution were not only related to artistic pursuits. David was appointed to the National Convention, voted to execute the King, and served on various committees. Perhaps the most controversial were his participation on the Committee of General Security which acted as the law enforcement authority during the Terror. At the height of Revolutionary fervor, David was compared with the likes of Marat, Danton, and Robespierre as a founding father of the new French State. Yet when the Republic fell apart it was David the artist, not the revolutionary, who pleaded for his life from a jail cell. Although David will be forever remembered for his contributions to the art world, he was also a man with political convictions, who used his many talents to promote the values of the French Republic. These attributes along with the evolution of his own voice contributed to various principalities which ruled France during his lifetime.

11:40 in Del Norte 2555
Colonial Legacies and the Neocolonization of Anglo-Argentinism
By: Daniel Wilson  Mentor: Julia Ornelas-Higdon
Abstract: Before one can understand where Argentina stands now, they must ask where she has been, and what she has been through. Not only was her inception borne of brutality and conquest, but the long-term transplantation of an imperialized version of Spanish culture and government created a fragmented society that irrefutably shaped the forming nation. The peoples housed in the former region of the Río de la Plata were not united Argentinians; they were a disjointed mixture of various cultures that could not overcome the racial and regional divides between their past and present, between their native and European cultures, between their regionally and culturally segregated classes. Throughout the nineteenth century, Argentina experienced several mutations in her guiding philosophies, leadership, and societal configuration as the country tried to come to grips with its past, its present, and its heterogeneity. Argentina’s first leaders perpetuated colonial legacies of despotism, division, and discrimination that combined in the latter half of the century with an extreme admiration for all things European and mutated into the four pillars of Anglo-Argentinism.

12:00 in Del Norte 2555
Gendering Crime: When the Criminal Becomes the Offense
By: Caren Scott  Mentor: Robin Mitchell
Abstract: Through the analysis of primary sources, including trial transcripts, newspaper articles, and judicial law codes, this presentation will examine how criminal punishments and indictments against women in England during the nineteenth century were often made, not as a result of the illegal nature of an act, but rather as a means of sanctioning females who failed to adhere to the framework of gender norms created by Victorian society. The session will begin with a discussion of how social gender norms emerged in the 1800s and will outline the ideologies of the Cult of True Womanhood and Separate Spheres. Next, the presentation will describe the manner in which illegal acts became gendered as either masculine or feminine and how this assignment of gender allows historians to better understand the relationship between gender, crime, and punishment in Victorian England. Following this will be an in-depth analysis of the active roles of women in relation to crime. This section will open with a description of women viewed as victims or juveniles. Next, the presentation will address the connection between women and crimes of a duplicitous nature, including adultery, prostitution, and deception (perjury, forgery, and fraud). Finally, the section will close with a consideration of female offenses that were considered to be crimes against the natural order of the world, such as infanticide, concealing a birth, unlawful abortion, spousal homicide, baby farming, and witchcraft. The session will conclude with a question and answer session from the audience and will open the floor to discussion of the topics covered by the presentation.
POSTER PRESENTATIONS

All poster locations are identified by number relative to one of the two poster sessions. Student will set up and take down their own poster.

A booklet of poster abstracts can be downloaded from www.csuci.edu/rsp/sage

ANTHROPOLOGY

1A Citizen’s Perception of Law Enforcement
By: Daisy Gomez
Mentor: Colleen Delaney

1B Multiculturalism On Santa Cruz Island - A Look At Historical Fishing Sites
By: Brandon Lim, Joshua Gonzales
Mentor: Colleen Delaney

2A An Anthropological Investigation of Emerging Advancements Effect on the Entertainment Structure
By: Frankay Campbell
Mentor: Colleen Delaney

2B Gender Roles in the Workplace: Women’s Changing Views
By: Frances Xlingenberger
Mentor: Colleen Delaney

3A A Cross Cultural Analysis of Mummification Methods in Egypt, Chile, and the Torres Strait
By: Patricia Armstrong
Mentors: Colleen Delaney, Rachel Olsthoorn

3B Historic Archaeology of the Oxnard Plain and the Unheard Voices of America’s Agricultural Landscape: An Analysis of Rural Life during the Interwar Period
By: James Brewer
Mentor: Colleen Delaney

4A Ritual Shell Use Among the Ancient Maya
By: Rachael Duncan
Mentors: Colleen Delaney, Rachel Olsthoorn

