2018 UNM McNair Scholars Research Conference

Discover the Power of Networking

October 4 & 5
Albuquerque, NM

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2018 UNM McNair Scholars Research Conference

THE UNIVERSITY OF NEW MEXICO

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THE UNIVERSITY OF NEW MEXICO
About Dr. Ronald E. McNair:

Ronald Erwin McNair was born October 21, 1950, in Lake City, South Carolina. While in junior high school, he was inspired to work hard and persevere in his studies by his family and by a teacher who recognized his scientific potential and believed in him. McNair graduated as valedictorian from Carver High School in 1967. In 1971, he graduated magna cum laude and received a Bachelor’s of Science degree in Physics from North Carolina A&T State University (Greensboro).

Ronald McNair then enrolled in the prestigious Massachusetts Institute of Technology. In 1976, at the age of 26, he earned his Ph.D. in laser physics. His dissertation was titled, “Energy Absorption and Vibrational Heating in Molecules Following Intense Laser Excitation.” Dr. McNair was presented an honorary doctorate of Laws from North Carolina A&T State University in 1978, an honorary doctorate of Science from Morris College in 1980, and an honorary doctorate of science from the University of South Carolina in 1984.

While working as a staff physicist with Hughes Research Laboratory, Dr. McNair soon became a recognized expert in laser physics. His many distinctions include being a Presidential Scholar (1971-74), a Ford Foundation Fellow (1971-74), a National Fellowship Fund Fellow (1974-75), and a NATO Fellow (1975). He was also a sixth degree black belt in karate and an accomplished saxophonist. Because of his many accomplishments, he was selected by NASA for the space shuttle program in 1978. His first space shuttle mission launched successfully from Kennedy Space Center on February 3, 1984.

Dr. Ronald E. McNair was the second African-American to fly in space. Two years later he was selected to serve as mission specialist aboard the ill-fated U.S. Challenger space shuttle. He was killed instantly when the Challenger exploded one minute, thirteen seconds after it was launched. Dr. McNair was posthumously awarded the Congressional Space Medal of Honor. After his death in the Challenger Space Shuttle accident on January 28, 1986, members of Congress provided funding for the Ronald E. McNair Post-Baccalaureate Achievement Program. Their goal was to encourage low-income and first-generation college students, and students from historically underrepresented ethnic groups to expand their educational opportunities by enrolling in a Ph.D. program and ultimately pursuing an academic career. This program is dedicated to the high standards of achievement inspired by Dr. McNair’s life. There are currently 187 McNair programs nationwide.
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Welcome to the 2018 University of New Mexico (UNM) McNair Scholars Research Conference!

We are pleased you have chosen to attend this important conference. Whether you are UNM students, staff, or faculty or you are attending from one of the 48 universities represented at this conference, we are very happy to host you on our campus.

Through a competitive application process, the McNair Scholars Program prepares exceptional first-generation, low-income and underrepresented undergraduate students for doctoral (Ph.D.) studies.

This national research conference will provide McNair Scholars, from UNM and across the country, the opportunity to present high-level research in a moderated symposium. In order to further support academic excellence, all UNM undergraduates who are interested in research have also been invited to attend and present at this conference.

Nelson Mandela once said, “Education is the most powerful weapon which you can use to change the world.” As a first-generation college graduate myself – neither of my parents went to college and I hadn’t planned to, growing up – these words ring very true to me. Education, hard work and determination certainly changed my world and allowed me to become the first female president of a major research university. It is my sincerest hope that education has a profound impact on your life as well and that each of you use your knowledge to change the world.

The McNair Scholars Program, which allows students to conduct faculty-mentored research, is so important on a university campus. Research allows us to distinguish between falsehoods and truth. It is a powerful tool for building knowledge and a means to understand even the most complicated issues. It allows us to learn from historical expertise and build upon those who came before us, to identify, quantify and seize opportunities. I am so glad each of you chose to attend this conference to further our collective knowledge.

While you are here, I hope you will take some time to enjoy our beautiful campus and the greater Albuquerque area. From hiking in our beautiful Sandia Mountains to enjoying delicious New Mexican cuisine – please enjoy your stay!

Garnett S. Stokes
President
The University of New Mexico
Dear Conference Participants,

The University of New Mexico, Student Affairs welcomes you all to our 2018 Ronald E. McNair Research Conference. The conference will allow you to:

- Present research to your peers from around the country and faculty in your field from UNM;
- Meet with professionals, graduate students, and recruiters from graduate programs from across the country;
- Provide you with cultural experiences unique to New Mexico and learn about applying to graduate school;

This conference is organized under the auspices of Student Services, which is a part of the UNM Division of Student Affairs. The program is hosted by the College Enrichment and Outreach Programs through the Ronald E. McNair Program, which are designed to serve and assist low-income, first generation, traditionally underrepresented college students and students with disabilities to progress through the academic pipeline from middle school to post-baccalaureate programs.

We are pleased to welcome such a promising young group of scholars to our university and hope you will enjoy your stay here. We anticipate that during your stay you will learn much about our beautiful state, and our host institution, the University of New Mexico, which boasts many fine graduate programs and facilities.

Sincerely,

Eliseo “Cheo” Torres
Vice President for Student Affairs
University of New Mexico
October 4, 2018

Dear Conference Attendees,

I would like to take this opportunity to Welcome You to the 2018 University of New Mexico McNair Scholars Research Conference. We are excited to have you join us at our national conference showcasing scholars from across the nation. We are expecting over 200 scholars from 49 different universities from the west coast to the east coast. The University of New Mexico will also be hosting a Graduate School Fair during the conference with 70 graduate or professional programs participating in the fair.

We are expecting more than 90 oral presentations and 75 poster presentations, which will be exhibited to provide a great opportunity for sharing of research as well as to develop skills necessary to proceed and to be successful in graduate school and beyond. This is also a great time to develop and grow your academic and professional network for graduate school and for your professional career.

We have put together a team of professionals led by the UNM McNair staff to make this conference and your visit to UNM one of the best undergraduate research experiences that you will have. This conference will provide you immediate feedback on your presentation from faculty and peers. We are fortunate to have support from UNM faculty and graduate students from across campus to be active participants in the conference. The faculty possess a true understanding of the value and the impact of the McNair programs from across the country have on preparing quality graduate students. While you are here on campus I encourage you to take advantage of the Graduate School Fair, take a moment and visit our campus, talk to the faculty, staff and students and possible perspective graduate programs. We have a beautiful campus with great architecture which creates a unique environment; get out there and enjoy it while you are here.

It is our goal to provide you with a great experience and the opportunity to learn, grow and create friendships. As you will soon be the future leaders of this country and we will need you to reach back and provide the educational opportunities to those who are willing to become the next generation of leaders.

I hope you have a great experience while you are at the conference and better future as you continue your academic journey.

Best,

[Signature]

Tim E. Gutierrez, Ed.D.
Associate Vice President, Student Services
DAY 1 CONFERENCE AGENDA: THURSDAY, OCTOBER 4, 2018  UNM Campus
Most events held in the Student Union Building (SUB)

7:30 a.m. – 8:45 a.m.  Conference Registration & Breakfast, Ballroom A, SUB
9:00 a.m. – 10:15 a.m.  Opening Ceremony and Networking Event, Welcome Address by Dr. Richard L. Wood, Interim Provost, UNM. Networking event facilitated by Heidi Martinez, Claremont Graduate College, Rodey Theater, Center for the Arts, First Floor (building directly south of SUB)
10:30 a.m. – 11:50 a.m.  Graduate School Fair Session #1* (Ballrooms B & C, SUB) & Research Poster Presentation Session #1* (Atrium, SUB bottom floor)
12:00 p.m. – 1:00 p.m.  Lunch, Ballroom A, SUB
1:15 p.m. – 2:30 p.m.  Graduate School Fair Session #2* (Ballrooms B & C, SUB) & Research Poster Presentation Session #2* (Atrium, SUB bottom floor)
2:30 p.m. – 2:45 p.m.  Snacks & Refreshments, Cherry & Silver Room, SUB Top Floor
2:45 p.m. – 4:30 p.m.  Student & Staff Workshops, SUB Top Floor (See page #6 for workshop descriptions and locations)
4:30 p.m. – 6:25 p.m.  Special Event: Tethered-hot-air-balloon rides on Johnson Field----Meet in SUB and walk to launch site in small groups. See page # 8 for instructions on this activity
6:30 p.m. – 8:30 p.m.  Banquet Dinner: Featuring the 2018 Conference McNair Alumni Ph.D. Panel, Dr. Maria DeBlassie, Dr. Denise Herrera and Dr. Mia Sosa-Provencio, Ballroom C, SUB. See full descriptions of our speakers on page # 11-12

DAY 2 AGENDA: FRIDAY, OCTOBER 5, 2018  UNM Campus
All events held in the Student Union Building (SUB)

8:15 a.m. – 9:15 a.m.  Breakfast, Ballroom C, SUB
9:20 a.m. – 12:10 p.m.  Morning Concurrent Oral Research Presentations: Sessions 1-7 SUB Top Floor Conference Rooms
12:15 p.m. –1:15 p.m.  Lunch, Ballroom C, SUB
1:20 p.m. – 3:25 p.m.  Afternoon Concurrent Oral Research Presentations: Sessions 8-12, SUB Top Floor Conference Rooms
3:30 p.m. – 4:00 p.m.  Closing Ceremony, Dr. Tim Gutierrez Associate Vice President for Student Services, Ballroom C, SUB
The Graduate School Search and Interview: Tools for Success. Dr. Alfredo Palacios, Asst. Professor, Dept. of Special Ed., Rehabilitation and Counseling; Donielle Curry, doctoral student in Counseling Psychology both at Auburn University. This workshop will discuss the importance of self-representation when targeting graduate programs, writing application letters, participating in admissions interviews. Attending scholars will consider strategies that will assist them in determining which graduate program is most appropriate for their goals. In addition, attendees will also learn several helpful approaches to best represent themselves in the application and interview process. Room: SUB Acoma A - Sessions 1 & 2

On Writing Excellent Statements for Application to Graduate Study. Elizabeth A. Daniele, Assistant Director for Graduate Diversity, University of Rochester - David T. Kearns Center for Leadership and Diversity. This workshop covers approaches to drafting various types of grad school application statements (research, personal, purpose). I present questions prompting applicants to discuss research experiences with maximum effectiveness. Touching upon how faculty expectations for statements vary by discipline, we zoom in on how to tailor a statement for departments of interest. This workshop will conclude with tips and techniques for reviewing, editing, and polishing your statements. Room: SUB Acoma B - Sessions 1 & 2

Looking for Dr. Right: Finding PhD Advisors Who Will Invest in Your Success! Nura Dualeh, Graduate School Recruiter and Director, Undergraduate Research & Graduate Preparation Programs at the University of Arizona. Good faculty advising is a critical element of PhD program completion, while bad advising is often an undisclosed reason for program attrition. One strategy for boosting PhD program success is to invest significant time identifying prospective PhD advisors. This workshop explores the role of the faculty advisor and the advisee and provides answers to the following questions: How do I conduct a comprehensive search, while managing my time? What attributes should I look for in an advisor? Who can tell me more? What questions should I ask up front to ensure program satisfaction? Does this program have at least 2-3 faculty in my area? What do I plan to contribute? And what are my career plans? Room: SUB Isleta - Sessions 1 & 2

Standing Out in the Competitive Application to Graduate School Process. MaryAnn Haller, Graduate Manager, Lehigh University, College of Arts & Sciences Research & Graduate Programs: How will your application stand out among the many others? What are the faculty members reviewing your application looking for in your Essay/Statement of Purpose and Letters of Recommendation? Let’s talk about ways to move your application up to the top of the applicant pool! Room: SUB Luminaria - Sessions 1 & 2

 Crafting the Statement of Purpose. Heidi Martinez, Assistant Director of Admissions, Clarement Graduate University. Graduate school applications almost universally require some sort of personal essay, but they can vary in their purpose, format, length, and scope. We’ll go over the difference between different types of essays, such as a Statement of Purpose versus a Personal Statement. We’ll discuss some dos and don’ts of crafting the essay, and some tips on how to have your essay stand out without being too risky. Room: Mirage-Thunderbird - Sessions 1 & 2

How to Get In: Applying to Psychology Graduate Programs. Jamisha Miniefield, M.A, Inclusion and Academic Success Graduate Assistant, University of Cincinnati Graduate School. Are you thinking about applying to graduate programs in Psychology? Prospective students can potentially feel overwhelmed by such a broad field and sometimes have a difficult time choosing programs that fit their interests and needs. Come learn and discuss the tips and tricks McNair Scholars interested in pursuing advanced degrees in psychology should consider before, during, and after they apply. Room: SUB Fiesta A & B - Sessions 1 & 2
Navigating the Graduate Admissions Process in STEM Fields. Emily Stevens, Assistant Director – Graduate Admissions, Rensselaer Polytechnic Institute. We will cover how to choose a graduate program, prepare a competitive application with strong personal statements and references, and will set a timeline for you to move through the process. As someone who did everything wrong during my application process, I will be sharing with you tips and tricks to set you apart from the competition! Room: SUB Santa Ana A - Sessions 1 & 2

I Got The T-Shirt, But Will It Fit? Romona West, University of Arkansas Graduate School and International Education. Is graduate school right for me? Will graduate school benefit me? Will I be able to afford graduate school? If you’ve ever asked yourself these questions, then please join the University of Arkansas Graduate School as we answer these questions and discuss strategies for applying to the graduate school that is right for you. Room: SUB Santa Ana B - Sessions 1 & 2

Graduate School Recruiter Contact Information:

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<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Attendee Email</th>
<th>Attendee Institution</th>
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<tbody>
<tr>
<td>Donielle</td>
<td>Curry</td>
<td><a href="mailto:dmc0041@auburn.edu">dmc0041@auburn.edu</a></td>
<td>Auburn University</td>
</tr>
<tr>
<td>Liz</td>
<td>Daniele</td>
<td><a href="mailto:liz.daniele@rochester.edu">liz.daniele@rochester.edu</a></td>
<td>University of Rochester</td>
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<tr>
<td>Nura</td>
<td>Dualeh</td>
<td><a href="mailto:nura@email.arizona.edu">nura@email.arizona.edu</a></td>
<td>University of Arizona</td>
</tr>
<tr>
<td>MaryAnn</td>
<td>Haller</td>
<td><a href="mailto:mh0h@lehigh.edu">mh0h@lehigh.edu</a></td>
<td>Lehigh University College of Arts &amp; Sciences</td>
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<tr>
<td>Derek</td>
<td>Maness</td>
<td><a href="mailto:dmaness@umn.edu">dmaness@umn.edu</a></td>
<td>University of Minnesota</td>
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<tr>
<td>Heidi</td>
<td>Martinez</td>
<td><a href="mailto:heidi.martinez2@cgu.edu">heidi.martinez2@cgu.edu</a></td>
<td>Claremont Graduate University</td>
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<td>Jamisha</td>
<td>Miniefield</td>
<td><a href="mailto:miniefjd@mail.uc.edu">miniefjd@mail.uc.edu</a></td>
<td>University of Cincinnati</td>
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<tr>
<td>Alfredo</td>
<td>Palacios</td>
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<td>Auburn University</td>
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<td>Emily</td>
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<td><a href="mailto:stevee@rpi.edu">stevee@rpi.edu</a></td>
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<td>Romona</td>
<td>West</td>
<td><a href="mailto:romona@uark.edu">romona@uark.edu</a></td>
<td>University of Arkansas Graduate School and International Education</td>
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McNair Staff Roundtable Discussion in Spirit/Trailblazer Room
2:45 to 3:45

We will use this time for staff that are new to McNair to be able to ask questions of more experienced directors and staff. We will encourage each program to share their “model” for research and scholarly activities. We are hoping that our attendees will network with other staff to serve as resources for each other going forward. Please bring your ideas and questions and be willing to share.
Special Event Instructions: Tethered-Hot-Air Balloon Rides
4:30 P.M. begins in SUB Top Floor

1. It is very important that you follow these instructions because the UNM Police will put a stop this event if we do not conform to these guidelines. Your cooperation is very much appreciated!

2. You must have filled out an online RSVP form to participate in this event. If there is space/time afterwards for those who did not complete an RSVP, you may get a chance to de.

3. Everyone that filled out an RSVP is listed below and placed in a group. Find your name and group number.

4. Report to the room corresponding to your group number after the second session of the graduate school workshops end. You will wait there until your chaperone takes you to the launch site.

5. When your group has completed your flight, please return to the SUB with your chaperone.
**Thank You to all our volunteers from the UNM Community!**

We want to recognize our volunteers and thank them for taking time out of their busy schedules to make this event a success! We have volunteer evaluators and moderators (for presentations), general assistance and photographer/videographers. Our volunteers include 55 faculty, 39 graduate students, 25 staff members, 3 national labs personnel and 17 undergraduates. (as of 9/26/18)

(listed alphabetically by last name)

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<td>Osmar Aguirre</td>
<td>Cat Hubka</td>
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<td>Nick Carroll</td>
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<td>Pamela Cheek</td>
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<td>Eudora Claw</td>
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Participating Institutions
Thank You for choosing our conference!
(listed Alphabetically)

Auburn University (AL)  The College of St. Scholastica (MN)
Baylor University (TX)  Trinity University (TX)
Boise State University  University of Arizona
California State University Fullerton  University of Arkansas Graduate School -
California State University Sacramento  and International Education
Claremont Graduate University (CA)  University of California Santa Barbara
Concord University (WV)  University of Cincinnati
Bluefield State College (WV)  University of Colorado Boulder
Delta State University (MS)  University of Colorado Denver
Emporia State University (KS)  University of Florida
Florida International University  University of Minnesota
Harris-Stowe State University (MO)  University of Minnesota-Duluth
Inter American University of Puerto Rico -  University of Mississippi
San German Campus
Kean University (NJ)  Alcorn State University (MS)
Lee University (TN)  Mississippi Valley State University
Lehigh University College of Arts &  University of New Hampshire
Sciences (PA)  University of New Mexico
Northern Michigan University  University of New Mexico - Valencia
Oklahoma State University  University of North Texas at Dallas
Our Lady of the Lake University (TX)  University of Northern Colorado
Purdue University Northwest (IN)  University of Oklahoma
Rensselaer Polytechnic Institute (NY)  University of Rochester (NY)
Saint Louis University  University of Texas at Austin
Sul Ross State University (TX)  University of Texas at San Antonio
Texas Tech University  University of Wyoming
Wesleyan University (CT)
McNair Alumna Ph.D. Panelist: Dr. Maria DeBlassie, University of New Mexico McNair Scholar

Dr. Maria DeBlassie is currently full-time English faculty at Central New Mexico Community College and part-time faculty at the UNM Honors College. She earned her B.F.A. in Creative Writing from UNM. She went on to earn both her M.A. and Ph.D. in Eighteenth- and Nineteenth-Century Literature from the University of Washington.

As a native New Mexican mestiza, Dr. DeBlassie’s research explores how Western ideologies, many of them birthed in the Enlightenment Era, impact contemporary marginalized bodies and continue to define otherness, with the ultimate goal of helping to reframe transgressive marginalized figures as empowered bodies that champion social justice. Other research interests include the playful tension between high and low art, literature, and culture; contemporary romanticization of history; sex and gender in popular culture; interdisciplinary and intercultural education; and Gothic and romance literature as genres of social justice.

Her teaching awards include the CNM CHSS Faculty Excellence Award for Innovative Teaching Practices (2017) and the CNM Distinguished Faculty Award for CHSS (2018). When not teaching, she is writing and blogging about everyday magic, radical self-care, and simple pleasures. Her first book, Everyday Enchantments, published by U.K. press Moon Books, will be released on October 26, 2018.

McNair Alumna Ph.D. Panelist: Denise E. Herrera, PhD, MCHES University of New Mexico McNair Scholar

Dr. Denise Herrera is a Senior Capacity Building Officer at St. David’s Foundation, one of the largest health funders in the U.S.