4B Chumash Rock Art and the Ritual Use of Datura
By: Jarrod Chudacoff
Mentor: Colleen Delaney

ANTHROPOLOGY

5A The Americanization of Slava Practices throughout First and Second Generation Serbian-American Immigrants in Los Angeles
By: Tatiana Mijailovic
Mentor: Colleen Delaney

5B Hanging Coffins: Is this a Taboo? Cemetery Distributions Along Trade Routes
By: Rachel Smithers
Mentors: Rachel Olsthoorn, Colleen Delaney

6A Community Building through Music
By: Vikram Johnson
Mentor: Colleen Delaney

6B Capstone Proposal
By: Scott Lang
Mentor: Colleen Delaney

APPLIED PHYSICS

7A An Intelligent Air Compressor
By: Brian Rasnow, Benjamin Ramirez, Alexander Barrick
Mentor: Brian Rasnow

7B An Intelligent Air Compressor
By: Brian Rasnow, Benjamin Ramirez, Alexander Barrick
Mentor: Brian Rasnow

8A Super-resolution Cardiomyocytes Imaging
By: Jasmine Salgado, Angelea Geiphart, Brandon Eckert, Julian Ramirez, Raphael Hicks, Natali Chavez
Mentor: Brian Rasnow

8B Sustainability in Campus Infrastructure
By: Erik Leiterman, Bradley Marson, Zosimo Geluz, Juan Ramirez, Jenna Segru
Mentor: Gregory Wood

ART - HISTORY

9A The Medieval World of Electronic Dance Music
By: Alexis Bobbitt
Mentor: Alison Perchuk

9B The Photographs of Maïmouna Guerresi
By: Taylor Pastrano
Mentor: Alison Perchuk
<table>
<thead>
<tr>
<th>POSTER PRESENTATIONS</th>
<th>POSTER PRESENTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOLOGY</strong></td>
<td><strong>BIOLOGY</strong></td>
</tr>
</tbody>
</table>
| **10A** Ceramic Ollas: Taking a Modern Approach to a Traditional Irrigation Method  
By: Briana Jimenez, Ruben Alarcon  
Mentor: Ruben Alarcon | **14A** A Nutritive Analysis of Companion Planted Crops and Fungi  
By: Jazmin Horvet, Ruben Alarcon  
Mentor: Ruben Alarcon |
| **10B** Visualizing Inter-tidal Variance: Coupling Environmental and Biological Data within a Geo-spatial Framework to Identify Population Trends  
By: Angellea Gephart, Brianna Demirci, Alex Safian  
Mentor: Geoff Dilly | **14B** The Effect of Beach Habitat Quality on Least Tern Nest Success in 2016  
By: Kelsey Riley, Bianca Salazar, Shawna Brown, Rainey Barton, Susana Morales, Cale Osburn  
Mentor: Allison Alvarado |
| **11A** Parse It! Expediting Ecological Data Collection with Automation Scripts  
By: Brianna Demirci, Ty Danet  
Mentor: Geoff Dilly | **15A** Cloning of Neuroglobin Regulatory Sequences in Balaenoptera  
By: Rachel Kandel, Garrick Brazier  
Mentor: Charles Sackerson |
| **11B** Plant Propagation Trials of Native Trees  
By: Astrid Barajas, Ruben Alarcon  
Mentor: Ruben Alarcon | **15B** Preventing Colony Collapse Disorder in Honey Bees (Apis mellifera) Using a New Treatment  
By: Luke Gonzales, Ruben Alarcon  
Mentor: Ruben Alarcon |
| **12A** Algal Bioreactor Design and Development  
By: Gabriel Cortez, Sarah Bedard, Sara Lynn, Alanna Overturf, Lynn Ulley  
Mentor: Erich Fleming | **16A** A Photogrammetric Protocol For Measuring Length of Humpback Whales  
By: Sarah Yarborough, Jamie Carlton, Brittany Gutierrez  
Mentor: Rachel Cartwright |
| **12B** Developmental Changes of Skeletal Muscle Fiber Type Composition in Baleen Whales  
By: John Daly, Ralph Glass IV, Jessikah Morales, Sarah Yarborough, Eyiram Mckenzie, Krisha Algos, Alexander Safian, Shirley Lopez, Katie Messerly, Andrea Mendez-Bye  
Mentors: Cori Newton, Rachel Cartwright | **16B** Meeting the Neighbors: Investigating the Stock Identity of Humpback Whales Seen in Local Waters  
By: Tori Thompson  
Mentor: Rachel Cartwright |
| **13A** Using Quantitative PCR to Profile Thermal and Emersion Induced Stresses in California Mussels  
By: Garrick Brazier, Katherine Christensen  
Mentor: Geoff Dilly | **CHEMISTRY** |
| **13B** Changing Tides: Analyzing the Physiological Responses of Mytilus Californianus to Emersion and Thermal Stresses  
By: Katherine Christensen, Garrick Brazier, Randy Moran  
Mentor: Geoff Dilly | **17A** Economic Spin and Dip Coaters  
By: Andrew Adford, Michael Brisenahan, Hailey Speersra  
Mentor: Brittnee Veldman |
| **17A** Economic Spin and Dip Coaters  
By: Andrew Adford, Michael Bresnahan, Hailey Speersra  
Mentor: Brittnee Veldman | **17B** Comparative Studies of Myoglobin Expression in a Muscle Cell Line in Vitro  
By: Vivian Garcia, Rachel Kandel  
Mentor: Charles Sackerson |
<table>
<thead>
<tr>
<th><strong>CHEMISTRY</strong></th>
<th><strong>ENGINEERING</strong></th>
<th><strong>COMMUNICATION</strong></th>
</tr>
</thead>
</table>
| **18A** Inhibition of Neisseria Meningitidis by 2',3'-O-isopropyldiene Modified Nucleosides  
By: Casey Jacobsen, Cameron McLaughlin  
Mentor: Ahmed Awad | **23A** From Stone to Drone - Climate Analysis and Hurricane Hunting  
By: Cody Clark  
Mentors: Ivona Grzegorczyk, Christopher Onzol | **23B** STEM Inspired: Inspiring the Next Generation  
By: Katie Rempert, Jacob Zendejas, Soledad Jothier  
Mentor: Christina Smith |
| **19A** Analysis of Rice Determining if it is a Significant Source of Mercury to Humans  
By: Courtney Mayhew, Meagan Swede  
Mentor: Simone Alosio | **20A** Protein-Ligand Effects on the Stability of CusF Measured through Chemical and Thermal Denaturations  
By: Isabel Zecua  
Mentor: Blake Gillespie | **24A** Ollas Inspired by Nature  
By: Carly Frice  
Mentor: Amiko Matsuo |
| **20B** Retention of Ethanol in a Wine-Based Pasta Sauce  
By: Blake Gillespie, Adriana Bracamontes  
Mentor: Blake Gillespie | **21B** Observations of Proteomic Changes in Barley in Response to Salt-Stress  
By: Courtney Mayhew, Darlene Guerrero, Valeria Cervantes  
Mentor: Blake Gillespie | **24B** Ollas Inspired by Nature  
By: Carly Frice  
Mentor: Amiko Matsuo |
| **21A** The Effects of Near-Freezing Thermal Stress on the Proteome of Saccharomyces Cerevisiae  
By: Lorna Razo Gomez, Jose Tamayo  
Mentor: Blake Gillespie | **22A** Complete Binary Phase Diagram Laboratory for Undergraduate Physical Chemistry Courses  
By: Thomas Dorch  
Mentor: Brittnee Veldman | **25A** From Stone to Drone - Agriculture  
By: Yajaira Milan  
Mentors: Ivona Grzegorczyk, Christopher Onzol |
| **22B** Analysis of Mercury Concentration Differences in Wild and Farmed Salmon  
By: Tiffany Evans  
Mentor: Simone Alosio | **23B** From Stone to Drone - Agriculture  
By: Walter Zetsche  
Mentors: Ivona Grzegorczyk, Christopher Onzol | **25B** From Stone to Drone - Agriculture  
By: Walter Zetsche  
Mentors: Ivona Grzegorczyk, Christopher Onzol |
| **23A** Effects of Heat and EMF on Drosophila Melanogaster Proteome  
By: Andrew Wierra, Casey Jacobsen, Angelea Gephart, Jasmine Salgado  
Mentor: Blake Gillespie | **26A** From Stone to Drone - Communications  
By: Jillian Baughman  
Mentors: Ivona Grzegorczyk, Christopher Onzol | **26B** From Stone to Drone - Wildlife Conservation  
By: Yadira Cordova  
Mentors: Ivona Grzegorczyk, Christopher Onzol |
| **24A** Effects of Heat and EMF on Drosophila Melanogaster Proteome  
By: Andrew Wierra, Casey Jacobsen, Angelea Gephart, Jasmine Salgado  
Mentor: Blake Gillespie |