Denise was a member of the second class of Ronald E. McNair Scholars at the University of New Mexico, where she completed her BS in Health Education. Denise obtained her MS in Family Studies and Human Development from the University of Arizona, and her Ph.D. in Health Education from the University of Texas-Austin.

Denise has devoted much of her academic and philanthropic career to leveling the playing field for underserved populations to receive quality health services and education. Her proudest accomplishment was establishing the “Herrera Internship Endowment” in 2016 – which provides internship and scholarship opportunities for deserving Latina students throughout New Mexico. The fund, managed by the National Hispanic Cultural Center Foundation, was developed to honor Denise’s parents and grandparents who didn’t have the opportunity to pursue higher education.

Her research training coupled with expertise in public health and program evaluation prepared Denise to manage a large portfolio with the Robert Wood Johnson – the country’s largest health funder (which provides $450 million in grants annually). Denise has consulted on a host of federal and statewide initiatives – often serving as a liaison or intermediary among various educational, governmental, as well as private sectors. She has provided programmatic and evaluation expertise on national advisory committees and issues related to community development, health, and civic engagement efforts in rural and urban areas in the U.S. and abroad.
McNair Alumna Ph.D. Panelist: Dr. Mia Angélica Sosa-Proven-cio, University of New Mexico McNair Scholar

Dr. Mia Angélica Sosa-Provencio was born and raised in Las Cruces, New Mexico. She is currently an Assistant Professor in the Department of Teacher Education, Educational Leadership, and Policy (TEELP) at UNM. Mia is honored to be counted among the second class of UNM McNair Scholars (2000-2001), an experience which fortified passion and confidence to pursue a career in academia, a path which had not been walked by anyone in her family. McNair has brought Dr. Sosa-Provencio to this moment of fullness where she is a scholar, educator, wife, mother, daughter, sister, and community partner. Prior to earning her PhD in Curriculum and Instruction (NMSU, 2014), Mia taught Language Arts for seven years at Rio Grande High School in Albuquerque’s South Valley.

Her current research focuses on pedagogies of resilience and strength among Youth and Educators of Color at intersections of race, class, gender, sexuality, language/dialect, residency status, and ability. Mia frames her research particularly within the cultural wisdom of educators who situate their work within a long legacy of social justice and community building. This research informs Mia’s work with students and educators at all levels to construct intellectually rich, Culturally Rooted schooling spaces which reclaim the joy, connectedness, and dignity of living, teaching, and learning.

Dr. Sosa-Provencio currently partners with faculty at Rio Grande High School and UNM’s Department of Secondary Education to design what she terms a Testimonio Curriculum Lab, a field integrated teacher preparation model which brings together high school students enrolled in credit recovery with graduate and undergraduate UNM students. Herein, students co-design, co-teach, and co-evaluate holistic, performative social action/social justice curriculum and assessment and reflect upon said curriculum in a community of learners who seek better outcomes for all youth, especially those from non-dominant communities who experience marginalization in schooling and society.

A note about our conference logo:
If you look very closely at our conference logo, you will see lines drawn from each of the other 186 McNair Scholars Programs across the United States, converging on UNM. These lines not only represent individual programs but networks that form when McNair Scholars and staff get together to share research, resources, and a sense of mission. We hope that you will take the conference’s networking theme to heart and grow your networks in the next couple of days and beyond. Use this time to talk to scholars, staff, and graduate school recruiters you haven’t met before. In short, use the next couple of days to “Discover the power of Networking!”
Jennifer Aguilera, University of Colorado Boulder, Major: Chemical & Biological Engineering, Session #1
Title: Determining the Effectiveness of CBS inhibition in “Reversing” PARP Inhibitor Resistance

Syed Mohammed Amanuddin, Delta State University, Major: Biology (premed), Session #1
Title: Comparison of Factors Affecting the Population Dynamics of Sharks and Stingrays Between Gulf of Mexico and Bay of Bengal

Alfonso Anaya, Sul Ross State University, Major: Digital Design, Session #1
Title: The Importance of Keeping Dark Skies Dark and an Effort to Make Bright Skies Darker: Research & Creative Project

Jasmine Banks, Florida International University, Major: Psychology, Session #1
Title: Communication Between Black Urban Mothers and Adolescent Daughters

Jessica Benally, University of New Mexico, Major: Applied Mathematics, Session #2
Title: Human Perception in Cyber Physical Systems

Emily Berry, University of New Hampshire, Major: Genetics, Session #2
Title: Do RNA-dependent epigenetic modifications regulate early flowering in Arabidopsis thaliana?

Hannah Bollin, Concord University, Major: English, Session #2
Title: The Evolution of Women and Gender Issues in Literature

Olivia Bontems, The College of St. Scholastica, Major: Biochemistry, Session #1
Title: Identifying perfluorinated alkylated substances in Swix Wax and the environment

Jasmine Brooks, Purdue University Northwest, Major: Developmental Psychology, Session #2
Title: Analysis and Intervention of Opioid Use in Northwestern Indiana

Gezelle Brown, Concord University, Major: Applied Science, Session #1
Title: Profiles of T helper 1 and T helper 2 Cytokines in the Genital Tract of Stressed Mice during Chlamydia muridarum Infection

Geraldine Cadet, Florida International University, Major: Psychology, Session #2
Title: Knowledge, Gender, and Guidance: Factors influencing Indian Mothers Responses to ADHD

Darnell Calderon, California State University, Fullerton, Major: Sociology, Session #2
Title: “Why Are People from Shithole Countries Coming to America?” an Analysis of 2014 GSS Data

Andrea Chamorro, University of Colorado Boulder, Major: Computer Science, Session #1
Title: WikifyDocs: Addressing Ambiguity through Definitions in API Documentation

Ofelia Chapa, University of North Texas at Dallas, Major: Psychology and Sociology, Session #2
Title: Identifying Higher Education Social Capital Resources for Hispanic American Women

Chelsea Charley-Suarez, University of Colorado Denver, Major: Biology, Session #2
Title: Phylogenetic delineation and geographic distribution of Laccaria nobilis and phenotypic relatives.

Bre Cole, The College of St. Scholastica, Major: Biology, Session #2
Title: The Protein Expression Of Mycobacteriophage Brusacoram
**Poster Presentation Schedule Listed Alphabetically by Last Name**

**Session #1 (10:30-11:50am) - Session #2 (1:15-2:30pm)**

**Location:** SUB Atrium (bottom floor)

**Full Abstracts start on page # 30**

**Aja Coleman**, Trinity University, Major: Biochemistry, Session #2
Title: *Cloning of an Escherichia coli Chemotaxis Sensory Protein with Defects in Repellent Recognition*

**Dakota Conway**, Delta State University, Major: Psychology, Session #2
Title: *Crime and Punishment?: The Mental Health Outcomes of Female Rape Survivors of a Single Rapist*

**Ivanna Corzo**, Florida International University, Major: Biomedical Engineer, Session #1
Title: *Real-time Controlled Incubator and Microfabricated Platform for a Tissue Pulling Apparatus*

**Charline Crespo**, Inter American University of PR-San German Campus, Major: Psychology, Session #2
Title: *Musical Preferences & Personality: Transverse study between generations*

**Maria de los Angeles Davila**, University of Colorado Boulder, Major: International Affairs, Session #2
Title: *The Effect of Pre- and Post-Presidential Election Immigration Discourse on Day Laborers Intention to Stay in Central Texas*

**Emily Davis**, Concord University, Major: Psychology/Pre-Professional Biology, Session #1
Title: *Effects of Chewing Gum on Cognitive Performance*

**Rainee Deroin**, Oklahoma state university, Major: Environmental science, Session #1
Title: *Hydrologic And Sediment Yield Modeling Of Native Prairie And Encroached Eastern Redcedar Watersheds*

**Jeremy Diaz**, University of Colorado Boulder, Major: Ecology and Evolutionary Biology (minors in Geography and Applied Math), Session #1
Title: *A neural model for Twitter user classification to support wildfire response*

**Joelle Dick**, Delta State University, Major: Chemistry, Session #2
Title: *The effects of training and anti-fatigue mat on balance, muscle activity, and discomfort/fatigue during prolonged standing in sit-stand workstation use.*

**Caleb Escobedo**, Trinity University, Major: Computer Science, Session #1
Title: *Cycle-Consistent Adversarial Networks with Optimistic Adam*

**Samantha Z. Fernandes**, Florida International University, Major: Biology, Session #1
Title: *Crystallization of SARS Coronavirus 3CL Protease to Identify Inhibitor Targets*

**Tamara Franklin**, California State University Sacramento, Major: Psychology, Session #1
Title: *The Relationship between Friend Groups and Ethnic Identity*

**Kellie Gadeken**, University of Colorado Boulder, Major: Astronomy / Atmospheric & Oceanic Science, Session #2
Title: *Predicting Underwater Biomass From Sonar And Satellite Measurements*

**Angela Gonzalez**, University of Colorado Boulder, Major: Geography, Session #1
Title: *Factors Influencing Cone Production in Pinus ponderosa*

**Lady Grant**, University of Colorado Boulder, Major: Biochemistry, Session #2
Title: *Microbial Adaptations to Aluminum Toxicity in Soil*
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<td>Renal Injury and Blood Pressure Persists into the Post-Partum Period in Rats with Severe Preeclampsia/HELLP Syndrome and Acute Kidney Injury during Pregnancy</td>
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<td>Vanessa Guevara</td>
<td>Our Lady of the Lake University</td>
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<td>The Impact of Multisystemic Therapy on the Level of Aggression for At-Risk Youth</td>
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<td>Johnny Hero</td>
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<td>Christian Hill</td>
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<td>The Electronette: An HCI Device for Tactile Interaction with the Human Arm Using Electrical Stimuli</td>
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<td>Nafisa Ibrahim</td>
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<td>Better estimates of creep rate along the Hayward Fault, CA through High-Resolution DEM’s and DInSAR</td>
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<td>Zakyra Jordan</td>
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<td>Ivy Lam</td>
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<td>University of New Mexico - Valencia</td>
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<td>Paleoenvironmental investigations of Pliocene intertrappean paleosols, Taos Plateau, New Mexico, suggest long-term semiarid pedogenesis</td>
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<td>Amelia Leon</td>
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<td>Alvaro Marquez</td>
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<td>Nicole Matthews</td>
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<td>Effects of Bisphenol A (BPA) and Three BPA Derivatives on Radish</td>
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<td>(Raphanus raphanistrum subsp. sativus) and Bean (Phaseolus vulgaris)</td>
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<td>Kaitlin Mazotti</td>
<td>University of Colorado Boulder</td>
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<td>Yosan Mengesha</td>
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<td>Alysan Miller</td>
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<td>Fire History of Oak Species in a Dry Oak-Pine (Quercus-Pinus) Forest</td>
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<td>Alexander Morales</td>
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<td>Tammy Nguyen</td>
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<td>Gibou Njie</td>
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<td>Linda Padilla Cruz</td>
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<td>The Other Face of the War on Drugs: Are Physicians White Collar Drug Dealers?</td>
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<td>Justyce Pinkney</td>
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<td>Michelle Ramos</td>
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<td>Kyu Ro</td>
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<td>Lupita Sanchez</td>
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<td>Investigating the role of the Drosophila immune system in octanoic acid resistance</td>
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<td>Giselle Valdes</td>
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Samantha Z. Fernandes, Florida International University, Major: Biology
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Title: *Crystallization of SARS Coronavirus 3CL Protease to Identify Inhibitor Targets*

Jesse Hare, University of Oklahoma, Major: History and Political Science
Session # 1, Room: Fiesta A
Title: *Reinterpreting Tradition: Willmoore Kendall and the Open Society*

Emily Mee, University of Oklahoma, Major: Political Science
Session # 1, Room: Acoma A
Title: *Understanding Policy-Making through the Lens of Gender: Analyzing Interviews of Representatives from the Oklahoma House on the issue of Pay Day Loans*

Linda Padilla Cruz, Sul Ross State University, Major: Criminal Justice
Session # 1, Room: Lobo B
Title: *The Other Face of the War on Drugs: Are Physicians White Collar Drug Dealers?*

Erika Prado, University of California, Santa Barbara, Major: Psychology & Language, Culture, and Society
Session # 1, Room: Lobo A
Title: *Communicating in “Co-operation” with a Nonverbal Bilingual Teen with Autism*

Josh Sheinberg, University of Wyoming, Major: Statistics and Economics
Session # 1, Room: Santa Ana B
Title: *Regression vs ANOVA: Which to Choose?*

Zoe Stearns, University of Oklahoma, Major: Mathematics
Session # 1, Room: Acoma B
Title: *Reporting perceived direction: Motion estimation in human and non-human primates*

Elizabeth Torres, University of Arizona, Major: Care, Health, and Society & Family Studies and Human Development
Session # 1, Room: Fiesta B
Title: *Perceived Differences in Cultural Competency Between Healthcare Providers and Latino Patients*
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<td>Johnathan Garcia Ramos</td>
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<td>Secondary Prospective Teachers’ Understanding of the Cognitive Demand Of Mathematics Tasks</td>
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S. Cassidy Gray, Lee University, Major: Business Administration, emphasis International Business  Session # 3, Room: Acoma A  Title: Failure in Implementation of Women’s Poverty Initiatives in Guatemala

Michelle Horton, Purdue University Northwest, Major: Psychology  Session # 3, Room: Lobo A  Title: The Relationship Between Parental Perceptions of Public Safety and the Degree of Freedom Given to Children to be Away from Home

Jamarcus Robertson, University of Florida, Major: Microbiology  Session # 3, Room: Santa Ana A  Title: The role of macrophages in skin regeneration in African spiny mouse (Acomys spp.)

Margarita Ruedas, University of Arizona, Major: Family Studies & Human Development  Session # 3, Room: Lobo B  Title: The relations between Latina/o youths’ language hassles and their math and science career commitment

Sophia Sambrano, University of New Mexico, Major: Chicanx Studies  Session # 3, Room: Fiesta A  Title: Spirituality in Women of Color/Chicana Feminism Consciousness Raising

Holly Trujillo, University of Wyoming, Major: Communication Disorders  Session # 3, Room: Fiesta B  Title: Speech Language Pathologists Comfort Levels treating K-12 Students with TBI

DeShawn Vaughan, University of New Mexico, Major: Applied Math and Economics  Session # 3, Room: Santa Ana B  Title: Debt, Financialization, and the Probability of Recession.

Gregory Vigil, University of New Mexico, Major: Mechanical Engineering  Session # 3, Room: Acoma B  Title: Development and characterization of a gravity-driven particle curtain
**Jelard Aquino**, University of Wyoming, Major: Physiology  
Session # 4, Room: Santa Ana B  
Title: *Comparative Meta-Analysis of Gene Expression in Blister Rust Infected Five-Needle Pines*

**Roxanne Awais**, University of New Mexico, Major: Chemical Engineering and Russian  
Session # 4, Room: Santa Ana A  
Title: *Stability of LATP in Organic Solvents and Under Heat Treatment for Composite Polymer Electrolytes*

**Ivanna Corzo**, Florida International University, Major: Biomedical Engineering  
Session # 4, Room: Acoma B  
Title: *Real-time Controlled Incubator and Microfabricated Platform for a Tissue Pulling Apparatus*

**Wendy J. Gallarza**, University of New Mexico, Major: Psychology  
Session # 4, Room: Acoma A  
Title: *Discrimination Experiences and Social Behaviors Among Young Adults*

**Jeremy Gusset**, Kean University, Major: Architecture  
Session # 4, Room: Lobo A  
Title: *Architecture For All*

**Ysidro Motta**, University of North Texas at Dallas, Major: Psychology  
Session # 4, Room: Fiesta B  
Title: *Another Prescription Filled: Observing the Impact Medication has on Veteran Health*

**Peter Nguyenho**, University of Florida, Major: Psychology  
Session # 4, Room: Lobo B  
Title: *Charismatic Leadership: The Effect of Nonverbal Immediacy and Nonverbal Dominance on Psychological Safety*

**Michelle Ramos**, Sul Ross State University, Major: English  
Session # 4, Room: Fiesta A  
Title: *“No Es Para Nosotros:” The Cultural Expression of Social/Familial Oppression in Hispanic Culture*
Alfonso Anaya, Sul Ross State University, Major: Digital Design
Session # 5, Room: Lobo A
Title: The Importance of Keeping Dark Skies Dark and an Effort to Make Bright Skies Darker: Research & Creative Project

Kelsey Dorsett, University of New Mexico, Major: Psychology, Communications
Session # 5, Room: Acoma A
Title: Efficacy in Residential Treatment Centers: A Therapist’s Perspective

Clemente Guzman, Trinity University, Major: Physics
Session # 5, Room: Santa Ana A
Title: Selective Hydrogenations with Bimetallic Gold Catalysts

Hillary Lopez, Florida International University, Major: Civil Engineering
Session # 5, Room: Acoma B
Title: Exploring Drivers’ Behavior and Cognition in a Driving Simulator with Eye-Tracking

Johanna Najera, University of California, Santa Barbara, Major: Anthropology; History of Art and Architecture
Session # 5, Room: Lobo B
Title: Chronological Analysis at Mulch’en Witz: Ceramic and Carbon Dating of plazuela Group B

Ryan Reynolds, Baylor University, Major: History
Session # 5, Room: Fiesta A
Title: Pearl of the Orient Seas: American Pacification Efforts in the Philippine Insurrection (1899-1902)
Makayla Gray, University of Texas at Austin, Major: English  
Session # 6, Room: Fiesta A  
Title: The Disparity of Representation in America’s Literary Canon: Theoretical effects on readers explored in Lorraine Hansberry’s A Raisin in the Sun

Simone Oliphant, Florida International University, Major: Biological Sciences  
Session # 6, Room: Santa Ana A  
Title: Seed Dispersal of Apocynaceae Family of Pine Rocklands

Stephanie Poiroux, University of Mississippi, Major: Psychology  
Session # 6, Room: Lobo B  
Title: “Because it is Right”: Altruism and Dr. Martin Luther King Jr.’s Protest of the Vietnam War

Love Rodriguez, Our Lady of the Lake University, Major: Psychology  
Session # 6, Room: Acoma A  
Title: Narcissism Explained Through the Self-Consistency and Social Comparison Theories

Missael Sahagun, Purdue University Northwest, Major: Electrical Engineering  
Session # 6, Room: Santa Ana B  
Title: Parking Space Binary Classification using Convolutional Neural Networks

Katrina Van Nort, University of Minnesota Duluth, Major:  
Oral Presentation, Session # 6, Room: Acoma B  
Title: Polycyclic Aromatic Hydrocarbons

Juan Vintimilla, University of Wyoming, Major: Psychology and Spanish Linguistics  
Session # 6, Room: Lobo A  
Title: The Role of Self-Compassion during Interactions in a second language

Yamani Woody, Purdue University Northwest, Major: Biology  
Session # 6, Room: Fiesta B  
Title: Hyaluronan N-Deactylase in Aged Skin
John Cline, Concord University, Major: Geography
Session # 7, Room: Acoma B
Title: Hydroclimatic controls on the growth of bottomland pin oak

Decory Edwards, Trinity University, Major: Economics/Mathematics
Session # 7, Room: Lobo A
Title: News Media- Stock Price Interaction During Equity Bubbles

Stephanie Garza, Our Lady of the Lake University, Major: Mass Communications
Session # 7, Room: Lobo B
Title: Twitter As a Mirror of Political Polarization

Daniela Gomez, University of Florida, Major: Anthropology
Session # 7, Room: Santa Ana A
Title: Do males adjust their reproductive investment in response to female quality?