**GENERAL**

| **27A** From Stone to Drone - Communications  
By: Karina Covarrubias  
Mentors: Ivona Grzegorczyk, Christopher Onzol | **27B** Drones & their Impact on the Environment  
By: Daisy Okoyeocha  
Mentors: Ivona Grzegorczyk, Christopher Onzol |  |
## POSTER PRESENTATIONS

### GENERAL

| 28A | The Sci-fi Flute Algebraic Surface | By: Bobby Martinez |
| 28B | The Talking M&M Surface | By: Ivan Toledo |
| 31A | Occupants with Asthma Living in Rural, Urban, Suburban | By: Kimberly Espinoza |
| 31B | An Exploratory Study of Ventura County’s New and Emerging Latino Neighborhoods | By: Tatiana Magana Garza, Ericka Magana Mendez |

### HEALTH SCIENCE

| 29A | Integrating Nutrition, Exercise, and Environment Education for Local High School Students | By: Jovy Mann, Wyatt Bishop, Claudia Chavarin, Hildy Anne Gonzales, Jennifer Iparraguirre, Sarah Specker |
| 29B | Patient Empowerment in Reducing Medical Errors | By: Ashlyn Cargnel, Serena Spencer |
| 30A | The Use of Alcohol and Cocaine During Pregnancy | By: Morgan Wynn, Genesis Fabian |
| 30B | Patient Empowerment in Reducing Medical Errors | By: Ashlyn Cargnel, Serena Spencer |
| 31A | Occupants with Asthma Living in Rural, Urban, Suburban | By: Kimberly Espinoza |
| 31B | An Exploratory Study of Ventura County’s New and Emerging Latino Neighborhoods | By: Tatiana Magana Garza, Ericka Magana Mendez |

### ART - STUDIO

| 32A | Comparative Analysis of Clay Bodies with Regards to Shrinkage and Absorption | By: Vivian Garcia, Dayana Huerta, Morgan Michelson |
| 32B | Japanese-American Identity and Art: The Effects of Internment | By: Apolinario Schramm |

### HISTORY

| 33A | Micro-plastic Pollution Seldom Ingested by Southern California Marine Planktivorous Fishes | By: Alex Ceja, Clare Steele, Sean Anderson |
| 33B | Carbon Dioxide Emission Models Show High Sensitivity to Fuel Type | By: Alyse Bader |

### ENVIRONMENTAL SCIENCE & RESOURCE MANAGEMENT (ESRM)

| 34A | No Evidence of Marine Protected Areas Influence on Fish Distribution at Santa Rosa Island National Park | By: Amanda Shepherd |
| 34B | Positive Attitude Shifts After an Environmentally Based Work Experience Program in High School and College-Bound Students | By: Ammy Baez |

### EARTH SYSTEM SCIENCE

| 35A | Humans Harm Winter Migrating Shorebirds in Ventura County | By: Andrew Damron |
| 35B | Marine Debris Increases in the Santa Barbara Channel Beaches Over the Last Thirty Years | By: Andrew Spyrka |

### SOCIOLOGY

| 30B | Patient Empowerment in Reducing Medical Errors | By: Ashlyn Cargnel, Serena Spencer |
| 31B | An Exploratory Study of Ventura County’s New and Emerging Latino Neighborhoods | By: Tatiana Magana Garza, Ericka Magana Mendez |
| 35A | Humans Harm Winter Migrating Shorebirds in Ventura County | By: Andrew Damron |
| 35B | Marine Debris Increases in the Santa Barbara Channel Beaches Over the Last Thirty Years | By: Andrew Spyrka |
36A Oyster Mushroom Removes Oil with Wood-chip Substrate Layer
By: Angelique Frost
Mentors: Sean Anderson, Mary Woo

37A Micro-plastic Deposition Between Two Southern California Wetlands
By: Corey Greenfield
Mentors: Sean Anderson, Kiki Patsch, Clare Steele

38A Expanding the Offshore Aquaculture Potential of Coastal California: Using Geo-spatial Analysis to Improve Site Selection of Farmed Marine Species
By: Daniel Turek
Mentor: Sean Anderson

39A Sandy Beach Micro-plastic Abundance Varies within Different Sand Grain Sizes at Four Ventura County Shorelines
By: Devyn Roadhouse, Clare Steele
Mentor: Sean Anderson

40A Optimal Sampling Strategies for Quantifying the Endangered Dudleya Verityi
By: Emily Hidalgo, Sean Anderson
Mentor: Sean Anderson

36B Santa Rosa Island Lagoons Baseline Monitoring: A Tidally Influenced Highly Seasonal System
By: Aspen Coty, Sean Anderson
Mentor: Sean Anderson

37B Utilizing Drones to Quantify the Geomorphology of the Santa Clara River for Endangered Steel-head Trout
By: Daniel Glassman
Mentor: Sean Anderson

38B Environmental Education Shows Positive Effects on Middle School Students
By: Daniella Caccavalla, Donald Rodriguez
Mentor: Sean Anderson

39B Environmental Education Programs Promote Positive Pre-environmental and Pro-STEM Attitudes
By: Dulce Lopez, Chris Rini
Mentors: Sean Anderson, Donald Rodriguez
Mentor: Sean Anderson

40B The Importance of Developing a Remotely Operated Vehicle Policy at CSU Channel Islands
By: Gregory Vance
Mentor: Sean Anderson

41A A New Conservation Priority Map for the Santa Monica Mountains: Using Key Drivers in Geo-spatial Modeling
By: Helen Eloyan
Mentors: Sean Anderson, Brett Hartman
Mentor: Sean Anderson

42A Moderate Levels of Total Polycyclic Aromatic Hydrocarbons in Coastal Sediments Almost Two Years After the Refugio Oil Spill
By: Jeyla Fendi, Mary Woo
Mentor: Sean Anderson

43A Potential Habitats of Dudleya Verityi Located in the Santa Monica Mountains Illuminated by Remotely Piloted Systems
By: Katherine Furlong
Mentor: Sean Anderson

44A Micro-plastic Ubiquitous Across 110 km of Calleguas Creek Watershed in Ventura County, CA
By: Maggie Domingo
Mentors: Sean Anderson, Clare Steele

45A Crude Oil Water Accommodated Fraction is Detrimental to Purple Sea Urchin (Strongylocentrotus purpuratus) Fertilization
By: Noreen Ednave
Mentor: Sean Anderson

41B Long-Term Monitoring (1929 - 2012) of Erosion and Plant Succession on Santa Rosa, California
By: Jamie Masukawa
Mentor: Brett Hartman

42B Reaffirming Native Nutritional Knowledge: Dichelostemma Capitatum and the Linked Occurrence of Management
By: Karen Ramirez, Blake Gillespie, Colleen Delaney
Mentor: Sean Anderson

43B Estimating the Recreational Value of Channel Islands National Park Using Travel Cost Methods
By: Madeline Pascal
Mentors: Jared Barton, Sean Anderson

44B Zoo Attendance Improves the Environmental Attitudes of Visitors
By: Mallory Eckerson Perry
Mentor: Sean Anderson

45B Channel Type Strongly Influences Water Quality Parameters within the Calleguas Creek Watershed
By: Shannon Morris
Mentors: Sean Anderson, Clare Steele
### Poster Presentations

#### Psychology

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>47A Social Network Analysis of In-Group Biases within Engineering Project Teams</td>
<td>By: Nitzan Navick, Megan Kenny-Feister</td>
<td>Mentor: Stephen Clark</td>
</tr>
<tr>
<td>47B Assessing Neurocognition and Psychosocial Adjustment of Schizotypal Personality Traits in University Students</td>
<td>By: Edgar Jimenez, Natalie Rodriguez, Dominique DelValle, Tracy Overly</td>
<td>Mentor: Kimmy Kee-Rose</td>
</tr>
<tr>
<td>48B Why Are We An Obese Nation? A Study of Gender Differences</td>
<td>By: Jane Han, Vanessa Popoca, Gabriela Magana</td>
<td>Mentor: Kimmy Kee Rose, HyeSun Lee</td>
</tr>
<tr>
<td>49A An Investigation of Neurocognition and Psychological Processes</td>
<td>By: Rocio Nieves, Zosimo Geluz, Karina Duenas, James Lopez</td>
<td>Mentor: Kimmy Kee Rose, HyeSun Lee</td>
</tr>
<tr>
<td>49B Multitasking Performance Influenced by Logic Strategy and Fluid Intelligence</td>
<td>By: Samantha Harper, Isabella Boyadjan, Kristine Duff</td>
<td>Mentor: Susan Beers</td>
</tr>
<tr>
<td>50A Vagal tone as a Predictor of Empathy: Does Our Physiology Determine Our Willingness to Help?</td>
<td>By: Jasmin Humble, Brittnie A. Ferguson, Carrick Cheevers, Jennifer Munoz, Caylin M. Rosenthal</td>
<td>Mentor: Beatrice M. de Oca</td>
</tr>
<tr>
<td>50B A Dangerous Fame: The Role of Positive and Negative Fame in Managing Concerns About Death</td>
<td>By: Anabel Ontiveros, Brandy Linares, Trent Pugmire, Zenaida Flores</td>
<td>Mentor: Kimmy Kee-Rose</td>
</tr>
</tbody>
</table>