Serena Hutson, The College of St. Scholastica, Major: Psychology
Session # 7, Room: Fiesta B
Title: On-Campus Occupational Therapy Clinic: Exploring a Model for Experiential Learning within Curriculum

Arlette Perez, University of Texas at San Antonio, Major: Anthropology
Session # 7, Room: Fiesta A
Title: Remembering San Antonio at 300: A Dispute of Identities

Ricardo Saucedo, Saint Louis University, Major: Computer Science
Session # 7, Room: Santa Ana B
Title: Gay Twitter: An Investigation of Biases toward Queer Users in AI and Natural Language Processing Models

Carissa Villanueva, Saint Louis University, Major: Math and Anthropology
Session # 7, Room: Acoma A
Title: Effects of Racial and Ethnic Background on Maternal Health in the U.S.
Wesley Agee, Harris-Stowe State University, Major: Biology
Session # 8, Room: Santa Ana A
Title: Phylogeny & Biogeography of Thalia

Kayla Briggs, University of North Texas at Dallas, Major: Biology
Session # 8, Room: Acoma A
Title: Awareness, accessibility and usage of probiotics in southern Dallas and the implications in maternal and child health

Maria Garcia, Saint Louis University, Major: Health Management and Sociology
Session # 8, Room: Lobo B
Title: Cross-cultural identities of emerging first and second generation immigrant adolescents

Jamireia Hampton, University of Mississippi/Mississippi Valley State University, Major: English
Session # 8, Room: Lobo A
Title: Cries from Queens: Audience Responses to Stereotypes of African American Women in Dear White People

Christian Hill, University of Colorado Boulder, Major: Computer Science
Session # 8, Room: Santa Ana B
Title: The Electronette: An HCI Device for Tactile Interaction with the Human Arm Using Electrical Stimuli

Parfait Masungi, The University of Texas at San Antonio, Major: Civil and Environmental Engineering
Session # 8, Room: Acoma B
Title: Cracking Behavior of High-Strength Spiral Steel Bars in Concrete Slabs

Jada Similton, University of Mississippi/Alcorn State University, Major: English
Session # 8, Room: Fiesta A
Title: Paradoxical Empowerment through Sexuality and Resistance: A Feminist Critique of Dionne Brand’s At the Full and Change of the Moon

Giselle Valdes, Florida International University, Major: Biomedical Engineering
Session # 8, Room: Fiesta B
Title: Elucidating the Molecular Mechanisms Underlying the Pathogenesis of Treacher Collins Syndrome
Jasmine Banks, Florida International University, Major: Psychology
Session # 9, Room: Acoma B
Title: Communication Between Black Urban Mothers and Adolescent Daughters

Zachary Candelaria, University of New Mexico, Major: Applied math
Session # 9, Room: Santa Ana B
Title: Radiative Heat Transfer in Graphene Nanodisks

Glenn Harter, University of Northern Colorado, Major: Biochemistry
Session # 9, Room: Fiesta B
Title: Impairment of MDSC recruitment in breast cancer cells by CRISPR-mediated TFF and CXCR4 protein knockout

Jarrett Hurd, University of Colorado Denver, Major: Psychology
Session # 9, Room: Lobo A
Title: Eradicating Racism

Tiffany Nguyen, Trinity University, Major: English and Classics
Session # 9, Room: Fiesta A
Title: The End, or the Beginning of the End? The Closure of Book 11 of Apuleius' Golden Ass

Jose Javier Perez Rodriguez, University of Northern Colorado, Major: Software Engineering
Session # 9, Room: Santa Ana A
Title: Sarcasm Detection using Software

Justyce Pinkney, Florida International University, Major: Psychology
Session # 9, Room: Acoma A
Title: Cerebellar Dependent Eyeblink Conditioning Differences Between Young Children With and Without Autism Spectrum Disorder

Resham Redmond, University of California, Santa Barbara, Major: Anthropology - Archaeology
Session # 9, Room: Lobo B
Title: “Under the Corbel Arch”: An Archaeological Investigation Of A Problematical Figurine Deposit At The Ancient Maya City Of El Pilar
Oral Presentation Schedule: Session # 10, 2:15 PM - 2:35 PM
Friday, October 5, 2018, SUB Top Floor
Full abstracts start on page # 30 - Room map on page 73

Andrea Alzalde, University of Wyoming, Major: Psychology
Session # 10, Room: Lobo B
Title: Sexual Assault Victimization and Associated Beliefs Among High-Risk Groups Within College Campuses

Janet Gutierrez, Our Lady of the Lake University, Major: Social Work
Session # 10, Room: Lobo A
Title: Perceptions of Psychological Abuse Among University Students

Shelby Hart, University of Northern Colorado, Major: Anthropology and History
Session # 10, Room: Fiesta A
Title: Replicating and Modeling Cultural Heritage Artifacts Through Photogrammetry

Chiara Pride, Trinity University, Major: Anthropology/Political Science
Session # 10, Room: Fiesta B
Title: The Empathetic Clinical Encounter: Refocusing HIV Testing and Diagnosis on Client Needs

Joshua Sickels, University of New Mexico, Major: Earth and Planetary Science
Session # 10, Room: Santa Ana B
Title: Cruising the Gulf of Alaska: Imaging the Thermohaline Structure in the Eastern North Pacific with Seismic Reflection Data

Jesus Vazquez, University of New Mexico, Major: Statistics and Economics, Minor in Mathematics
Session # 10, Room: Santa Ana A
Title: Learning Numerical Representations of Biomedical Concepts from 28 Million Abstracts

Jamila White, Purdue University Northwest, Major: Psychology
Session # 10, Room: Acoma B
Title: The Fetishization of the Black Female Body: A literary critique of 12 Years a Slave
Dorothy Agyemang, University of Northern Colorado, Major: Chemistry  
Session # 11, Room: Fiesta B  
Title: *The Effect of Cannabidiol and delta-9-Tetrahydrocannabinol Concentration on Breast Cancer Cells.*

Gavin House, Texas Tech University, Major: Computer Science  
Session # 11, Room: Santa Ana A  
Title: *The Moral Status of Artificially Intelligent Agents*

Claudia Jimenez Arellano, University of New Mexico, Major: Civil Engineering  
Session # 11, Room: Santa Ana B  
Title: *Flood Wave Attenuation by Vegetation in the Rio Grande*

Robert Oliva Jr., Our Lady of the Lake University, Major: Psychology  
Session # 11, Room: Acoma A  
Title: *Examining the Efficacy of Alternative Therapy as Compared to Pharmacological Therapy on Stress and Anxiety Symptoms of 18-24-year-old College Students*

Sarah Spoon, Emporia State University, Major: Spanish and English  
Session # 11, Room: Fiesta A  
Title: *Publishing in the Digital Humanities: Solér Manuscript Transcription and Critical Introduction*

Ana Paula Trevizo, Our Lady of the Lake University, Major: Psychology  
Session # 11, Room: Lobo A  
Title: *Does a Competitive Context Increase Aggression?*

Alexis Trujillo, University of Wyoming, Major: Psychology  
Session # 11, Room: Acoma B  
Title: *Are Internalizing Symptoms Associated with Criminal Behavior in Married Couples?*
Kayla Mohler, University of Wyoming, Major: Psychology
Session # 12, Room: Lobo A
Title: *A Study on the Ideological Constructs that Influence Rape Myth Acceptance*

Jasmin Morales, University of California, Santa Barbara, Major: Sociology and Minor in Education
Session # 12, Room: Fiesta A
Title: *The Lost Ochoas: Social Class and STEM Persistence at an Elite University*

Stephanie Prado Carbonell, University of Oklahoma, Major: mechanical engineering
Session # 12, Room: Santa Ana A
Title: *Total Acid Number Of Vegetable Oil-Based Biodiesel*

Soledad Sierra, University of Northern Colorado, Major: Biology
Session # 12, Room: Santa Ana B
Title: *Analysis of Microplastic Polymers*

Tiffany Tasker, University of Colorado Denver, Major: Ethnic Studies
Session # 12, Room: Lobo B
Title: *Insufficiency of Financial Education*

Yolanda Valencia, University of Colorado Denver, Major: International Studies
Session # 12, Room: Acoma A
Title: *The Sound of Sumud*
Presentation Abstracts
Includes Oral and Poster Presentations

These abstracts were published unedited to reflect the author’s original submission. The abstracts appear in alphabetical order based on the presenter’s last name.
Wesley Agee, Harris-Stowe State University  
Mentor(s): Dr. David J. Bogler, Department of Biology  
Oral Presentation, Session # 8, Room: Santa Ana A  
Title: Phylogeny & Biogeography of Thalia

Thalia is a genus of semi-aquatic plants with broad leaves and highly modified flowers. Two distinct species occur in North America, 3 in South America, and 1 in Africa. Previous studies focused on reproductive biology. The goal of this study was to obtain a better understanding of the evolutionary relationships of the species for interpreting geographic distribution and evolution of morphological traits in Thalia. We sampled 14 specimens from the MBG herbarium and are sequencing chloroplast regions (trnL-F, trnL-intron, psbA-trnH, rbcL, matK) and ITS nrDNA with the goal of producing phylogenetic analysis.

Jennifer Aguilera, University of Colorado Boulder  
Mentor(s): Dr. Benjamin Bitler, Assistant Professor, Department of Obstetrics and Gynecology  
Poster Presentation, Session # 1, Room: Atrium  
Title: Determining the Effectiveness of CBS inhibition in “Reversing” PARP Inhibitor Resistance

Ovarian cancer (OC) is the deadliest gynecological cancer, resulting in over 14,000 deaths/year in the USA. PARP inhibitors (i.e., olaparib) represent a significant clinical advancement in OC treatment; however a majority of patients become resistant. Olaparib-resistant cells exhibit increased levels of activated ERK1/2 (dpERK). We hypothesize increased dpERK is a result of CBS hyperactivation, which is a targetable process. We tested the hypothesis in olaparib-resistant OC cells by determining dpERK levels following CBS inhibition. CBS inhibition promoted a transient increase in dpERK expression and cells treated with a CBS inhibitor and olaparib had lower cell survival than cells treated only with olaparib. Suggesting that CBS may be a viable therapeutic target, but the mechanism through which it influences cell growth is potentially independent of ERK.

Dorothy Agyemang, University of Northern Colorado  
Mentor(s): Dr. Richard Hylsop  
Oral Presentation, Session # 11, Room: Fiesta B  
Title: The Effect of Cannabidiol and delta-9-Tetrahydrocannabinol Concentration on Breast Cancer Cells.

Studies have shown that Tetrahydrocannabinol (THC) and cannabidiol (CBD) cause cancer cells to die, but only with the right concentration, which has not been sufficiently documented. The purpose of this study was to determine the exact concentration of CBD and THC needed to kill MCF-7 breast cancer cells. MTT assay determined MCF-7 cell apoptosis, and for further comprehensive analysis, western blot was performed and apoptosis was determined by detecting poly polymerase cleavage. Results indicated that CBD was more effective than THC, with the most effective concentration of CBD varying between the two methods.

Andrea Alzalde, University of Wyoming  
Mentor(s): Matt Gray  
Oral Presentation, Session # 10, Room: Lobo B  
Title: Sexual Assault Victimization and Associated Beliefs Among High-Risk Groups Within College Campuses

The purpose of this investigation is to explore sexual assault victimization prevalence and associated beliefs among the general college population, and compare specific high-risk groups to these measures. We expect to see higher rates of sexual assault victimization associated with higher reports of rape myth acceptance. Additionally, we will compare sexual assault victimization, perpetration, and rape myth acceptance among high-risk groups and the general college campus. To examine these hypotheses, a secondary analysis of a recently gathered sexual misconduct campus climate survey was used to assess disparities among students involved in high-risk groups and the general college population.
Syed Mohammed Amanuddin, Delta State University  
Mentor(s): Dr. Tanya McKinney/Dept of Biological Sciences  
Poster Presentation, Session # 1, Room: Atrium  
Title: 
Comparison of Factors Affecting the Population Dynamics of Sharks and Stingrays Between Gulf of Mexico and Bay of Bengal

This research is focused on population dynamics and species distributions of sharks and sting rays based on many different criteria. The factors that affect the population dynamic of these elasmobranchs between Gulf of Mexico and Bay of Bengal was examined in this study. This research took place in two different sites: Clearwater, Florida (USA) and Chitagong, Bangladesh. The study examined basic population size and monitored any changes for the species of sharks and rays captured. It also examined the population dynamics for each species, such as age distribution, size distribution, and sex distribution. Statistics was used to look for any preferences based on water temperature, depth, bottom type, time of day, and tidal stage.

Alfonso Anaya, Sul Ross State University  
Mentor(s): Gregory Tegarden and Avram Dumitrescu, Department of Fine Arts and Communication  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: The Importance of Keeping Dark Skies Dark and an Effort to Make Bright Skies Darker: Research & Creative Project

It is estimated that 83% of the world’s population and 99% of the United States population live under light polluted skies, many whom have not seen a true dark sky. In a world where light pollution increases at a rate of 2.2% a year, true dark skies have the potential to be wiped out by 2030. By using photography as a visual aid, this project is intended to raise awareness to protect dark skies by bringing attention to the adverse effects of light pollution in flora, fauna, and in the human body. In addition, it provides examples of appropriate artificial light fixtures to reduce the problem of light pollution.

Jelard Aquino, University of Wyoming  
Mentor(s): Dr. Vikram Chhatre, Wyoming INBRE Bioinformatics Core  
Oral Presentation, Session # 4, Room: Santa Ana B  
Title: Comparative Meta-Analysis of Gene Expression in Blister Rust Infected Five-Needle Pines

North American forests are increasingly threatened by novel pests and diseases that are moving into previously inaccessible areas due to rapidly warming climate. Pathogens like the white pine blister rust (Cronartium ribicola) have already decimated significant amount of forestland in the United States and Canada. Understanding the genetic basis of natural resistance to pests may hold the key for developing strategies to conserve forest resources. We applied novel computational tools to existing genomic data sets to analyze patterns of differential gene expression in the two host species Pinus monticola and P. albicaulis to understand their gene regulatory response to disease. Our study may offer deeper understanding of the dynamics of host-pathogen interactions.

Roxanne Awais, University of New Mexico  
Mentor(s): Dr. Keith Stevenson, Center for Electrochemical Storage at Skoltech, Moscow, Russia  
Oral Presentation, Session # 4, Room: Santa Ana A  
Title: Stability of LATP in Organic Solvents and Under Heat Treatment for Composite Polymer Electrolytes

Composite polymer electrolytes for all-solid-state batteries have received a lot of attention for being safer than liquid electrolytes and demonstrating higher mechanical stability. This additional stability is attributed to Li1+xAlxTi2−x(PO4)3 (LATP) nanoparticles being dispersed within the gel polymer matrix. In this study, LATP pellets were synthesized and stored in various organic solvents to determine their suitability in future composite polymer electrolytes. Impedance testing was conducted to observe changes in conductivity and sensitivity to storage and heat treatment.
Jasmine Banks, Florida International University
Mentor(s): Asia Eaton, Assistant Professor, Department of Psychology, Dionne Stephens, Assistant Professor, Department of Psychology
Both Oral & Poster Presentations, See schedule for session # and room
Title: Communication Between Black Urban Mothers and Adolescent Daughters

The current study uses qualitative methods, and World Café Model to examine sexual health education and communications between Black urban mothers (N=15) and adolescent daughter (N=15). Our sample is made up of adolescent girls ranging from ages 11 to 17 who attend Girl Power, an after-school program for at-risk girls in Over Town, Florida, and their mothers. Data from four focus groups were collected and analyzed for areas where both the mothers and daughters felt communication was sufficient or lacking. The areas ranged from HPV, to mental health. Compensation of $10 gift cards was given for participation in our study.

Jessica Benally, University of New Mexico
Mentor(s): Dr. Meeko Oishi, Associate Professor, Department of Electrical Engineering
Poster Presentation, Session # 2, Room: Atrium
Title: Human Perception in Cyber Physical Systems

The objective of this project is to yield safe outputs in a human-automation interaction LTI system. We represent the abstract system as the human's mental model of the machine and the concrete system as the automation. The interaction between the two is the user-interface defined by a simulation function. To assure that the outputs of both systems be numerically stable a linear matrix solver is used to determine the simulation function. To illustrate the effectiveness of this approach we use the kill-the-capture example. Showing that the interaction supports the humans understanding of the system with the user-interface.

Emily Berry, University of New Hampshire
Mentor(s): Kevin Culligan, Research Assistant Professor, Department of Molecular, Cellular and Biomedical Sciences
Poster Presentation, Session # 2, Room: Atrium
Title: Do RNA-dependent epigenetic modifications regulate early flowering in Arabidopsis thaliana?

Epigenetics is the study of heritable changes not found in the DNA sequence, typically as methylation of certain histones. Previous research focused on the RPA1A/B/C/D/E genes involved in DNA damage and repair in Arabidopsis thaliana. The goal of this experiment is to identify any possible epigenetic differences between the wild-type and RPA1C, RPA1E and RPA1C/E A. thaliana mutants that may cause the early flowering phenotype. From this research, epigenetic modifications could be identified and the results could help researchers better understand how DNA methylation and histone modifications affect other phenotypes of an organism. Early flowering is also seen in agricultural settings and can severely affect crop yields. This could also help researchers avoid early flowering in these mutants during experiments.

Hannah Bollin, Concord University
Mentor(s): Dr. Amberyl Malkovich, Associate Professor of English
Poster Presentation, Session # 2, Room: Atrium
Title: The Evolution of Women and Gender Issues in Literature

In literature the topic of women’s and gender issues has evolved over time, and literary critics make use of the historical background to better understand why perspectives on these topics tend to vary. The goal of the present paper is to do just that - but to also compare and contrast these different eras of writing, along with questioning why readers interpret works of literature and the characters in them so differently. By doing this research we learn what details in a society can evoke certain emotions towards women’s and gender issues and predict it's popularity with future generations.
Olivia Bontems, The College of St. Scholastica  
Mentor(s): Dr. Zachary Via, Assistant Professor, Chemistry Department  
Poster Presentation, Session # 1, Room: Atrium  
Title: Identifying perfluorinated alkylated substances in Swix Wax and the environment

Perfluorinated alkylated substances (PFAs) are utilized in Nordic ski waxes which are used in racing competitions because they reduce friction between the skis and snow. Throughout the race the PFAs disperse into the environment and their interactions together are unknown. The objective of this study was to detect PFAs from soil samples in the environment. Using Swix Wax brand wax we applied sampling, extraction, and analysis techniques to make a protocol for detecting PFAs in a Gas Chromatography–Mass Spectrometry (GC-MS) instrument. The results showed that soil samples from the environment contained detectable amounts of PFA's.

Kayla Briggs, University of North Texas at Dallas  
Mentor(s): Dr. Aubrey Frantz, Assistant Dean of Liberal Arts and Sciences; Kelly Varga, Lecturer of Biology, Department of Liberal Arts and Sciences  
Oral Presentation, Session # 8, Room: Acoma A  
Title: Awareness, accessibility and usage of probiotics in southern Dallas and the implications in maternal and child health

Children who attend daycare, especially before 3 years of age, experience double the average infectious episodes. These episodes are more severe and the increased risk is in direct relation to the number of hours spent in daycare. The excessive use of antibiotics contribute to the lack of a normal gut flora. During a child’s formative years the regulation of this microbiota is influenced by the initial mode of delivery, environmental factors such as diet, innate and adaptive immunity. Between the ages 0-3 children come in to contact with all sorts of bacterial and viral infections. With excessive antibiotic usage, consistent hours spent in a group setting, abnormal gut flora contents, and other environmental factors this disrupts a child’s ability to continually fight infection. Many bacteria found in a group setting whether they grow into biofilms or not compromise the body’s T-cell count. Lactobacillus-92 is effective against T-cell mediated conditions. Lactobacillus-92 if used as a dietary supplement daily can increase the child’s T-cell count affording the child the ability to fight off infection.

Jasmine Brooks, Purdue University Northwest  
Mentor(s): Dr. Gisele Casanova, Professor, Psychology  
Poster Presentation, Session # 2, Room: Atrium  
Title: Analysis and Intervention of Opioid Use in Northwestern Indiana

Opioid drug use in the United States is at an all time high and shows no signs of slowing. In 2016 there were over 63,600 opioid related deaths, in 2017 there were roughly 70,500 opioid related deaths. The rates of drug overdose deaths has continuously increased, and appears to continue to follow the same upward trend. The pattern of drug overdoses involving synthetic drugs has risen, the synthetic opioids analyzed are in addition to methadone, (drugs including, fentanyl, tramadol, and fentanyl analogs). In the state of Indiana there had been a large use of prescription opioids, heroin, cocaine, and methamphetamine. With a total of 196 opioid related deaths in Lake County alone. Cities such as Highland have programs known as the PAARI (The Police Assisted Addiction and Recovery Initiative) program in place to rehabilitate opioid users as opposed to sending them directly to jail. For the year 2016, 22 states, including Indiana, had higher aged adjusted drug abuse rates than the national average.
Gezelle Brown, Concord University  
Mentor(s): Dr. Tesfaye Belay, Professor of Biology at Bluefield State College  
Poster Presentation, Session # 1, Room: Atrium  
Title: Profiles of T helper 1 and T helper 2 Cytokines in the Genital Tract of Stressed Mice during Chlamydia muridarum Infection

Cold-induced stress is known to influence the dynamics of cytokine production during chlamydia genital tract infection, but the balance between Th1 and Th2 cytokines of stressed and infected mice is unknown. We hypothesized that cold-induced stress results in elevated production of interleukin-4 but decreased production of interferon gamma. T cells of stressed mice showed decreased and increased productions of interferon gamma interleukin-4, respectively, indicating the switching of Th1 cytokine production to Th2 cytokine production. In correlation with switching of the immune system, elevated and reduced gene expression of GATA-3 and T-bet transcription factors, respectively, was observed in the stressed mice.

Geraldine Cadet, Florida International University  
Mentor(s): Dr. Purnima Madhivanan, Associate Professor, Department of Epidemiology  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: Knowledge, Gender, and Guidance: Factors influencing Indian Mothers Responses to ADHD

In the current study, we examined the socio-demographic characteristics and attitudes of Indian mothers, their knowledge about behaviors related to Attention Deficit Hyperactivity Disorder (ADHD) and the relationship with ADHD diagnosis among their children. A survey was completed by 100 mothers with children aged between 4-12 years. It was determined that the gender of the child, the geographical location the mother was raised, willingness of mother to seek professional help, mother’s knowledge on handling child’s behavior and mother’s knowledge on ADHD were significantly associated with ADHD. Further analyses revealed that a lack of knowledge of ADHD and handling child’s behavior were most associated with an ADHD diagnosis based on the CDC ADHD checklist.

Darnell Calderon, California State University, Fullerton  
Mentor(s): Dr. Anthony S. Alvarez, Assistant Professor, Department of Sociology  
Poster Presentation, Session # 2, Room: Atrium  
Title: "Why Are People from Shithole Countries Coming to America?" an Analysis of 2014 GSS Data

There is amplified concern and hostility toward undocumented immigrants in the United States. Prior to our current president’s campaign, I hypothesized that cultural concerns rather than economic concerns had more significance in expressing anti-immigrant sentiments. Using data from the 2014 General Social Survey (GSS), I analyzed a logistic regression model that measured how economic insecurities, religious affiliation, and racial distance play a role in increasing the likelihood of having anti-immigrant attitudes. The results show that race and religion are significant factors. Although public discourse may point to scarcity within job markets, economic insecurity was not a significant factor. Racial distance had some significance, but it is difficult to ascertain its effect size. This project indicates anti-immigrant sentiments are marked by cultural concerns rather than economic.

Zachary Candelaria, University of New Mexico  
Mentor(s): Dr. Alejandro Manjavacas, Assistant Professor, Department of Physics and Astronomy  
Oral Presentation, Session # 9, Room: Santa Ana B  
Title: Radiative Heat Transfer in Graphene Nanodisks

All objects emit thermal radiation; radiative heat transfer (RHT) is the transfer of energy from one body to another through thermal radiation. RHT can be increased between objects that support plasmons, collective oscillations of electrons on the surface of a metallic structure. Graphene, a plasmonic material composed of a monolayer of carbon atoms bonded together in a hexagonal lattice, is interesting to researchers because its electronic tunability allows for the control of its plasmon frequency and, by extension, how it interacts with thermal radiation. Motivated by this, we investigate how manipulating...
the electron density and geometry of graphene nanodisks affects RHT between them and the temperature of a system of graphene nanodisks.

Andrea Chamorro, University of Colorado Boulder
Mentor(s): Laura Moreno, Ph.D, Computer Science, Colorado State University
Poster Presentation, Session # 1, Room: Atrium
Title: WikifyDocs: Addressing Ambiguity through Definitions in API Documentation

Application Programming Interface (API) documentation is meant to help developers understand and use the functionalities of an API. It is often assumed that developers who refer to API documentation have an inherent degree of knowledge of its terminology. However, this approach overlooks the various expertise levels that developers consulting documentation might have. Our goal is to bridge the gap between knowledge profiles of API developers and API users, by identifying potentially ambiguous vocabulary and providing contextual definitions using Wikipedia. The presented tool is part of an overall effort to automatically improve documentation in the software engineering community.

Ofelia Chapa, University of North Texas at Dallas
Mentor(s): Dr. Steven L. Arxer, Assistant Professor, Department of Sociology and Psychology
Poster Presentation, Session # 2, Room: Atrium
Title: Identifying Higher Education Social Capital Resources for Hispanic American Women

Social capital can have strong motivational influences, particularly for Hispanic American women, who either graduated high school, received a GED or neither or did not complete college immediately after high school. This qualitative study explores how social capital impacts their choices to complete higher education and obtain a college degree later in life. Participants of this study will include five self-identifying second and third generation Hispanic American women that have completed a college degree as a post-traditional student. Identifying the people and social resources available to these Hispanic American women can help clarify the pathways toward college attainment. Armed with this information we can then promote access to resources and influence the number Hispanic American females in higher education.

Chelsea Charley-Suarez, University of Colorado Denver
Mentor(s): Dr. Andrew W. Wilson, Assistant Curator of Mycology
Poster Presentation, Session # 2, Room: Atrium
Title: Phylogenetic delineation and geographic distribution of Laccaria nobilis and phenotypic relatives.

Laccaria nobilis Smith is one of the larger species whose distribution includes Alaska, the Pacific Northwest, Mexico, Midwestern United States, and Eastern Canada. Cryptic species within Laccaria are possible, so the question is whether this distribution reflects L. nobilis or morphological similar Laccaria. The purpose of this paper is establishing phylogenetic identity of L. nobilis from its home range and comparing specimens of L. nobilis from others. Molecular sequence data from the nrITS region, and single protein coding genes RPB2 and EF1-alpha are used for phylogenetic evaluation. Maximum likelihood analysis of molecular sequence data identifies a monophyletic clade of specimens from Colorado and evaluates which geographically fits. This evaluates the hypothesis that specimens of L. nobilis outside of Colorado actually represent non L. nobilis species.

John Cline, Concord University
Mentor(s): Dr. Tom Saladyga, Associate Professor of Geography
Oral Presentation, Session # 7, Room: Acoma B
Title: Hydroclimatic controls on the growth of bottomland pin oak

Bottomland oak swamps provide ecosystem services such as nutrient exchange and pollution entrapment and generally improve aquatic and riparian habitats. These forests are declining due to human encroachment (i.e., draining and development) and little is known about the development and resiliency of these plant communities. We used dendroecological methods to examine growth dynamics in canopy-dominant pin oak in a remnant forest patch on the floodplain of the
Meadow River in West Virginia. We developed a 141-year (1876-2016) growth chronology using core samples extracted from 15 live pin oak and cross sections from 16 downed logs. Climate-growth analyses indicate positive relationships between annual growth and current year April-August Palmer Drought Severity Index. This drought signal, however, has been declining since the late 20th century.

Bre Cole, The College of St. Scholastica
Mentor(s): Dr. Daniel Westholm, Department of Biology
Poster Presentation, Session # 2, Room: Atrium
Title: The Protein Expression Of Mycobacteriophage Brusacoram

Bacteriophages are the most abundant lifeforms on Earth, yet little is known about host infection proteomics. Our study evaluated mycobacteriophage Brusacoram protein expression at various infection time points in host Mycobacterium smegmatis (M. smegmatis) using tandem mass spectrometry (MS/MS). Time points were determined by performing a one-step growth curve using hydrochloric acid for exogenous phage inactivation. Infections were initiated in liquid culture with samples retrieved at 45 minutes, 1.5 hours and 3 hours and subjected to MS/MS. Initial data analysis at 3 hours identified a variety of structural and genome replication proteins along with 12 proteins with unknown function. Future analysis of the 45 minute and 1.5 hour time points will give a clearer picture of overall protein expression dynamics.

Aja Coleman, Trinity University
Mentor(s): Dr. Frank Healy, associate professor, Department of Biology
Poster Presentation, Session # 2, Room: Atrium
Title: Cloning of an Escherichia coli Chemotaxis Sensory Protein with Defects in Repellent Recognition

Sensory systems are vital to organismal survival. Escherichia coli possesses transmembrane proteins that bind attractant and repellent chemicals, directing swimming behavior. The E. coli chemoreceptor Tar binds the attractant aspartic acid and nickel ion repellent molecules. Biochemical studies have elucidated Tar-aspartate interactions, however little is known regarding Tar-nickel interactions. To investigate this, PCR was used to amplify the tar gene from wild type E. coli DNA. Amplification products were ligated into plasmid pACYC184 and the desired E. coli transformants were selected. Defects in nickel repellent sensing of an E. coli Δtar strain were complemented with pACYC184::tar; this platform was used to identify Tar residues required for nickel binding by random mutagenesis of plasmid-encoded tar. This work may broaden our fundamental understanding of receptor-ligand interactions.

Dakota Conway, Delta State University
Mentor(s): Dr. Sally Zengaro / Associate Professor / Psychology
Poster Presentation, Session # 2, Room: Atrium
Title: Crime and Punishment?: The Mental Health Outcomes of Female Rape Survivors of a Single Rapist

The purpose of the research was to investigate whether rapists’ being criminally punished betters or worsens the mental health of female rape survivors of a single rapist. Fifty-nine women were participants. Participants were given a link to an online survey that asked them questions regarding the general nature of the rape committed against them, the criminal aspect of the rape committed against them, and the severity at which they suffered from select mental health symptoms on the DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult. The results of the study suggest that much should be done to help women that have been raped, especially younger rape survivors.
Ivanna Corzo, Florida International University
Mentor(s): Dr. Thomas Bifano, Departement Director of the Photonics Center at Boston University
Both Oral & Poster Presentations, See schedule for session # and room
Title: Real-time Controlled Incubator and Microfabricated Platform for a Tissue Pulling Apparatus

The Cellular Metamaterials with Nanoscale Precision (CELL-MET) project is striving to cure the number one leading cause of death epidemic in the US that is also affecting people worldwide: heart disease. In order to do so, their attempting to grow cardiac tissues from the cellular level to ultimately create cardiac patches that will assist in repairing hearts damaged from diseases. The CELL-MET team currently makes micro tissues using polydimethylsiloxane (PDMS) scaffolds with cavities and pillars. Tissue force is measured by optically monitoring deflection of the tops of the pillars. We are working on an instrument that will allow both measurement and control of tissue force. In my summer project, I helped develop a temperature and humidity control chamber for that instrument, and I redesigned the PDMS molds that will be used in that instrument.

Charline Crespo, Interamerican University of Puerto Rico, San Germán campus
Mentor(s): Roxanne D. Cepero, (MFA) Fine Arts, Arts Department
Poster Presentation, Session # 2, Room: Atrium
Title: Musical Preferences & Personality: Transverse study between generations

The purpose of this study is to explore the relationship between musical preferences and personality traits through two different generations. The study inquires to prove the Personality theory from the personality traits perspectives, by investigating the links that exist between generations and musical preferences, also the links between personality traits with musical preferences. In the case of this study, it would be to find how musical preferences reflect the facets of personality behaviors through the generations.

Maria de los Angeles Davila, University of Colorado Boulder
Mentor(s): Nancy Plankley-Videla
Poster Presentation, Session # 2, Room: Atrium
Title: The Effect of Pre- and Post-Presidential Election Immigration Discourse on Day Laborers Intention to Stay in Central Texas

This project focused on understanding immigration discourse and its effect on undocumented Latinx populations. For this, we interviewed undocumented day laborers from central Texas before and after the 2016 presidential election. Through semi-structured surveys, ranging from the years 2012 to 2018 we examine day laborers networks, their perceived criminalization and racialization as well as their knowledge about immigration policy. A clear change between immigration discourse and the way day laborers understood it after the 2016 presidential election was not found, however, changes in how long day laborers have decided to stay in the US and the number of work abuses they reported, are found and discussed. Exploring a relationship between the media affecting these changes is recommended for further research.

Emily Davis, Concord University
Mentor(s): Dr. Rodney Klein, Professor of Psychology
Poster Presentation, Session # 1, Room: Atrium
Title: Effects of Chewing Gum on Cognitive Performance

The effects of chewing gum and test taking have shown to have a significant increase in memory, alertness, positive changes in cognitive performance, increased concentration and improvement of short-term and long-term memory. The purpose of this research is to replicate and study the scores of individuals that perform the chewing gum and test-taking task. Most students have trouble focusing or keeping full attention when testing or studying. It is essential to help students in any way possible to improve, and if chewing gum can help improve cognitive performance or concentration, then this study will show a useful study or test-taking tactic.
Rainee Deroin, Oklahoma State University
Mentor(s): Dr. Storm, Department of Biosystems and Agricultural Engineering
Poster Presentation, Session # 1, Room: Atrium
Title: Hydrologic And Sediment Yield Modeling Of Native Prairie And Encroached Eastern Redcedar Watersheds

Eastern redcedar represents a modern day challenge to Oklahoma as it has encroached over eight million acres of land since 2002 and shown to impact water balances and alter soil characteristics. Eastern redcedar has the potential to reduce soil moisture to wilting point conditions and damage native biomes in the process. Studies have shown eastern redcedar biomass to have great energy potential for the state. The purpose of this study is to compare the observed changes in watershed sediment yield and runoff caused by varying vegetation types, and evaluate the feasibility of converting encroached rangeland to cultivated switchgrass. More specifically, this study focuses on water quality and quantity of encroached eastern redcedar woodland, cultivated switchgrass, and native mix-grass prairies. Ultimately, this study will help determine if the conversion of encroached marginal lands to cultivated switchgrass would be a feasible project for the state or worsen the rangelands of Oklahoma.

Jeremy Diaz, University of Colorado Boulder
Mentor(s): Dr. Jennifer Balch, Assistant Professor, Department of Geography
Poster Presentation, Session # 1, Room: Atrium
Title: A neural model for Twitter user classification to support wildfire response

Twitter is a promising tool for emergency response, but as emergencies unfold, users generate more tweets than responders can analyze. Most content is irrelevant, but some provides critical real-time information. We developed a neural filter that classifies users based on tweet content, account statistics, and images. Integrating several natural language processing and computer vision methods, we propose a shallow “P-net” architecture that combines user data with expert knowledge to automatically determine user relevance to emergency response. With the addition of high performance computing methods, this model rapidly produces results for wildfire response with up to 76% accuracy. These results suggest a viable approach for social-media supported emergency response, allowing responders to more quickly process information in situations where every second matters.

Joelle Dick, Delta State University
Mentor(s): Dr. James Gerald, PhD, Assistant Professor of Physics, Department of Chemistry and Physics, Delta State University and Dr. Kari Babski-Reeves, PhD, CPE, Associate Dean of Research and Graduate Studies, Bagley College of Engineering and Professor, Department of Industrial Systems Engineering, Mississippi State University
Poster Presentation, Session # 2, Room: Atrium
Title: The Effects of Training and Anti-Fatigue Mat on Balance, Muscle Activity, and Discomfort/Fatigue During Prolonged Standing in Sit-Stand Workstation Use

Sit-stand stations have been utilized in the workplace as a way of alleviating the work-related musculoskeletal disorders associated with prolonged bouts of sedentary work. To date, the mental and physical responses of the sit-stand station in the workplace have produced mixed results. This study utilized Electromyography (EMG), surveys, and the balance tracking system (BTS) to investigate fatigue by quantifying muscle activity, subjective discomfort/fatigue, and balance when simulating office (mental, physical, and computer-based) tasks at a sit-stand workstation. The data indicates that there is a temporal change in muscle activity, perceived fatigue, and balance. The analyzed results show no significant difference in muscle activity, perceived fatigue, and balance with or without the use of an anti-fatigue mat.
Residential treatment centers (RTCs) treat children with severe behavioral and emotional concerns. While such services have provided counseling and psychotherapy to children in need, scholars have debated the efficacy of RTCs with concerns about evidence-based practices, treatment paradigms, and personal level factors that contribute to efficacy. Literature in these areas are limited. There’s a gap in understanding such efficacy from those who provide direct treatment, the therapists. This study explores RTC therapist perspectives via qualitative interviews to understand challenges faced on various levels of RTCs functions from therapist perspectives, specifically individual and group therapy, staff relations, and program level paradigms.

This article examines the relation between equity returns and newspaper articles focusing on how they interact during stock bubbles. Daily returns on the S&P 500 during stock bubbles from the 1920s, 1950s, 1980s and 1990s are included in a Vector Auto Regression with daily measures of positive and negative media coverage in the New York Times and Washington post. For the two early bubbles, negative news articles are found to decrease stock returns and low returns increase the number of negative articles. This negative feedback effect could magnify equity price drops, thus contributing to stock crashes. That feedback effect dissipates in later periods as alternative news sources lessen the impact of daily newspaper articles. In later periods, stock returns continue to affect media coverage but the feedback effect dissipates as the acceleration of the news cycle lessens the impact of daily newspaper articles.

Unpaired image-to-image translation alters the style of an image while preserving its content by mimicking the distribution of a target domain. For example, a photograph can be altered to look like a Rembrandt painting even though no photograph analog exists depicting his work. Cycle-Consistent Adversarial Networks (Cycle-GANs) allow for unpaired image-to-image translation by enforcing a cycle-consistent loss. The Cycle-GAN model achieves this by generating images and then discriminating against those images using two Generative Adversarial Networks (GANs) to create a cycle. Since the publication of the first Cycle-GAN paper many architectures have been implemented that improve training times and convergence of Generative Adversarial Networks. Here we implement Optimistic Adam a type of optimistic mirror descent that has been shown to improve GAN output measured by inception score.

The SARS coronavirus is the pathogen responsible for the 2003 outbreak of severe acute respiratory syndrome (SARS). This contagious virus has since been found in 32 countries, affecting over 8,500 patients. Due to SARS high mortality rate, its reemergence is recognized as a looming threat to global health. However, neither a vaccine nor treatment exists to combat another outbreak. The virus’s 3 Chymotrypsin-like main protease is a major target for inhibitor studies, as it is crucial to viral replication. This project works to optimize the crystallization conditions for the SARS 3CL protease for use in X-ray fragment-based screening to identify possible inhibitors. The results of this study can be used as a basis for
pioneering new scaffolds for inhibitor studies in other coronaviruses.

Tamara Franklin, California State University Sacramento
Mentor(s): Dr. Greg Kim-Ju
Poster Presentation, Session # 1, Room: Atrium
Title: The Relationship between Friend Groups and Ethnic Identity

Previous studies have found that friendships have an impact on how people identify. However, there is less research on how friendships among members of different ethnic groups may be related to how people identify. This study will investigate the relationship between friendships and ethnic identity using secondary data from a sample of college students. It was hypothesized that greater ethnic diversity among friends will shape ethnic identity and ethnocultural empathy. Results indicated that a lower percentage of majority friends in one’s social group predicts more ethnic identity exploration and commitment.