#### Computer Science

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>51A Constructing SPEQ-DB: A Simple Program for Enhancing Quality in Online Discussion Boards</td>
<td>By: Nicole Dubin, Sara Colon (UC Santa Barbara), Rafael Hernandez (Oxnard College)</td>
<td>Mentor: Brian Thoms</td>
</tr>
<tr>
<td>51B Uncovering a Lattice Encryption Scheme</td>
<td>By: Timothy Indrieri, Edward Morkunas</td>
<td>Mentor: Michael Soltys</td>
</tr>
<tr>
<td>52A Cue Identification Using Support Vector Machines</td>
<td>By: Corey Smith</td>
<td>Mentor: Andrej Bieszczad</td>
</tr>
<tr>
<td>52B Robot Navigation Using Inverse Compensation Vector</td>
<td>By: Jesus Bamford</td>
<td>Mentor: Andrej Bieszczad</td>
</tr>
<tr>
<td>53A Single-Stage Shadow Matching Localization Using GPS Pseudorange Measurements</td>
<td>By: Anthony Brice</td>
<td>Mentor: Jason Isaacs</td>
</tr>
<tr>
<td>53B Swarmathon Exhibit</td>
<td>By: Alexandra Collette</td>
<td>Mentor: Jason Isaacs</td>
</tr>
</tbody>
</table>
## Mathematics

<table>
<thead>
<tr>
<th>Poster Number</th>
<th>Title</th>
<th>Authors</th>
<th>Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>54A</td>
<td>A Dynamic Analysis and Graphing of Key Medical Terms</td>
<td>Francisco Moo</td>
<td>Brian Thoms</td>
</tr>
<tr>
<td>54B</td>
<td>Cryptolliptic - Elliptic curve cryptography</td>
<td>Apurva Bharaswadkar</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>55A</td>
<td>What Can A Shape’s Skeleton Tell Us About Its Complexity?</td>
<td>Brandon Artner</td>
<td>Kathryn Leonard</td>
</tr>
<tr>
<td>55B</td>
<td>Geometric Properties of Circular Paraboloid</td>
<td>Ana Rodríguez</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>56A</td>
<td>Geometric Properties of Intersecting Planes, Double Planes, and Parallel Planes</td>
<td>Christian Ramos</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>56B</td>
<td>Geometric Properties of Elliptic and Circular Cylinders</td>
<td>Camilo Triana, Ignacio Cortez</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>57A</td>
<td>Geometric Properties of Elliptic Cones</td>
<td>Christian Wagstaff</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>57B</td>
<td>Geometric Properties of the Hyperbolic Cylinder</td>
<td>Dale Perizzolo</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>58A</td>
<td>Geometric Properties of the Circular Cone</td>
<td>David Lopez</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>58B</td>
<td>All about the Bulging-Axis Egg Surface for 3-ellipse</td>
<td>David Lieberman</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>59A</td>
<td>Boomerang Cryptography</td>
<td>Deepa Suryawanshi</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>59B</td>
<td>Curtis Jenny Zariski-Closure of 3-Ellipse</td>
<td>Donna Murphy</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>60B</td>
<td>Geometric Properties of a Hyperboloid of Two Sheets</td>
<td>Francisco Lee Giesseman</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>61A</td>
<td>An Epidemiological Math Model Approach to a Political System with Three Parties</td>
<td>Garrett Lopez, Angel Ramos, Ty Danet</td>
<td>Selenne Banuelos, Cynthia Flores</td>
</tr>
<tr>
<td>61B</td>
<td>A Normalizing Method for Calculating Tortuosity</td>
<td>George Walden</td>
<td>Geoff Dougherty</td>
</tr>
<tr>
<td>62A</td>
<td>Private-Public Key Cryptography Based on Elliptics Curves</td>
<td>Geetanjali Agarwal</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>62B</td>
<td>A Closer Look at the Macomb County Political Party Swing</td>
<td>Haley Pena, Tiffany Jenkins</td>
<td>Selenne Banuelos, Cynthia Flores</td>
</tr>
<tr>
<td>63A</td>
<td>The Bow-Tie Surface</td>
<td>Jennifer Silva</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>63B</td>
<td>Group Actions and Musical Scales</td>
<td>James Allen, Paul Estrada, Michael McCann, David Lieberman</td>
<td>Jesse Elliott</td>
</tr>
<tr>
<td>64A</td>
<td>Geometric Properties of a Hyperbolic Paraboloid</td>
<td>Jordan Kinberg, David Lary</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>64B</td>
<td>Warp Zone 1-2</td>
<td>Kevin Howe</td>
<td>Ivona Grzegorczyk</td>
</tr>
<tr>
<td>65A</td>
<td>Geometric Properties of Ellipsoids, Spheroids, and Spheres</td>
<td>Julie Enos, Pauline Zabala</td>
<td>Jennifer Clinkenbeard</td>
</tr>
<tr>
<td>65B</td>
<td>Ocean-Bay Curve Cryptography</td>
<td>Manjunath Hampole</td>
<td>Ivona Grzegorczyk</td>
</tr>
</tbody>
</table>
**MATHEMATICS**

66A A Closer Look at the Macomb County Political Party Swing  
By: Kristen Godinez, Matt Costa  
Mentors: Cynthia Flores, Selennie Banuelos

66B Surface with a Double Red Cross  
By: María Baró-Chavez  
Mentor: Ivona Grzegorczyk

67A Zariski-Closure Surface for 3-Ellipse with Foci at Two Parallel Lines and a Point.  
By: Lazarus Dixon  
Mentor: Ivona Grzegorczyk

68A On the Distribution of Primes in an Imaginary Quadratic Number Ring  
By: Michael Ruiz  
Mentor: Brian Sittinger

68B Double Infinity Surface  
By: Susan Milne  
Mentor: Ivona Grzegorczyk

69A Lucky Surface of Degree 8  
By: Osbelia Dueñas  
Mentor: Ivona Grzegorczyk

69B Geometric Properties of a Parabolic Cylinder  
By: Susanne Uribe  
Mentor: Jennifer Clinkenbeard

70A Climate Change and Sea Ice Melting  
By: Tracie Schneider  
Mentor: Anna Tivy

70B Space Ball Surface  
By: Suzanne Paroski  
Mentor: Ivona Grzegorczyk

72A The Horn Blower Surface  
By: Vincent Ferguson  
Mentor: Ivona Grzegorczyk

72B Infinite Pipe Dreams: Properties of the Zariski-Closure of a 3-Ellipse with Two Non-Intersecting Lines and a Point as Foci  
By: Vickie Chen  
Mentor: Ivona Grzegorczyk

**NURSING**

73A Nature Healing Los Angeles, the Second Largest Urbanized Area in the United States  
By: Alyson Del Paso  
Mentors: Charlene Niemi, Karen Jensen

73B Does Mild Therapeutic Hypothermia (MTH) Limit Neurological Injury and Improve Survival After Cardiac Arrest?  
By: Alexia Bronaugh, Kendyl Egizi, Michael Haslam, Edwin Rios, Summer Latif  
Mentor: Jacqueline Sherman

74A Can Exclusive Breastfeeding, for Up to 6 months, Help Reduce the Risk of Asthma in Children?  
By: Amani Baidwan, Alyssa Alvarado, Kenyn Castaneda, Jessica Dorthaliana, Genesys Paraja  
Mentor: Jacqueline Sherman

74B Vitamin D Deficiency and Alzheimer’s Disease  
By: Amanda García, Hollie McKiel, Morgan Dalcerr  
Mentor: Carol Mack