Kellie Gadeken, University of Colorado Boulder
Mentor(s): Dr. Kris Karnauskas, Associate Professor and CIERs Fellow, Atmospheric & Oceanic Science Department
Poster Presentation, Session # 2, Room: Atrium
Title: Predicting Underwater Biomass From Sonar And Satellite Measurements

I worked on merging subsurface water column sonar data with satellite measurements of chlorophyll concentrations and daytime sea surface temperature (SST) to explore the impact of physical drivers on ecological variability in the California Current System. Chlorophyll and SST are good indicators of the physical features of an area, such as divergence and nutrient upwelling. These factors may reflect on the ecological variability in that region, and this is what my research aims to address. Using sonar data collected in 2013 from NOAA’s Shimada ship and satellite data available on NASA’s Ocean Color for the MODIS instrument, I stitched together a training set for a neural network that can automate analysis of marine biomass on the western coast of the United States.

Wendy J. Gallarza, University of New Mexico
Mentor(s): Dr. Alexandra Davis, Assistant Professor, Department of Human Development and Family Studies
Oral Presentation, Session # 4, Room: Acoma A
Title: Discrimination Experiences and Social Behaviors Among Young Adults

The goal of the current study was to examine the links between specific forms of discrimination and ethnic minority young adults’ social behavioral outcomes. The current study utilized short-term longitudinal data (across six months) to examine the links between four forms of discrimination (i.e., discrimination at work/school, social exclusion based on race/ethnicity, perceptions of stigma surrounding race/ethnicity, and threats made because of race/ethnicity) and young adults’ behaviors (i.e., aggression, delinquency, and four forms of prosocial behaviors). Results demonstrated unique predictive effects for the specific forms of discrimination, highlighting the complexity of these experiences.

Maria Garcia, Saint Louis University
Mentor(s): Dr. Ajlina Karameh- Muratovic, Assistant Professor, Department of Sociology
Oral Presentation, Session # 8, Room: Lobo B
Title: Cross-cultural identities of emerging first and second generation immigrant adolescents

Immigrating to a new homeland is not without its challenges. One of these challenges significant in the process of assimilating and acculturating is a “fundamental tension between ‘American’ and ‘Non-American’ identities” that individuals experience on a daily basis. Adapting to a new culture changes how individuals act and feel, in turn influencing both their personal and cultural identities. This study focuses on Bosnian adolescents living in St. Louis, Missouri, whose parents arrived in the United States some 20-25 years ago as refugees. The study explores the influence of ethnic identity on these adolescents’ feelings of belongingness, especially in regards to partial or total affiliation with one or more communities. Moreover, this paper seeks to explore how bicultural individuals’ ethnic identity is characterized and experienced by first
and second generation immigrant American adolescents.

Johnathan Garcia Ramos, University of Northern Colorado  
Mentor(s): Dr. Brian Iannacchione, Associate Professor, Criminology & Criminal Justice  
Oral Presentation, Session # 2, Room: Lobo B  
Title: College students' perception of racism on a college campus

Racism is a controversial, yet salient, topic in our society. Researchers have identified negative outcomes associated with interactions with racism, micro-aggression, and a racist campus climate. Because universities tend to have racially/ethnically diverse student populations, students might be perceiving racism on campus, which may negatively impact academic performances. The purpose of this research was to examine how students at a four-year liberal arts institution in the Rocky Mountain region perceive racism on campus. This information can help inform administrative efforts to reduce perceived racism and increase student attitudes, retention, and success.

Stephanie Garza, Our Lady of the Lake University  
Mentor(s): Dr. Leda Barnett  
Oral Presentation, Session # 7, Room: Lobo B  
Title: Twitter As a Mirror of Political Polarization

For years, scholars have argued about whether the rise of the Internet and social media in particular, have led to an increase in political polarization in our society. However, previous research has drawn conflicting conclusions on the role of social media in polarization. Some scholars have found that as people go online to get their political news and information, they self-select content that typically matches their own political ideologies. Others have concluded that polarization is on the rise due to other factors such as divisive elections and geographical sorting. This article analyzes survey data from before and during the 2016 presidential election and asks whether Twitter is merely a reflection of the political polarization that occurred during a polarizing event like the 2016 presidential election.

Daniela Gomez, University of Florida  
Mentor(s): Dr. Christine W. Miller, Associate Professor, Department of Entomology and Nematology  
Oral Presentation, Session # 7, Room: Santa Ana A  
Title: Do males adjust their reproductive investment in response to female quality?

Historically, scientists believed sperm was cheap, enabling males to mate almost indiscriminately. However, sperm is usually transferred in bundles which are energetically costly to produce. These costs may cause males to be more selective thus choosing to invest more in ejaculate production with higher quality mates. Here, we investigate this in Narnia femorata, by testing if males grow larger testes if given the opportunity to mate with a higher quality female. The testes mass of males paired with high-quality females were not significantly different from those paired with low-quality females. However, males kept alone had significantly larger testes than males paired with females. In summary, mating reduces testes mass, suggesting that ejaculate transfer is a considerable investment for males regardless of their partner’s quality.

Angela Gonzalez, University of Colorado Boulder  
Mentor(s): Dr. Tom Veblen, Professor, Department of Geography  
Poster Presentation, Session # 1, Room: Atrium  
Title: Factors Influencing Cone Production in Pinus ponderosa

Not much is known about the drivers of seed production in Pinus ponderosa, a widespread coniferous tree species in the western United States. Drought, tree mortality, and increases in size and frequency of U.S. wildfires underscore the importance of tree growth, survival, and regeneration. Using field surveys and tree-ring data, this research quantifies the influences of several factors on cone production in Pinus Ponderosa throughout the southern Rocky Mountains. In addition to an improved scientific understanding of this ecological process, this study will also assist regional post-fire management activities.
Lady Grant, University of Colorado Boulder  
Mentor(s): Dr. Noah Fierer, Associate Professor, Department of Ecology and Evolutionary Biology and CIRES  
Poster Presentation, Session # 2, Room: Atrium  
Title: *Microbial Adaptations to Aluminum Toxicity in Soil*

Toxic concentrations of aluminum in the soil can result from human activities or from natural soil formation processes. In particular, aluminum toxicity is a well-established issue in highly-weathered tropical soils commonly found across the globe. Despite the low concentration of nutrients, low pH, and toxic aluminum concentrations, tropical soils host thriving microbial communities that support an above-ground plant community. The objective of this project is to culture and isolate aluminum-tolerant bacteria from tropical soils. The bacteria identified thus far have been genus Bacillus, genus Nocardia and genus Curtibacterium. Through further test and cultivation of more isolates, we can then begin to pinpoint the exact mechanisms behind their resistance and further our understanding of the biogeochemical processes of the world’s most biologically diverse soils.

S. Cassidy Gray, Lee University  
Mentor(s): Dr. Hermillo Jasso, Professor, School of Business  
Oral Presentation, Session # 3, Room: Acoma A  
Title: *Failure in Implementation of Women’s Poverty Initiatives in Guatemala*

Women’s issues in Guatemala have been a point of global policy discussion for years. Yet despite this, women in the nation still face many of the same challenges as when the conversation first began. The goal of this research was to create a dialogue surrounding this issue, expose the harsh reality that these women face and, in some way, give them a voice. By finding and evaluating relevant impact evaluations, case studies, and non-governmental organization’s recommendations, this research sought to understand what was effective or ineffective in alleviating poverty through five key areas: laws and policies, education, health, violence and economics and business. By focusing on a broad spectrum of credible literature, holistic conclusions could be drawn about the effectiveness of poverty interventions in Guatemala.

Makayla Gray, University of Texas at Austin  
Mentor(s): Dr. Patricia Roberts-Miller, Professor, Department of English and Department of Rhetoric & Writing  
Oral Presentation, Session # 6, Room: Fiesta A  
Title: *The Disparity of Representation in America’s Literary Canon: Theoretical effects on readers explored in Lorraine Hansberry’s A Raisin in the Sun*

America’s literary canon has remained stagnant and its unavoidable presence within the American education system is concerning. Representation and diversity are propelling to the forefront of American discussion and American society is seeing a shift in the stories that are being venerated into our values and culture. Literary canon is a highly racialized exclusion-inclusion system that honors archaic and discriminatory themes and continued use of it ensures that students remain engaged with an America that is unacceptable. Discourse surrounding canon procedure and population has suggested that all students suffer when education systems limit diversity. To analyze a brief extent of this, I’ll be reviewing an ambiguous canonical classical and positing from anonymous reviews whether our current iteration of canon procedure is negating progress towards diversity.
Ashley Griffin, Delta State University  
Mentor(s): Kedra Wallace / UMMC / OB-GYN  
Poster Presentation, Session # 2, Room: Atrium  
Title: Renal Injury and Blood Pressure Persists into the Post-Partum Period in Rats with Severe Preeclampsia/HELLP Syndrome and Acute Kidney Injury during Pregnancy

Women with HELLP syndrome are more likely to develop acute kidney injury (AKI) compared to women without HELLP. AKI during pregnancy is associated with rates of maternal mortality and fetal loss that range from 30-60%. New data indicate that in addition to an increase in cardiovascular events such as increased blood pressure, women with a history of HELLP are also reported to have higher incidences of chronic kidney disease and end stage renal failure compared to women with histories of normal pregnancies. We tested the hypothesis that rats with sPE/HELLP+AKI during pregnancy would have more severe renal injury compared to NP and NP+AKI rats. These preliminary results suggest that the cardiovascular and renal effects that occur during the postpartum period in response to HELLP and/or AKI may occur through different physiological mechanisms.

Vanessa Guevara, Our Lady of the Lake University  
Mentor(s): Dr. Maria De La Cruz, Professor, Department of Psychology  
Poster Presentation, Session # 1, Room: Atrium  
Title: The Impact of Multisystemic Therapy on the Level of Aggression for At-Risk Youth

This experiment will study if Multisystemic Therapy(MST) reduces the level of aggression in troubled youth. Further exploration of this topic is beneficial to lower recidivism rates and better prepare at-risk youth for future development. Participants from Meadowlands Treatment Center will be selected based off age range from 9 to 17, history of reactive aggression, and residence at the intended facility. The experimental group will receive Multisystemic therapy for three months and the comparison group will consist of youth not participating in therapy. All participants will be measured for aggressive behavior pre-treatment and post-treatment. The hypothesis is participants who received MST will show a decreased level of aggression. This experiment will lead to larger studies that can benefit other at-risk youth and lower the recidivism rate.

Jeremy Gusset, Kean University  
Mentor(s): Professor Craig Konyk, Professor of Architecture  
Oral Presentation, Session # 4, Room: Lobo A  
Title: Architecture For All

To create affordable and accessible Architecture, first we must build a scalable system, engaging and empowering the users of Architecture, to create and manipulate the spaces in which they live. Through the implementation of prefabrication and Chinese joinery, we can create an open ended modular system that can adapt and evolve to the users needs. By giving people the tools to change their environment, we will change their mindsets from fixed to growth mindsets.

Janet Gutierrez, Our Lady of the Lake University  
Mentor(s): Dr. Alicia Hawley-Bernardez, BSW Director, Department of Social Work  
Oral Presentation, Session # 10, Room: Lobo A  
Title: Perceptions of Psychological Abuse Among University Students

Intimate partner violence (IPV) includes physical, sexual, and psychological abuse. Psychological abuse is most prevalent amongst individuals ages 18-24, which makes college students most susceptible to victimization and/or perpetration. The purpose of this study is to examine the perceptions and actions of university faculty, staff, and students who witness psychological abuse on a university campus. Participants will take a qualitative survey after watching three psychological abuse scenarios: a heterosexual couple with a female aggressor, a heterosexual couple with a male aggressor, and a same-sex male couple with one of the parties the aggressor.
Clemente Guzman, Trinity University
Mentor(s): Dr. Bert Chandler
Oral Presentation, Session # 5, Room: Santa Ana A
Title: Selective Hydrogenations with Bimetallic Gold Catalysts

The selective hydrogenation of alkynes into alkenes is a vital reaction to the polymer industry. Polyolefin feedstocks typically contain alkyne impurities; the concentration of these impurities must be reduced to avoid poisoning downstream polymerization catalysts. This study explores the use of Ni catalysts with a thin coating of Au for alkyne partial hydrogenation. The bimetallic catalysts were tested with 1-octyne partial hydrogenation and compared to monometallic catalysts. The bimetallic catalysts maintained high alkene selectivity yet were more active than monometallic Au catalysts. The bimetallic catalysts were characterized with Transmission Electron Microscopy (TEM) and showed large nanoparticles composed of Ni and Au and highly dispersed smaller Au particles. This suggests our synthesis method can be optimized to create more efficient bimetallic catalysts.

Jamireia Hampton, University of Mississippi/Mississippi Valley State University
Mentor(s): Dr. B. Brian Foster, Assistant Professor, Department of Sociology
Oral Presentation, Session # 8, Room: Lobo A
Title: Cries from Queens: Audience Responses to Stereotypes of African American Women in Dear White People

How do black women TV viewers respond to racialized and gendered stereotypes in the media that they consume? This project addresses this question by examining public discourse around a popular television show that depicts contemporary black American life. In particular, this project analyzes popular hashtags and social media discourse focused on the Netflix series Dear White People. Ultimately, my work raises important questions about how the media depicts black women and how black people negotiate potentially harmful stereotypes in their everyday lives.

Jesse Hare, University of Oklahoma
Mentor(s): Dr. Benjamin Alpers
Oral Presentation, Session # 1, Room: Fiesta A
Title: Reinterpreting Tradition: Willmoore Kendall and the Open Society

Born and bred on the plains of Oklahoma, Willmoore Kendall remains one of the most consequential political theorists, albeit overlooked, of the American conservative movement in the aftermath of the Second World War. Known widely for his keen intellect and pugnacious temperament, Kendall distinguished himself as an American iconoclast, criticizing the notion of an “open society” and its perceived toleration of communists at the height of the Cold War. In the decades since his untimely passing in the late 1960s, renewed interest has arisen regarding Kendall’s life, literature, and intellectual contributions to a once marginalized camp that has henceforth entered the political mainstream. Who was Willmoore Kendall and in what ways did his unique perspective alter the American political landscape? Through careful analysis of his philosophical treatises, scholarly articles, and personal correspondences, Kendall’s attacks against the liberal pantheon shed light on both the man and his times, revealing a brilliant mind who dared to question doctrinaire and inspired a new generation of conservatives to seize the reigns of their political future.

Shelby Hart, University of Northern Colorado
Mentor(s): Dr. Andrew T. Creekmore III, Associate Professor, Department of Anthropology
Oral Presentation, Session # 10, Room: Fiesta A
Title: Replicating and Modeling Cultural Heritage Artifacts Through Photogrammetry

Museums are integrating more technology into exhibitions, meeting museum goals and enhancing the visitor experience while focusing on protecting artifacts. Most technological integration fails to address the possibility of using technology to better integrate artifacts through media and web-based platforms. This research examines one method of digital 3D modeling and replication by creating a digital 3D model of Native American artifacts, using Agisoft’s photogrammetry software, and utilizing the digital model to 3D print a replica on an AirWolf 3D printer. Replication and reproduction of artifacts promotes greater access to historical knowledge without posing a risk to the artifacts. This creates a more accessible base of...
knowledge and a greater research potential for future researchers and generations interested in museum artifacts.

Glenn Harter, University of Northern Colorado
Mentor(s): Dr. James Haughian, Department of Biology
Oral Presentation, Session # 9, Room: Fiesta B
Title: Impairment of MDSC recruitment in breast cancer cells by CRISPR-mediated TFF and CXCR4 protein knockout

Immunotherapies may be the future of cancer treatment, as they enhance the immune system and hinder disease proliferation. Trefoil factors (TFF) and/or cytokine CXCR4 may activate biological pathways that predict involvement in cancer progression. This study will characterize the expected function of these proteins to activate cancer cell recruitment mechanisms. The CRISPR cas-9 system, a bacterial immune mechanism, will enzymatically cut the genes; any mutation should turn off the function of the proteins and slow malignant cell growth. Analyses between 4t1 cell lines with and without the mutation will help confirm TFF and CXCR4’s expected role in the spread of cancer.

Johnny Hero, University of Minnesota Duluth
Mentor(s): Kristin Riker-Coleman, Department of Science
Poster Presentation, Session # 2, Room: Atrium
Title: Breaking Water

The overall purpose of this study is to further understand the importance of ozone in our atmosphere, and to verify whether ozone is preventing ultraviolet radiation from breaking apart water gas molecules. The data collected was used to find the amount of ozone molecules in the atmosphere, and the amount of ultraviolet radiation the Sun imposes onto the Earth each second. According to calculations made thus far, it wouldn’t take more than a few days for the ozone layer to disappear, assuming that the ozone layer can only replenish so quickly before it begins to destroy itself. Further research on how water vapor dissociates needs to be done before further calculations can be made.

Christian Hill, University of Colorado Boulder
Mentor(s): Dr. Michael Eisenberg, Professor, Department of Computer Science
Dr. Ann Eisenberg, Adjunct Professor & Co-Director Craft Technology Group, Department of Computer Science
Both Oral & Poster Presentations, See schedule for session # and room
Title: The Electronette: An HCI Device for Tactile Interaction with the Human Arm Using Electrical Stimuli

The purpose of this research was to focus on the creation of novel, computationally-enriched “sensory extension” for educational purposes, the intent is to enable students to design and build their own sensory applications, and in doing so will learn about various computer science and neuroscience topics. The HCI device created is called the Electronette. The Electronette is an arm-mounted electrical muscle stimulation device for extending a sense using electrodes and responding with a tactile output for the user. With the Electronette, we can map human and animal senses onto hardware, effectively extending our senses in new exciting ways that will eventually lead to better understanding of how our body works, as well as how our brain is able to process and adapt to additional senses.

Michelle Horton, Purdue University Northwest
Mentor(s): Dr. Gisele Casanova, Professor, Psychology
Oral Presentation, Session # 3, Room: Lobo A
Title: The Relationship Between Parental Perceptions of Public Safety and the Degree of Freedom Given to Children to be Away from Home

The purpose of this study was to examine the relationship between parental perceptions of public safety and the degree of freedom given to their children to participate in activities outside of the home. Previous studies failed to focus on reasons parents do not allow children to participate in away-from-home activities such as going to malls, concerts, and other unsupervised events. It is hypothesized that our society’s instant and continuous coverage of news coupled with what seems to be an increase in reports of mass shootings have had an impact on individuals’ perceptions of public safety.
Gavin House, Texas Tech University
Mentor(s): Richard Burgess, Research Associate, Murdough Center for Engineering Professionalism
Oral Presentation, Session # 11, Room: Santa Ana A
Title: The Moral Status of Artificially Intelligent Agents

This presentation seeks to fill an existing hole in ethics literature pertaining to the moral status of artificially intelligent agents. The speaker begins with a review of existing literature on border defining cases such as the status of animals, humans incapable of full autonomy, etc. The speaker will then apply these concepts to artificial intelligence, determining whether artificial intelligences are deserving of moral consideration. For the purposes of this presentation, the speaker assumes that respect is binary -- an entity is either deserving of respect or is not.

Charles Howard, University of New Mexico
Mentor(s): Dr. Sang Lee, Assistant Professor, Mechanical Engineering
Poster Presentation, Session # 2, Room: Atrium
Title: Wind Turbine Wake Modeling

This report will discuss several modeling methods used for single and multiple wind turbine wakes. Theory of the models will be reviewed and discussed. Next, a series of papers are reviewed to show the aspects of each model and results. The methods in the review will depict changes made to reliably predict results with experimental data taken from wind farms. The conclusion will summarize the results and direction of research.

Jarrett Hurd, University of Colorado Denver
Mentor(s): Dr. Kubicek, Psychology
Oral Presentation, Session # 9, Room: Lobo A
Title: Eradicating Racism

This study will explore potential remedies for reducing racism. Racism is an extreme form of implicit bias defined as attitudes that affect our actions and decisions unconsciously. Implicit bias is present in everyone. These biases are malleable as they can weaken or intensify over time depending on experience. There are many promising interventions for dealing with racism. This study/review will focus on three: mindfulness, exposure to diverse populations, and the awareness of racial disparities. Research suggests such interventions may lead to more successful outcomes if we begin earlier in childhood (or early in life).