75A Does the Lack of Breastfeeding in the First Year of Life Correlate to Postpartum Depression in Adult Women Ages 25-35?  
By: Anna Bates, Alex Gelinas, Audrey Guila, Khaya McKeeever-Odom, Casey Salinas  
Mentor: Jacqueline Sherman

75B In the Population of Drug Users, are Nurse Led Needle Exchange Programs Effective in Preventing Bloodborne Infections?  
By: Christina Caranica, Genevieve Cragoe, Brianna Hanzmann, Ansley Knipper, Christine Martinez, Hanna Persin  
Mentor: Jacqueline Sherman

76A Be Healthy Be Active Community Workshop  
By: Brenda Valencia  
Mentor: La Sonya Davis-Smith

76B Preventing Ventilator-Associated Pneumonia  
By: India Craig, Jasmine Montes De Oca  
Mentor: Carol Mack
### POSTER PRESENTATIONS

#### NURSING

<table>
<thead>
<tr>
<th>77A</th>
<th>Factors Affecting Long-term Exclusive Breastfeeding of at Least Six Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Jenna Escobedo, Jeniffer Rosenow, Hilda Skvagerson</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>77B</th>
<th>Critical Literature Review of Respite Care Use by Informal Caregivers: Benefits and Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Jonathan Reynolds, Adrianne Crawford</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>78A</th>
<th>The Effects of Fecal Microbiota Transplantation in Patients with Recurring Clostridium Difficile Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Julia Beccia, Kimberly Domingos</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>78B</th>
<th>The Effects of Marijuana on Parkinson’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Keira Jacobs</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>79A</th>
<th>Does Kangaroo Care Improve Mothers’ Emotional Health, Breastfeeding, Neonatal Thermoregulation, and Reduce Hospital Stay?</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Lisa Agor, Jamaica Amurao, Hannah Kaya, Yesenia Nunez, Jose Perez</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Jacqueline Sherman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>79B</th>
<th>What is the Effectiveness of Implementing an Employee Wellness Program within a Hospital System on Nurses’ Dietary and Exercise Habits?</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Kenneth Dadacay, Jon-Bert Dones, Claire Gillette, Alysha Payne, Megan Scherber</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Jacqueline Sherman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>80A</th>
<th>Let’s Talk About Sex: The Successes and Downfalls of Sexual and Reproductive Health Education in the United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Nikita Bhakta, Ashley Rafael</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>80B</th>
<th>Does Delayed Cord Clamping Have Beneficial Health Effects on Jaundice, Anemia, and Neurodevelopment in the Full Term Infant Versus Early Cord Clamping?</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Megan Mixer, Kaitlyn Hitch, Jennifer Mallen, Jessica Ostrowski, Elizabeth Mostert</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Jacqueline Sherman</td>
</tr>
</tbody>
</table>

#### COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>81A</th>
<th>Tourniquets: To Use or Not to Use? An Extensive Literature Review Examining Tourniquet Use in Military and Civilian Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Robert Uichanco, Jason Aalberts, Bryahn Shank</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>81B</th>
<th>Service Learning in Higher Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Natalie Titcomb, Barbara Christianson</td>
</tr>
<tr>
<td>Mentor:</td>
<td>La Sonya Davis-Smith</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>82A</th>
<th>Do Birth Plans Promote a Positive Birth Experience?</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Taylor Scott, Lisa Nordella</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>82B</th>
<th>Maternal Influence of Neonatal Microbiome Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Sarintha Bell, Emily Bryant</td>
</tr>
<tr>
<td>Mentor:</td>
<td>Carol Mack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>83A</th>
<th>Human Robot Interaction with a Small Humanoid Robot</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Winter Smith, Jessica Perez</td>
</tr>
<tr>
<td>Mentor:</td>
<td>David Claveau</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>83B</th>
<th>Human Robot Interaction with a Small Humanoid Robot</th>
</tr>
</thead>
<tbody>
<tr>
<td>By:</td>
<td>Winter Smith, Jessica Perez</td>
</tr>
<tr>
<td>Mentor:</td>
<td>David Claveau</td>
</tr>
</tbody>
</table>
Posters are displayed on two-sided white boards (purple rectangles) and one-sided easels with foam core board (green rectangles). Poster numbers represent poster locations. A letter A denotes a presentation in the first session. A letter B denotes a presentation in the second session. Exhibits (red rectangles) are in the Grand Salon atrium and will be on display during both sessions. Posters are grouped by discipline, and those groupings are indicated by colorful rectangles in the following diagrams.