Serena Hutson, The College of St. Scholastica
Mentor(s): Dr. Kelly Erickson, Professor/Chair, Department of Occupational Therapy
Oral Presentation, Session # 7, Room: Fiesta B
Title: On-Campus Occupational Therapy Clinic: Exploring a Model for Experiential Learning within Curriculum

The current study builds on previous research (Erickson, 2018) focusing on identifying the effects of experiential learning in an on-campus clinic within graduate occupational therapy (OT) curriculum. The research aims to answer how a revised on-campus occupational therapy clinic model compares to a previously implemented model and identify the effects of the on-campus OT clinic model for OT graduate student professional development. The preliminary data analysis across 5 years presents descriptive data, and themes relating to time management, learning/observing, collaborations, clinic scenarios, and organizing/remodeling. Preliminary quantitative data analysis shows predominantly positive outcomes of students successfully being able to collaborate with others and demonstrate new knowledge in OT clinical practices. The preliminary data aims to benefit future revisions to fieldwork models in OT education.
**Abigail Hynum**, Delta State University  
Mentor(s): Dr. Tanya McKinney, Associate Professor, Department of Biological Science  
Oral Presentation, Session # 2, Room: Lobo A  
Title: *Are You Really a Happy Camper?*

The purpose of this study is to determine the effect of a summer camp experience on the social skills and mental health of children ranging in age from 9-17. Specifically, the mental health (happiness) will be assessed using pre- (given on the first day) and a post- (given on the last day of camp) survey. The survey will consist of questions addressing the emotional state of the child, age, gender, social skills, and the child’s personal definition of a happy camper. Data will be collected using a modified Likert scale and then subjected to statistical analysis. The change, if any, in the child’s happiness level due to participation in the summer camp will be assessed.

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**Nafisa Ibrahim**, The College of St. Scholastica  
Mentor(s): Dr. Kelsey Hatzell, Assistant Professor, Department of Mechanical Engineering  
Poster Presentation, Session # 2, Room: Atrium  
Title: *Co-extruded Composite Polymer Electrolytes for Solid-State Batteries*

Composite polymer electrolytes are exciting alternatives for all solid-state batteries due to their advantages of scalability and overall better mechanical response. This work is evaluating strategies for scalable manufacturing of functionally graded composite polymer electrolytes. A custom-built setup has been made that allows fabrication of co-extruded multimonial composite polymer electrolytes (CPEs). The project involves performing detailed material and electrochemical characterization of these co-extruded CPE films. The study evaluates two material systems: 75 wt.% LLZO-PEO (Li7La3Zr4O12 - Polyethylene Oxide) electrolyte and 25 wt.% LLZO-PEO electrolyte. The configurations include single material films and co-extruded films of both materials with features ranging from 1 mm to 23mm. Ionic conductivity measurements were carried out to evaluate initial control parameters.

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**Eric Jeffords**, The College of St. Scholastica  
Mentor(s): Dr. Daniel Westholm, Associate Professor, Biology Department  
Poster Presentation, Session # 2, Room: Atrium  
Title: *Soil Microbiome Dynamics in Post-Fire Landscapes*

Little is known about the impact of wildfire on microbial abundance and diversity in soil. In this study we evaluated microbial population dynamics in post-fire landscapes in the Superior National Forest. Soil samples were collected from 3 different sites (12/8 years, and 1-month post-burn) and evaluated through heterotrophic plate counts (HPC), microscopy, and 16S rRNA sequencing. The HPC results showed that fire did not have a significant impact on bacterial abundance. Microscopy indicated a mixture of gram negative bacilli and endospore forming gram positive bacteria at all sites. 16S rRNA sequencing indicated the percentages of phyla and total number of phyla and species were not significantly different between burned and unburned samples. In summary, our data suggest limited lasting soil microbiome impacts from fire.

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**Claudia Jimenez Arellano**, University of New Mexico  
Mentor(s): Dr. Mark C. Stone, Associate Professor, Department of Civil Engineering  
Oral Presentation, Session # 11, Room: Santa Ana B  
Title: *Flood Wave Attenuation by Vegetation in the Rio Grande*

Flooding in the Middle Rio Grande (MRG) has always been a problem. Since the construction of channel engineering structures, like Cochiti Dam, controlled flow has been let through, but it has not been enough for the riparian vegetation to benefit from it. The flood plain has not been flooding and this has affected riparian vegetation negatively. An increase in the attenuation of waves can be accomplished by using the roughness due to the vegetation of the floodplain. This study investigates if the roughness due to vegetation in the MRG is enough to attenuate flood wave discharge to an extent where this is safe for us, and at the same time, beneficial to the environment, tying this to the Engineering with Nature (EWN) principles studied in The Netherlands.
Joel Johnson, Boise State University
Mentor(s): Dr. Kristy Tiampo, Professor, CIRES at CU Boulder.
Poster Presentation, Session # 1, Room: Atrium
Title: Better estimates of creep rate along the Hayward Fault, CA through High-Resolution DEM’s and DInSAR

The Hayward fault, a right-lateral structure in northern California in the San Francisco Bay, has received significant attention because of the potential for the occurrence of an M6.7-7.0 earthquake. In addition to ground-based monitoring, differential interferometric synthetic aperture radar (DInSAR) analysis of surface motions has been applied by a number of researchers. Much of that earlier work also used advanced processing techniques to compensate for steep topography and vegetation. We investigate the creeping rate along the fault using DInSAR and a 3-meter resolution digital elevation model (DEM). The high-resolution DEM increases pixel recovery on the eastern portion of the fault, which is typically decoherent. Given the increase in pixel recovery, time series are produced with good spatial and temporal consistency for the fault.

Zakyra Jordan, Purdue University Northwest
Mentor(s): Dr. Harol Pinnick, Professor, Chemistry & Physics,
Poster Presentation, Session # 1, Room: Atrium
Title: CBD: The God Molecule of Cannabis

Cannabis contains 113 cannabinoids, and of those 113 cannabinoids one of the major constituents is Cannabidiol (CBD). Cannabidiol has been considered for aiding in treatments of epilepsy, inflammation, schizophrenia, anxiety, and nausea due to its' plethora of therapeutic qualities. This research focuses on synthesizing Cannabidiol analogs from the starting material 3,5-dimethoxybenzoic acid, in hopes of creating a more effective Cannabidiol molecule. In performing the synthesis, the carboxylic acid in 3,5-dimethoxybenzoic acid was replaced with a 10-carbon chain (C10).

Patricia Kingsley, University of Minnesota Duluth
Mentor(s): George Trachte, Ph.D.
Poster Presentation, Session # 1, Room: Atrium
Title: Co-expression of Natriuretic Peptide Receptor A and Protein Kinase G2 in Mouse Cochlea

Cyclic guanosine monophosphate (cGMP) is a second messenger produced by activation of guanylyl cyclases, such as natriuretic peptide receptor A (NPR-A). Activation of NPR-A in the cochlea improves hearing by an unknown mechanism. In other tissues, increased intracellular concentrations of cGMP activate downstream effectors including protein kinase G2 (PRKG2). Hypothesis: NPR-A and PRKG2 are co-expressed in the mouse cochlea. Immunohistochemistry was performed using primary antibodies against NPR-A and PRKG2. NPR-A and PRKG2 were co-expressed in many regions of the cochlea (including the organ of Corti and the potassium recycling systems), although their expression did not always overlap within individual cells. This pattern of expression is consistent with PRKG2 being a downstream effector of NPR-A in the cochlea.

Ivy Lam, Wesleyan University
Mentor(s): Dr. Joseph D. Coolon, Assistant Professor, Department of Biology
Poster Presentation, Session # 1, Room: Atrium
Title: Investigating the Molecular Basis of Nicotine Resistance in Drosophila

Drosophila sechellia is a species of fruit fly that has evolved resistance to toxins produced by its host plant, Morinda citrifolia. Candidate genes for resistance include Cytochrome P450s (CYP450s), Glutathione-S-Transferases (GSTs), and esterases because of their documented role in detoxification in other insects. Here we use synergists piperonyl butoxide, diethyl maleate, and tribufos to inactivate each of these detoxification gene families and measure the survival of Drosophila when exposed to the plant toxin nicotine in hour-long bioassays. Exploring the molecular basis of nicotine resistance will not only answer questions about general pesticide resistance, but also further our understanding of the toxin resis-
tance observed in D. sechellia. We found that knockdown of GSTs and esterases increases survivorship while knock
down of CYP450s decreases survivorship.

**Gage Lamborn**, University of New Mexico - Valencia
Mentor(s): Dr. Kevin Hobbs, Assistant Professor, Valencia
Poster Presentation, Session # 1, Room: Atrium
Title: *Paleoenvironmental investigations of Pliocene intertrappean paleosols, Taos Plateau, New Mexico, suggest long-
term semiarid pedogenesis*

Lava flows on the Taos Plateau preserved paleosols (ancient soils) that existed beneath them when they were erupted at approximately 4 Ma. These paleosols provide a record of climate conditions under which they formed. We are investigating two paleosols from within the Servilleta Basalts in northern New Mexico, in an effort to determine the paleoenvironmental conditions present during formation. Using bulk geochemical composition of paleosol materials, we performed a geochemical climate analysis (GCA) in order to estimate mean annual precipitation (MAP) during formation. The collected samples are from two paleosols that are separated by a two m-thick tholeiitic basalt flow and are similar in both chemical and mineral composition. These similarities suggest that relatively constant paleoenvironmental conditions persisted during the formation of both paleosols.

**Amelia Leon**, Florida International University
Mentor(s): Dr. Emily Ricq and Dr. Stuart Schreiber
Both Oral & Poster Presentations, See schedule for session # and room
Title: *Development of a Cell-Based Assay for Apolipoprotein E-Mediated Cholesterol Uptake and Neurite Extension*

Apolipoprotein E (apoE) is the predominant lipid transport protein in the brain and regulates cholesterol homeostasis and neurite outgrowth. ApoE bind lipids to form lipoprotein particles similar to high-density lipoproteins (HDL) and exists as three common isoforms (apoE2, apoE3, and apoE4). The apoE4 isoform is the most significant genetic risk factor for late-onset Alzheimer's disease (AD), with more than 50% of apoE4 carriers developing AD. Although the precise mechanisms by which apoE4 confers risk for AD remain unclear, previous studies have shown that apoE4 is impaired in its lipid transport capacity. Small molecules that restore the ability of apoE4 to transport cholesterol may thus be therapeutic in AD. Towards this aim, a 96-well plate assay was developed to measure apoE-mediated transport of HDL cholesterol to Neuro2a (N2a) cells. Cholesterol content was determined with an enzyme-coupled fluorescence assay, and neurite extension was measured by brightfield microscopy with quantification in ImageJ. This cell-based assay represents a mechanism-agnostic approach to discover small molecules that enhance apoE function in a neurobiological context.

**Hillary Lopez**, Florida International University
Mentor(s): Dr. Melissa Baralt, Associate Professor, Department of Applied Linguistics
Both Oral & Poster Presentations, See schedule for session # and room
Title: *Exploring Drivers’ Behavior and Cognition in a Driving Simulator with Eye-Tracking*

Intersection collision warning systems (ICWSs) have the potential to significantly improve driving and pedestrian safety. When drivers receive a warning of an upcoming pedestrian or vehicle, they are more likely to stop and thus prevent collision. Recent research shows that auditory stimuli are more effective than visual stimuli when it comes to warning modality (Bella & Silvestri, 2017). Thanks to driving simulators, driver behavior metrics— and more recently— driver attention and cognition captured via eye-tracking (e.g. Herwitz & Monsere, 2013)— can be measured. To date, however, no study has examined driver cognition simultaneously while receiving an ICWS warning. The purpose of this study is to contribute to the field the role of auditory ICWSs versus no warning when pedestrians are present in a driving simulator. We will study drivers’ behavioral reaction as well as attentional capacities thanks to eye-tracking technology.
Juan Luevanos, Trinity University  
Mentor(s): Mina Penn, LiftFund  
Poster Presentation, Session # 1, Room: Atrium  
Title: Job Creation by Industry: Which Industry will be the Job Generator for the Future?

This paper analyzes the economic trends of start-up businesses, examining the type of industries that utilize small business loans granted by the entity known as LiftFund, to determine whether or not service related industries are more dominant than traditional manufacturing and construction-based industries. In order to properly examine said statement, data gathered from the years 1994 to 2018 in the Southern region of the United States was collected from the databases of LiftFund. In collecting this data, it was noted that service industries created more new jobs than traditional industries. With such evidence, this paper seeks to establish possible policy suggestions to adapt to the new economic landscape and techniques that may assist in helping these industries flourish.

Joel Madson, University of Minnesota Duluth  
Mentor(s): Janet L. Fitzakerley, Ph.D, Associate Professor, Department of Biomedical Sciences, University of Minnesota Medical School, Duluth, MN  
Poster Presentation, Session # 1, Room: Atrium  
Title: Expression of Protein Kinase G2 mRNA in the Mouse Inner Ear

The cardiac hormone atrial natriuretic peptide (ANP) influences hearing by binding to the guanylyl cyclase natriuretic peptide A receptor (NPR-A). In other tissues, cyclic guanosine monophosphate (cGMP) has been shown to activate downstream effectors including protein kinase G1 and G2 (PRKG1 and PRKG2). Hypothesis: PRKG2 mRNA is expressed in the inner ear at similar levels to kidney and cerebellum. Total RNA from samples of the inner ear and several control tissues was isolated and amplified using RT-qPCR primers for PRKG2 and RPLP0. PRKG2 was expressed in the inner ear at levels similar to the cerebellum and kidney. The presence of PRKG2 mRNA in the inner ear is supportive of PRKG2 being a downstream effector of NPR-A in the inner ear.

Alvaro Marquez, Trinity University  
Mentor(s): Dr. Leifer  
Poster Presentation, Session # 2, Room: Atrium  
Title: Determining the Speed of a Vehicle by Using Dashcam Footage

When analyzing a collision or other incident that occurred in traffic, determining speeds of individual vehicles is often vital to gaining an understanding of exactly what took place. While there are many methods of determining speed, the advent of dashcam cameras has presented an opportunity for using video recorded during an event to obtain quantitative data about vehicle speeds. This project takes existing dashcam video from a specific vehicle, and uses its change in position and video frame rate (frames/sec) to determine the speed at which the vehicle is traveling. The approach applied proved to be significantly accurate and consistent, certainly producing a percentage error of approximately within 5% error.

Parfait Masungi, The University of Texas at San Antonio  
Mentor(s): Dr. Wassim Ghannoum, Associate Professor, Department of Civil and Environmental Engineering  
Oral Presentation, Session # 8, Room: Acoma B  
Title: Cracking Behavior of High-Strength Spiral Steel Bars in Concrete Slabs

The performance of reinforced concrete structures depends on adequate bond strength between concrete and reinforcing steel. This study investigates the mechanical properties and performance in concrete slabs of a new high-strength reinforcing steel bar designed with spiral patterns. Two sizes of the new high-strength spiral steel bars are tested using monotonic tension tests to quantify their mechanical properties. The bars are placed in concrete slab specimens geared to study flexure and anchorage properties. The final results will demonstrate if spiral steel bars exhibit a stable load drift response in concrete members, thereby indicating the use of spiral steel bars may be appropriate for gravity loaded reinforced concrete slabs.
Nicole Matthews, Concord University
Mentor(s): Dr. Darla Wise, Professor of Biology
Poster Presentation, Session # 2, Room: Atrium
Title: *Effects of Bisphenol A (BPA) and Three BPA Derivatives on Radish (Raphanus raphanistrum subsp. sativus) and Bean (Phaseolus vulgaris) Seed Germination and Growth*

Bisphenol A (BPA) is used in the production of plastic and resins. The chemical has been found to leach from the packaging into food, waterways, and the soil. This research will examine the effects of BPA and three derivatives on the germination of radish and bean plants as well as the overall growth of bean plants. The seeds were exposed to various concentrations of each compound. The weight and length of the roots, stem, and leaves were measured to determine which compound had the most significant effects on plant growth.

Kaitlin Mazotti, University of Colorado Boulder
Mentor(s): Andrew Van Benschoten
Poster Presentation, Session # 2, Room: Atrium
Title: *Automated Thresholds for Anomaly Detection*

Machine Learning and anomaly detection is a key part in many research projects. Anomaly parameters are set to detect anomalies within many forms of data and give the ability to alert users when there is an anomaly in their data streams. In addition to scientists and researchers, businesses find anomaly detection valuable, as it allows them to detect any malfunctions quickly and to address the issue quickly. Currently, setting anomaly detection parameters is tedious, error-prone and often requires an expert who knows the data well. If there was a way to automate these anomaly detection parameters, the alerts would become accessible to more uses and users.

Emily Mee, University of Oklahoma
Mentor(s): Dr. Ana Bracic and Dr. Cindy Simon Rosenthal, Department of Political Science
Oral Presentation, Session # 1, Room: Acoma A
Title: *Understanding Policy-Making through the Lens of Gender: Analyzing Interviews of Representatives from the Oklahoma House on the issue of Pay Day Loans*

Research suggests at the state level, female and male legislators differ in their approach to policy issues. For example, Kathlene finds that female and male legislators in Colorado considered the origins of and solutions to crime differently. In this replication study, I apply Kathlene’s hypotheses to the Oklahoma House by focusing on the payday loan industry. I hypothesize female legislators will refer to economic issues from a contextual standpoint using situational words, while male legislators use language more instrumental in nature, viewing people as autonomous self-centered and self-serving individuals. Mimicking Kathlene’s methodological approach, I analyzed data gathered through anonymous interviews of Oklahoma legislators selected for a “matched-pairs” sample. This research may have implications for how political science researchers consider the language and perspectives used by legislators and the resulting policy impacts.

Yosan Mengesha, University of Colorado Boulder
Mentor(s): Dr. Christopher Lowry, Associate Professor, Department of Integrative Physiology
Poster Presentation, Session # 2, Room: Atrium
Title: *Host/gut microbiota response to stressors: informing resiliency*

Due to changing microbial environments, there has been an increase in chronic inflammatory disorders such as allergies and asthma in developed countries. We propose, there is a link between rising inflammation and the rising risk of stress-related psychiatric disorders, for example, post-traumatic stress disorder. Previous research has postulated that Mycobacterium Vaccae, a harmless organism, can suppress inflammatory responses. This project will test the hypothesis that immunization with a heat-killed preparation of an immunoregulatory bacterium, Mycobacterium Vaccae, can induce a shift toward a more proactive behavioral response to psychosocial stress. Our results will hopefully show that M. Vaccae
does create a proactive response in our subjects. This project implication on people who suffer from psychiatric disorders, as this has the potential to be of better aid.

Alysan Miller, Concord University
Mentor(s): Dr. Tom Saladyga, Associate Professor of Geography
Poster Presentation, Session # 1, Room: Atrium
Title: Fire History of Oak Species in a Dry Oak-Pine (Quercus-Pinus) Forest of Southern West Virginia

Tree-ring reconstructions of fire history can inform fire management policies and planning by placing current fire regimes into a historical context. Recent studies in eastern North America highlight a decline in oak regeneration and the important role of fire in oak forest development. The purpose of this research was to reconstruct the fire history of a dry oak-pine forest located on south to south-western facing slopes on the Central Appalachian Plateau in Southern West Virginia. I collected cross-sections from 11 fire-scarred oak trees located on unmanaged, private land and developed a 163-year fire chronology (1854-2017). The earliest fire occurred in 1865 and the most recent fire occurred in 2017 with a mean fire interval of 24 years.

Kayla Mohler, University of Wyoming
Mentor(s): Dr. Matt Gray, Department of Psychology
Oral Presentation, Session # 12, Room: Lobo A
Title: A Study on the Ideological Constructs that Influence Rape Myth Acceptance

Rape Myths, are “prejudiced or stereotyped beliefs about rape, victims, or rapists.” Rape myths promote skepticism and attribution of culpability to victims, and beliefs that only specific types of women become victims. The goal of this study is to examine the impact of an individual’s Social Dominance Orientation and level of adherence to Authoritarian values, on Rape Myth Acceptance. A survey instrument was used to assess levels of RMA while making SDO and RWA accessible to some groups. Trends from preliminary results are as expected, with individuals in the SDO and authoritarianism condition exhibiting higher rates of RMA. The results of this study will supplement the body of research that allows us to develop better risk assessment, prevention, and intervention strategies to combat sexual violence.

Alexander Morales, University of Colorado Denver
Mentor(s): Dr. Carly Leonard, Assistant Professor, Department of Psychology
Poster Presentation, Session # 1, Room: Atrium
Title: An Investigation of Individual Differences in Dopamine and Working Memory

Previous research has shown large individual differences in working memory (WM), which is the ability to remember information over brief durations. The aim of this study is to examine how this WM variation relates to individual dopamine volume, assessed using spontaneous eye blink rate. A sample of University of Colorado Denver college students will be monitored for eyblinks for a period of six minutes. Afterwards, the participant engages in a computerized task to assess WM ability. Multiple colored squares appear for 200 milliseconds. After a one second delay, one colored square will reappear and the participant decides if the square is the same color or if it changed. It is predicted that individuals with intermediate dopamine levels would perform best on WM tasks.
Jasmin Morales, University of California, Santa Barbara
Mentor(s): Dr. Anthony Jack, Education Department, Harvard University
Oral Presentation, Session # 12, Room: Fiesta A
Title: *The Lost Ochoas: Social Class and STEM Persistence at an Elite University*

Does social class shape student's persistence and performance in STEM majors? We use OLS-define regression to examine the academic trajectory of 24,535 incoming students between the years of 1999 –2013. We focus on how social class influences who changes their major from STEM to non-STEM after their sophomore year and who persists in STEM after four years of college. We hypothesize that first-generation students of color and low-income students will change out of STEM at faster rates and persist less than their middle class peers. This study can identify possible solutions to the lack of diversity in STEM fields.

Jazmyn Mosqueda, University of Northern Colorado, University of Colorado Denver Anschutz Medical Campus
Mentor(s): Matthew J. Sikora, Assistant Professor, Department of Pathology, University of Colorado Denver Anschutz Medical Campus
Poster Presentation, Session # 1, Room: Atrium
Title: *Estrogen-induced WNT4 signaling mediates cell survival through PI3K/Akt/mTOR pathway in Invasive Lobular Carcinomas*

Invasive lobular carcinoma (ILC) is the second most common type of invasive breast cancer. In ILCs, WNT4-protein is regulated and induced by estrogen receptor. WNT4 activates non-canonical, AKT-related Wnt-signaling making the PI3K/AKT/mTOR pathway attractive to study. We hypothesized that estrogen-induced WNT4 activates PI3K/AKT/mTOR signaling controlling cell proliferation/survival. Through immunoblot analysis, phosphorylation of key targets of the PI3K/AKT/mTOR pathway were examined after WNT4 knockdown or the inhibition of specific pathway components in three ILC cell lines. Inhibiting upstream components activated GSK3 showing a decrease in phosphorylation of mTOR, S6-kinase and S6-protein. Transcription stopped with complete loss of mTOR phosphorylation. WNT-signaling appears to regulate GSK3 activity to activate mTOR to drive cell proliferation/survival. WNT4 mediates endocrine response and resistance in ILC, but not by typical WNT secretion.

Ysidro Motta, University of North Texas at Dallas
Mentor(s): Dr. Mario P. Casa de Calvo, Associate Dean for School of Liberal Arts and Sciences, Sociology and Psychology
Oral Presentation, Session # 4, Room: Fiesta B
Title: *Another Prescription Filled: Observing the Impact Medication has on Veteran Health*

Research has documented a significant issue in the United States regarding prescription medications. Firstly, the preponderance of prescription medications has increased tremendously in the last 20 years. Secondly, the communication between physicians regarding prescription information is poor. And lastly, many individuals take multiple medications with dangerous side effects, particularly when used in conjunction with other prescriptions. The current research examines the relationship between medications, their side effects, and individuals’ overall health. More specifically, the current research examines whether the side effects of prescription drugs negatively impact one’s mental and/or physical health. Participants include 300 male and female veterans, divided into five groups based on their drug prescription type, and subgroups based on dosage amount. Surveys include assessments on medications, health, and life satisfaction. It is anticipated that there will be a negative relationship between prescription drug usage and one’s mental and/or physical health.

Beatriz Munoz-Rivera, Inter American University of PR-San German Campus
Mentor(s): Dr. Angela Gonzalez, Department of Biology, Chemistry and Environmental Sciences
Poster Presentation, Session # 2, Room: Atrium
Title: *Evaluation of Use of Calcium Alginate Beads to Remove Caffeine from Aqueous Solutions*

Concern for the presence of emerging contaminants (EC) in the environment has increased in later years. The non-regulated presence and constant exposure to EC may have a potential long-term impact on water quality. Conventional water treatment methods are not effective to remove them. Therefore, studies are needed to remove EC, such as caffeine. Its
negative effect to sea life and other organisms has been previously reported. Adsorption processes are common and cost effective to remove contaminants from water. Therefore, in this research we synthetized biodegradable calcium alginate beads (CAB) and evaluated its capacity to remove caffeine from aqueous solutions. Results showed that CAB did not remove caffeine from water at the concentration, pH and contact time conditions used in this study. Further investigation is recommended.

Johanna Najera, University of California, Santa Barbara
Mentor(s): Dr. Gerardo Aldana, Department of Anthropology
Oral Presentation, Session # 5, Room: Lobo B
Title: Chronological Analysis at Mulch’en Witz: Ceramic and Carbon Dating of plazuela Group B

On-going archaeological research of the ancient Maya area of La Milpa in northwestern Belize continuous to unearth sites and material culture. I joined the PIBAP field school this summer working on the excavation of an architectural group with an associated subterranean space. We developed a project to understand the chronology of the construction and occupation of the site Mulch’en Witz. The ceramic analysis consists of categorizing diagnostic ceramic sherds to time periods based on curvature, color, and decorative designs. To further support this ceramic analysis, I propose to have radiocarbon samples analyzed for comparison with the ceramic analysis results.

Tammy Nguyen, University of Colorado Denver
Mentor(s): Dr. Carly Leonard, Assistant Professor, Department of Psychology
Poster Presentation, Session # 1, Room: Atrium
Title: Effects of feature cues and target salience on eye movements in singleton search

Previous studies have analyzed the role that various factors such as feature cues, salience, and intertrial priming play in attentional allocation (e.g., Leonard & Egeth, 2008). Our study utilizes a similar trial-by-trial cueing design to examine how eye movement patterns are affected by the attentional guidance factors of target salience and feature cueing. In the presence of a specific feature cue, target fixation likelihood was improved and saccadic latency quickened. As in previous research, these effects differed depending on set size. These results provide additional insight into how salience and feature guidance interact to influence eye movement decisions.

Tiffany Nguyen, Trinity University
Mentor(s): Dr. Tim O’Sullivan
Oral Presentation, Session # 9, Room: Fiesta A
Title: The End, or the Beginning of the End? The Closure of Book 11 of Apuleius’ Golden Ass

Closure is how well a work of literature resolves itself so that the end feels complete to the reader. While stories end when the words end, closure often remains uncertain. The Latin novel the Golden Ass poses interesting questions about closure. After ten books of the adventures of Lucius, a man-turned-donkey, the narrative abruptly changes in Book 11 when Isis changes him back. The abrupt end enhances the sense of closure, for Lucius evolved spiritually. However, some have argued that the religious ending is not that simple but should be open-ended. Analyzing the novel’s ending to better understand Book 11’s purpose as an ending, I argue that this ending plays with closural conventions to test the relationship between a novel, its author, and the reader.

Peter Nguyenho, University of Florida
Mentor(s): Valeria Alterman, 4th Year Ph.D Student, Department of Business Management
Oral Presentation, Session # 4, Room: Lobo B
Title: Charismatic Leadership: The Effect of Nonverbal Immediacy and Nonverbal Dominance on Psychological Safety

The leadership literature is clear that leaders’ positive emotional expressions is positively correlated to the mood of their followers. In addition, leaders’ expressions used to communicate their influence is positively correlated to the followers’ performance and the followers’ perceptions of the leaders’ charisma. However, there is a literary gap between the effects
of communication styles and the psychological safety of workers; The purpose of this study is to examine the effects of charismatic leaders’ nonverbal communication styles on the psychological safety of workers in the workplace.

Gibou Njie, Concord University  
Mentor(s): Dr. Darrel Malamisura, Professor of Business Law/Economics at Bluefield State College  
Poster Presentation, Session # 1, Room: Atrium  
Title: The Von Restorff Effect in Marketing

The focus of this research is to find out the effect on the consumers mind, that is built because of applying the von Restorff Effect in promotional campaigns. I aim to see whether the von Restorff effect is the key to effective advertising, and brand imaging. In addition, whether there is a significant difference on consumer attraction for ads containing the VR effect, compared to those that do not. What we are attracted to as customers, may also be influenced by our social class, perception towards a brand, as well as memory.

Mweyeria Offord, University of Mississippi  
Mentor(s): Dr. Melissa Bass, Associate Professor, Department of Public Policy Leadership  
Oral Presentation, Session # 2, Room: Fiesta B  
Title: Closing the Income Achievement Gap in Public Education: A Systematic Literature Review

The purpose of this study was to discover the most effective solutions to narrow the income achievement gap present in public education today. This research utilized a systematic literature review to formulate a research question and create an explicit search to yield results for this question. Through the research and studies acquired, I discovered five possible solutions to narrow the income achievement gap and examined their effectiveness in increasing low income students’ academic achievement. The results indicated not all five solutions were effective and the most effective solution was the implementation of economic integration in neighborhoods and schools.

Simone Oliphant, Florida International University  
Mentor(s): Dr. Suzanne Koptur, Professor, Department of Biological Sciences  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: Seed Dispersal of Apocynaceae Family of Pine Rocklands

The Pine Rockland is a critically imperiled South Florida ecosystem. One native species is Echites umbellatus, which is at risk from habitat loss that hinders pollination as plants are isolated. As Echites utilizes wind dispersal for its seeds, this study aims to see how far those seeds disperse. We measured the distance traveled by propagules at low and high speeds, then an analysis was done on factors that affect dispersal distance. The main finding of the study is that smaller and lighter seeds and propagules were dispersed farther than larger and heavier seeds. The results of this study are helpful in analysing the effects of fragmentation on the ability of the Echites flower to disperse within and between fragments of its rapidly diminishing habitat.

Robert Oliva Jr., Our Lady of the Lake University  
Mentor(s): Dr. Maria De La Cruz Department of Psychology  
Oral Presentation, Session # 11, Room: Acoma A  
Title: Examining the Efficacy of Alternative Therapy as Compared to Pharmacological Therapy on Stress and Anxiety Symptoms of 18-24-year-old College Students

The objective of this study is to compare and contrast the efficacy of different therapies for anxiety and stress symptoms. The study will consist of three groups of participants partaking in different therapies (physical, spiritual, medication) and reporting through surveys/questionnaires about their stress and anxiety levels before and after each session. With the knowledge acquired through this study, there is hope to move forward with better healthier and more effective therapies that will benefit college students trying to deal with anxiety and stress.
Linda Padilla Cruz, Sul Ross State University  
Mentor(s): Dr. Lorie Rubenser and Liza Ware  
Department of Homeland Security and Criminal Justice  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: The Other Face of the War on Drugs: Are Physicians White Collar Drug Dealers?

Since the initiation of the “The War On Drugs” in 1971 by President Richard Nixon, there has been an ongoing debate questioning its effectiveness and the costs associated with this war. One thing that is not commonly considered is that of domestic affairs. Controlled Prescription Drugs (CPD) usage such as narcotics, stimulants, sedatives and tranquilizers are on the rise. Physicians have a responsibility to make sure CPD are given only to those who are in need and follow exigent guidelines, but are they being followed? This study analyzes the diversion of CPD through physician violations. Not only is legislation a vital step towards enforcement but there needs to be consideration of all possible offenders not only end users or drug trafficking organizations.

Meg Palacio, Northern Michigan University  
Mentor(s): Dr. Ishwar Radhakrishnan, Department of Molecular Biosciences  
Poster Presentation, Session # 1, Room: Atrium  
Title: Assessing Thermal Stability of Mutants of a Nuclear Receptor Ligand-Binding Domain

Nuclear receptors (NRs) play a key role in regulating gene expression and are vital players for growth, development, and homeostasis. NRs activate transcription via ligand-dependent and ligand-independent mechanisms. Drosophila Ftz-F1 receptor was thought to function via a ligand-independent mechanism based on its crystal structure that showed the ligand-binding pocket (LBP) completely occupied by a helical element (a6) within the ligand-binding domain (LBD). However, Ftz-F1 was recently revealed to have dynamic motions that cause the LBP to exchange between ‘open’ and ‘closed’ states. This implies that Ftz-F1 might function via both ligand-independent and ligand-dependent mechanisms. Here, we evaluate site-specific mutants of the LBD that we hypothesize could stabilize the a6 helix in the LBP and force Ftz-F1 to exclusively function via a ligand-independent mechanism. A fluorescence thermal shift (FTS) assay conducted to establish the melting temperature of the mutants indicated increased stability of the mutants relative to wild-type, consistent with our hypothesis, although additional studies are required to definitively confirm the hypothesis.

Deanna Payne, University of Colorado Boulder  
Mentor(s): Dr. Sarah Budischak, Assistant Professor of Biology, Claremont McKenna, Pitzer, and Scripps Colleges  
Poster Presentation, Session # 2, Room: Atrium  
Title: Growth Stunting in Peromyscus leucopus and P. maniculatus: Do intestinal parasites in wild mice affect their growth from juvenile to adult?

In order to further understand host-parasite interactions and consequences, this research analyzes intestinal parasitic influence on physical growth stunting (the prevention or slowed development of an organism) in wild Peromyscus leucopus and Peromyscus maniculatus, beginning in juveniles and sub-adults through adulthood. Using mark-recapture techniques at Mountain Lake Biological Station VA, data was collected on the physical characteristics and intestinal parasites in individuals to determine growth rates and changes in body size as indicators of growth stunting. Data analysis showed no significant relationship between quantity or types of intestinal parasites with growth rate or change in body size, indicating correlation rather than causation between intestinal parasites and growth stunting in previous research.
Marissa Perez, University of New Mexico  
Mentor(s): Dr. Christina Salas, Department of Orthopaedics and Rehabilitation  
Poster Presentation, Session # 2, Room: Atrium  
Title: The Effects of Decellularized Bone on 3D Bioprinted Polylactic-Co-Glycolic Acid (PLGA) Scaffolds

Bone tissue engineering research is conducted to discover an alternative treatment for bone fractures by developing bone scaffolds to induce tissue regeneration. One challenge shown is developing a scaffold that has the desired bone properties’ parameters. This research is focused on the development of a scaffold targeting cortical bone by investigating methods of 3D bioprinting various ratios of poly(lactide-co-glycolide) (PLGA). After an ideal ratio is determined for PLGA, this research will then investigate methods to embed decellularized bone particle within PLGA to increase the overall properties of the scaffold. To evaluate the scaffold, the compressive, tensile strength and bioactivity properties will be tested and compared with cortical bone’s properties.

Arlette Perez, University of Texas at San Antonio  
Mentor(s): John Phillip Santos, Distinguished Scholar, Honors College  
Oral Presentation, Session # 7, Room: Fiesta A  
Title: Remembering San Antonio at 300: A Dispute of Identities

Commemorating the history of San Antonio, Texas on this tricentennial year has been marked by contention on many sides. By utilizing content analysis, this presentation will explore how the proposed restoration and relocation of the Alamo Cenotaph as part of The Alamo Master Plan, the recently inaugurated San Pedro Creek Culture Park, and Texas Public Radio’s daily history segment “Tricentennial Minute” construct the history of the city. Furthermore, these instances are indicative of the identity-based tensions which have permeated the course of San Antonio’s history.

Jose Javier Perez Rodriguez, University of Northern Colorado  
Mentor(s): Dr. Oscar Levin, Associate Professor, Mathematical Sciences Natural and Health Sciences  
Oral Presentation, Session # 9, Room: Santa Ana A  
Title: Sarcasm Detection using Software

The detection of written emotions using algorithms has progressed each year, but it faces a challenge: sarcasm. Sarcasm can change the meaning of a statement. The purpose of this study was to determine whether it is possible to algorithmically detect written sarcasm through machine learning. Users on Amazon Mechanical Turk classified 1,000 reviews as sarcastic or not sarcastic, and a large subset of these reviews was used to train an algorithm to discover patterns between sarcastic and non-sarcastic text. The algorithm categorized the remaining subset of reviews with 60% accuracy.

Justyce Pinkney, Florida International University  
Mentor(s): Dr. Bethany Reeb-Sutherland, Assistant Professor, Department of Psychology  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: Cerebellar Dependent Eyeblink Conditioning Differences Between Young Children With And Without Autism Spectrum Disorder

Cerebellar morphology and function are aberrant in individuals with autism spectrum disorder (ASD) resulting in deficits in cerebellar-dependent eyeblink conditioning (EBC). To expand upon previous EBC studies in high functioning adolescents and adults, the current study examined cerebellar-dependent delay EBC in 3-6 year-old non-high functioning children with ASD (N=12) and typically-developing (TD) children (N=13). All children showed increased conditioning over time (F(1,23)=10.219, p=.004) with TD children displaying higher conditioning (M=28.547, SE=4.0) than children with ASD (M=21.921, SE=3.84). Lower blink amplitudes were observed in children with ASD compared to TD children (F(1, 23)=7.974, p=.01). No significant differences were found for peak latency (ASD: M=735.970 ms, SE=45.81; TD: M=829.344 ms, SE=47.28). Current findings suggest that children with ASD display aberrant cerebellar functioning even during early childhood.
Stephanie Poiroux, University of Mississippi  
Mentor(s): Dr. Willa Johnson, Associate Professor, Department of Sociology  
Oral Presentation, Session # 6, Room: Lobo B  
Title: “Because it is Right”: Altruism and Dr. Martin Luther King Jr.’s Protest of the Vietnam War

The goal of this study is to see if Dr. Martin Luther King Jr.’s writings in protest of the Vietnam War were motivated by altruism. Dr. King’s sermons, speeches, letters, and telegrams over a two-year period were examined systematically. I posed the following research questions: 1) Was King’s protest of the Vietnam War altruistic?; 2) How did religion or religious belief play a role in whether or not King engaged in altruism?; and 3) How are King’s nonviolent ethic, personalism, and altruism linked? It is hypothesized that King’s writings were altruistic and that he was motivated to help all who were involved in the Vietnam War.

Erika Prado, University of California, Santa Barbara  
Mentor(s): Dr. Mary Bucholtz, Department of Linguistics  
Oral Presentation, Session # 1, Room: Lobo A  
Title: Communicating in “Co-operation” with a Nonverbal Bilingual Teen with Autism

Using detailed interactional analysis, this project examines how a nonverbal Spanish-English bilingual Latino teen with autism, José, “co-operates” (Goodwin 1995, 2017) with family members in his quotidian interactions. The analysis focuses on instances where José attempts to communicate with his family, in which family members must collaboratively co-construct meaning with José and one another in “co-operation” in order to reach a successful conclusion. Thus, José consistently shapes his social world to meet his needs in ways that enable him to be understood by others (cf. Solomon 2010, Belek 2018), thereby challenging social deficit ideologies of autism (e.g., Baron-Cohen 1985).

Stephanie Prado Carbonell, University of Oklahoma  
Mentor(s): Dr. Wilson Merchan-Merchan, Associate Professor, Aerospace and Mechanical Engineering Department  
Oral Presentation, Session # 12, Room: Santa Ana A  
Title: Total Acid Number Of Vegetable Oil-Based Biodiesel

In this experimental work the total acid number (TAN) of selected neat (B100) biodiesel (BD), No. 2 diesel, and its blends (BD/No.2 diesel) is measured. BD is a renewable form of fuel created from vegetable oils and animal fats through a transesterification process. It is well established that the burning of BD has the tendency to produce much lower carbon emissions during a combustion process compared to diesel. However, despite the many advantages of BD over petro-fuel, recent research has shown that BD has substantial drawbacks. One of the primary concerns of BD are its corrosive properties and hence this study focuses on the measurement of the TAN of several selected neat BD, No. 2 diesel (for comparison) and BD/No. 2 diesel using a titration method. High TAN values in BD could lead to the increase of corrosion, which can become an issue when used as fuel in a combustion process (engines). The effect of the TAN on fuel blending (BD/No. 2 diesel) and thermal effect were also studied by using various percentages (volumetric) in the mixture and by exposing them to a heating process.

Chiara Pride, Trinity University  
Mentor(s): Dr. Robert Huesca, Communications  
Oral Presentation, Session # 10, Room: Fiesta B  
Title: The Empathetic Clinical Encounter: Refocusing HIV Testing and Diagnosis on Client Needs

HIV testing and diagnosis facilities often screen for biological causes of infection before considering client needs. Clinician training models and patient screening tools exist to identify socio-structural barriers which lead to poor health outcomes among stigmatized populations. These clinical mechanisms are designed to gauge clients’ structural vulnerability. This paper places the interviews of 33 San Antonio residents, at-risk for HIV or HIV positive, in conversation with current medical anthropology and public health literature to examine the efficacy of trauma-informed and structurally-competent models of patient screening. As testing and treatment centers combat stigma and health disparities within marginalized communities, these models may help healthcare workers overcome the clinical stigma that emerges from operating within a biomedical
structure by refocusing testing and diagnosis encounters on client needs.

Michelle Ramos, Sul Ross State University
Mentor(s): Dr. Ian Peddie, Department of Languages and Literature
Both Oral & Poster Presentations, See schedule for session # and room
Title: “No Es Para Nosotros”: The Cultural Expression of Social/Familial Oppression in Hispanic Culture

In the artifacts of Hispanic culture which are embedded in the relics of Chicano literature, a tragic narrative of emotional coercion is discernible. The established prerogative of this study, then, is to seek and gather such events of emotional abuse to go beyond mere acknowledgement of the injustice that stunts much prospect of growth for Hispanic females. Cultivated by the ample resources to explore the cultural/social injustice and the subsequent unexplored territory of challenging such gendered inequalities, the study is an attempt to increase awareness of the insidious emotional oppression of women within Hispanic culture. The romanticized machismo man and marianismo woman roles, demanding stagnancy, are transformed from revered images to questionable castes: presenting solutions to the delayed and repressed growth of a culture.

Resham Redmond, University of California, Santa Barbara
Mentor(s): Dr. Anabel Ford, Department of Anthropology
Oral Presentation, Session # 9, Room: Lobo B
Title: “Under the Corbel Arch” : An archaeological investigation of a problematical figurine deposit at the ancient Maya city of El Pilar

Zotz Na is a passageway located in the ancient Maya city, El Pilar. This site is unique in that it has yielded El Pilar’s largest known collection of ceramic figurines. Through a quantitative and contextual approach, this study seeks to delineate the formation processes responsible for the deposit recovered at Zotz Na so that the unique locality of Maya figurines may be better understood in archaeological context. This analyzation of formation processes should facilitate and justify a range of possible activities associated with this figurine deposit, lending a valuable insight into the socio-political life of the Maya at El Pilar.

Ryan Reynolds, Baylor University
Mentor(s): Dr. Stephen Sloan, Associate Professor of History, Department of History
Oral Presentation, Session # 5, Room: Fiesta A
Title: Pearl of the Orient Seas: American Pacification Efforts in the Philippine Insurrection (1899-1902)

This research will examine the aftermath of the Spanish-American War as a gateway to twentieth-century American militarism and will delve into the use of violence by the United States in pacification efforts during the Philippine War (1899-1902), as well as the internal Philippine socioeconomic conditions that affected the counterinsurgency campaign. The research will additionally study the early development of a professional American counterinsurgency doctrine, which emphasized the integration of welfare programs into warfare strategy. A comparative analysis of the British in the Boer War (1899-1902) and the German-Herero War (1904-1908) revealed the differences in strategy regarding mass violence employed by professional European militaries in other late nineteenth, early twentieth-century conflicts that pitted an irregular force against a conventional army.
Kyu Ro, University of Colorado Boulder
Mentor(s): David Root, Assistant Professor, Department of Neuroscience
Poster Presentation, Session # 1, Room: Atrium
Title: Cellular Dissections of Food Intake

The purpose of this research was to pinpoint which specific ventral tegmental area (VTA) cell-types are food-type sensitive. This region is considered the brain’s “reward center” because of its increased neuronal activity in response to food, money, romantic partners, and drugs. VGlut2::Cre/VGAT::FlpO mice will be injected with adeno-associated vectors encoding the calcium sensor GCaMP6m. The cells of interest are the Glu/GABA neurons and these neurons are activated by different types of consummatory rewards – sugar, fatty, and starchy. The neuronal activity can be recorded through the calcium levels from the sensor. These findings can help lead to a breakthrough in obesity research.

Jamarcus Robertson, University of Florida
Mentor(s): Dr. Malcolm Madden
Oral Presentation, Session # 3, Room: Santa Ana A
Title: The role of macrophages in skin regeneration in African spiny mouse (Acomys spp.)

Most mammals scar after skin wounds, but spiny mice can regenerate all the tissue removed. The exact mechanism involved in wound regeneration has yet to be fully understood, but it has been hypothesized that macrophages play a role in the wound regeneration. To test this, we administered clodronate liposomes, a compound which selectively kills phagocytic cells including macrophages. In both mice and spiny mice, we observed a halting of wound closure and a failure of regeneration caused by clodronate. These results suggest that macrophages provide some beneficial macrophage-derived cytokine for the process of re-epithelialization and that preventing this stops regeneration.

Love Rodriguez, Our Lady of the Lake University
Mentor(s): Dr. Kathryn Anderson, Professor, Department of Psychology
Oral Presentation, Session # 6, Room: Acoma A
Title: Narcissism Explained Through the Self-Consistency and Social Comparison Theories

No others can be found guiltier of social comparison then those who fall under the umbrella of narcissism. The carrying of an unstable higher self-esteem and the defensive assertion of status sometimes result in individuals aggressively responding to negative and ego threatening feedback. The focus of this paper is to describe previously published research by Bushman and Baumeister (1998) that postulates how narcissism, unstable self-esteem, and an interpreted ego threat can result in an aggressive behavior or wording towards the origin of the negative feedback. Two theories will be discussed in pursuits of justifying the narcissistic tendencies of those with unstable high self-esteem. An experiment that tests how narcissism, and other personality factors, predict aggression toward an opponent on a competitive task.

Ted Roper, Northern Michigan University
Mentor(s): Dr. Alan Rebertus, Professor, Department of Biology
Poster Presentation, Session # 2, Room: Atrium
Title: The Pollination Ecology of Calopogon tuberosus

Pollination ecology is a dynamic and rapidly growing field of study that has major implications for plants, animals, ecosystems, and ecological communities across the globe. Calopogon tuberosus, commonly called the Tuberous Grass-pink orchid, is one of the most abundant and widespread orchids in North America, yet little is known about many aspects of its pollination ecology. Due to this lack of information in the primary literature, we looked at several aspects of the pollination ecology of C. tuberosus, including whether flowers close and senesce prematurely once pollinated. To determine this, we excluded pollinators from some plants and hand pollinated others.
Margarita Ruedas, University of Arizona
Mentor(s): Margarita Ruedas
Oral Presentation, Session # 3, Room: Lobo B
Title: The relations between Latina/o youths’ language hassles and their math and science career commitment

In order to identify factors contributing to career choice among Latina/os, this study used data from the ALCANCE project at Texas State University to examine the relation between acculturative stress (e.g. language hassles) and math and science career commitment. The population was N = 329 Latina/o youth; 45.9% girls, 39.5% boys, 14.6% students with unreported gender, and the average age was 13.69. The purpose of this study is to examine the relations between language hassles and math and science career commitment. Further implications are to (1) intervene in the academic achievement gap among Latina/o students, (2) influence policy, and (3) encourage critical engagement among educators. Contrary to our study hypotheses, findings showed there was no significant relations between language hassles and math or science commitment.

Missael Sahagun, Purdue University Northwest
Mentor(s): Dr. Bin Chen, Professor, Electrical and Computer Engineering
Oral Presentation, Session # 6, Room: Santa Ana B
Title: Parking Space Binary Classification using Convolutional Neural Networks

"The goal of this research is to provide data on the utilization of convolutional neural networks (CNNs) to predict whether a parking spot is empty or full. Photos were taken in varying weather conditions (cloudy, rainy, and sunny). The CNN yielded over a 99% accuracy. This is useful to develop an automated system detecting parking spots. Everything was coded using Python 3.5 with Tensor Flow and the Adam Optimizer. The results and information found may be used to improve upon for further research and to develop future machine learning projects.

Blessing Sambi, The College of St. Scholastica
Mentor(s): Karen Peterson
Poster Presentation, Session # 1, Room: Atrium
Title: Effects of Probiotics on Perceived Acute Psychological Stress

Objectives: The aim of this placebo-controlled double-blind study is to determine the effect of probiotic supplements on perceived stress in college students from time point 1 to time point 2. Probiotic supplements may influence the quality of the microbiome and thus have health benefits in the treatments of stress-related conditions. In this study, a two-week double-blind, placebo-controlled design was used to examine the effect of probiotic supplements on perceived stress in 95 college students. The treatment group was given two daily capsules over the counter probiotic (VSL#3), and the control group was given a placebo. Perceived stress was measured using the Perceived Stress Scale before and after two weeks of probiotic or placebo supplementation. Results from the study show that there was a decrease in stress level for both groups from time point one to time point two. However, there was no significant difference between groups.

Christopher A. Sambolín Pérez, Inter American University of PR-San German Campus
Mentor(s): Dr. Ángela González, Professor, Department of Biology, Chemistry and Environmental Sciences
Poster Presentation, Session # 2, Room: Atrium
Title: Effect of silver nanoparticles on the growth of fungi isolated from Premna spp. trees

Premna spp. is a tree with many antimicrobial and medicinal benefits. However, it is a genus frequently attacked by phytopathogenic fungi, which may can kill the plant if not diagnosed on time. Consequently, isolation and growth control of the phytopathogens that attack these plants was the main objective of this research. Silver nanoparticles have been recommended as a new alternative fungicidal product. Therefore, this study aimed to isolate epiphytic and endophytes fungi present in Premna spp. leaves and evaluate if silver nanoparticles could be used as an anti-fungal agent. Isolated fungi were cultivated, purified and described by their macro and micro morphological characteristics. Fungi were grown in selective culture media with silver nanoparticles at different concentrations. Results demonstrated that Ag NP’s don’t shows antifungal effect.
**Sophia Sambrano**, University of New Mexico  
Mentor(s): Dr. Patricia Perea, Chicana/o Studies  
Oral Presentation, Session # 3, Room: Fiesta A  
Title: *Spirituality in Women of Color/Chicana Feminism Consciousness Raising*

Women of color feminism uses spirituality that is informed by lived experiences to aid in consciousness raising, and this is visible in art, poetry, storytelling, and other forms of theory that center lived experiences. In this paper, I attempt to connect some of the gaps between Chicana feminist and Indigenous feminist theory using works from Chela Sandoval, Gloria Anzaldúa, Leslie Marmon Silko, Joy Harjo, and Laura Perez, among others. Also using my own lived experience as someone who grew up in Southern New Mexico Chicano culture, and Northern New Mexico Pueblo culture, I attempt to map the similarities between two cultures with distinct spiritual practices connected by geography and colonization.

**Lupita Sanchez**, Wesleyan University  
Mentor(s): Joseph Coolon, Department of Biology  
Poster Presentation, Session # 2, Room: Atrium  
Title: *Investigating the role of the Drosophila immune system in octanoic acid resistance*

The fruit fly Drosophila sechellia has specialized to metabolize the ripe fruit of its host plant, Morinda citrifolia, which contains high levels of octanoic acid (OA). Using RNA sequencing, prior work revealed genes in D. sechellia involved in OA resistance as well as significantly downregulated genes involved in immune and defense responses suggesting that exposure to OA results in a weaker immune system. In this study, we exposed three species of fruitflies, D. sechellia, D. melanogaster, and D. simulans, to either (1) their standard diets or (2) food containing 0.2% OA over a twenty-four hour period, followed by oral infections and septic injuries with multiple bacterial strains to test the susceptibility of the flies after consuming OA.

**Ricardo Saucedo**, Saint Louis University  
Mentor(s): Dr. Kevin Scannell, Department of Computer Science  
Oral Presentation, Session # 7, Room: Santa Ana B  
Title: *Gay Twitter: An Investigation of Biases toward Queer Users in AI and Natural Language Processing Models*

Natural Language Processing has gained attraction for its universal applications and importance in decision making in AI technology. Research has revealed that Google’s NLP API holds biases toward certain words, for example it deciphers "homosexual" as holding a negative sentiment. This investigation focuses on applying NLP strategies to the queer virtual colloquially known community, GayTwitter, to further investigate biases. Tweets from users of GayTwitter were comprised into a dataset to build, train, and test a sentiment analyzer. This sentiment analyzer employs Word2Vec, a NLP/AI technology that produces word embeddings of the tweets in the datasets. After retraining the sentiment analyzer on different datasets, the results show the power of diversifying datasets, and provide forthcoming alternatives on how to reduce bias in NLP models.

**Josh Sheinberg**, University of Wyoming  
Mentor(s): Dr. Stephen Bieber, Department of Statistics  
Oral Presentation, Session # 1, Room: Santa Ana B  
Title: *Regression vs ANOVA: Which to Choose?*

In this study, we explore the differences between two statistical methods (Regression and ANOVA) on predicting the adjusted income across the 50 states. These methods will be compared in two settings, each using two predictor variables; one with an interaction present and one without an interaction. These methods are compared from the context of the research question being considered, the graphical results, and the resultant answer: is the added complexity of Regression worth it? We find that neither model is objectively better than the other, but the added complexity of Regression models doesn’t always result in an answer that differs from the simpler ANOVA model when there is no interaction present. With
an interaction, we find that ANOVA does not always tell the whole story.

**Brady Shrader**, Concord University  
Mentor(s): Dr. James Walters, Assistant Professor of Biology (Bluefield State College)  
Poster Presentation, Session # 1, Room: Atrium  
Title: *Utilizing a GI Transit Assay in Zebrafish Larvae to Screen for Autism Spectrum Disorder Related Genes*

Autism spectrum disorder (ASD) is a prevalent neurodevelopmental disorder. Patients with ASD often have comorbid digestive disorders including lower rates of intestinal motility and constipation. My project utilized an intestinal transit assay and forward genetic approach to develop a screen for genes linked to ASD. We fed 7 days post-fertilization larvae, larval food mixed with 1.0 µm FluoSpheres polystyrene beads for a duration of 3 hours. Larval intestines were scored every 3 hours for passage of the fluorescent microspheres. The average duration of intestinal transit was 18 hours. We then screened for a known gene that is linked to Autism Spectrum Disorder to validate our assay.

**Joshua Sickels**, University of New Mexico  
Mentor(s): Dr. Lindsay Lowe Worthington, Assistant Professor, Department of Earth and Planetary Science  
Oral Presentation, Session # 10, Room: Santa Ana B  
Title: *Cruising the Gulf of Alaska: Imaging the Thermohaline Structure in the Eastern North Pacific with Seismic Reflection Data*

Oceanic structure in the Gulf of Alaska (GOA) is largely defined by the currents of the Alaskan Gyre. I hypothesize that the northeastern edge of the current is controlled by continental shelf geometry and that changing gradients of the shelf affect mixing and vertical structure of the current. I predict that steeper slope gradients will produce a more stratified water column and thus, brighter reflectors. Additionally, I hypothesize that more gradual slope gradients will allow the water masses to mix more gradually and evenly, resulting in less stratification, fewer bright reflectors, and a more diffused current boundary.

**Soledad Sierra**, University of Northern Colorado  
Mentor(s): William Hoyt  
Oral Presentation, Session # 12, Room: Santa Ana B  
Title: *Analysis of Microplastic Polymers*

Plastics are chemically constructed to withstand various conditions varying from oceanic environments to freshbodies of water. Thus, because plastic is durable and easily accessible the effects of plastic contamination are not well understood. My research focused on collecting samples of fresh water around various part of Colorado and analyzing them for microplastic particles. My hypothesis for this research had originally been that more pieces of microplastics were going to be collected around bodies of water that are used recreationally and located near large cities when compared to bodies of water that were private and secluded in rural areas. My preliminary results indicated that there were pieces of microplastics present in some bodies of water. Thusly, my research concludes and supports my hypothesis.

**Jada Similton**, University of Mississippi/Alcorn State University  
Mentor(s): Dr. Deborah Barker, Professor of English  
Oral Presentation, Session # 8, Room: Fiesta A  
Title: *Paradoxical Empowerment through Sexuality and Resistance: A Feminist Critique of Dionne Brand’s At the Full and Change of the Moon*

Dionne Brand’s At the Full and Change of the Moon is a saga that spans six generations of descendants from the slave Marie Ursule. Institutional slavery has dismal intergenerational effects on the Ursule posterity. With limited agency over the world around them, resisting bodily control or exercising their sexuality become ways for Marie Ursule, Bola, and Maya to counteract feelings of marginalization resulting from slavery and its aftermath.
Sarah Spoon, Emporia State University
Mentor(s): Dr. Rachel Spaulding, assistant professor of English, modern languages and journalism
Oral Presentation, Session # 11, Room: Fiesta A
Title: Publishing in the Digital Humanities: Solér Manuscript Transcription and Critical Introduction

In our research, we explore the use of “gongorismo” as a “dangerous sect” as a way to approach the 1757 handwritten manuscript La Vida de la Venerable Negra, la Madre Sor Theresa Juliana de Santo Domingo, de Feliz Memoria. Through using this language and by looking at these specific genres and “dangerous sects” we hope to write and introduction to accompany our transcription of the more than 200 folios of Solér’s text. We will be working on creating an interactive transcription of his manuscript. Solér references many other sources and canonical law to support his arguments that we wish to link using Google Books. We will be employing the use of a close reading and thematic analysis of the poem.

Michael Stager, University of New Mexico
Mentor(s): Dr. Nick Carroll, Assistant Professor, Department of Chemical and Biological Engineering
Oral Presentation, Session # 2, Room: Acoma B
Title: Functional Elastin-like Peptide Hydrogels via NHS-ester Crosslinking Reaction

Elastin-like polypeptides (ELPs) are a set of genetically engineered proteins inspired by the intrinsically disordered domains of protein elastin. ELPs are an attractive material for tissue engineering due to their high customization and thermally controlled aggregation in aqueous solution (coacervation). This research explores hydrogel formation using E3-ELP as the primary component of the gel. E3-ELP crosslinks with a small molecule crosslinker known as BS3 to form spherical hydrogels. We aim to demonstrate cell proliferation at a minimum of 30,000 cells per spherical micro-gel. Initial findings have shown the reaction to be highly pH dependent, with increased reaction kinetics at low temperatures. Stiff gelation occurs consistently at <15,000 cells per gel, however, increasing cell counts has shown negative effects on the mechanical integrity of the gel.

Cecelia Staggs, Boise State University
Mentor(s): Dr. Michal Temkin Martinez, Associate Professor, Department of English: Linguistics
Poster Presentation, Session # 2, Room: Atrium
Title: A Perception Study of Rioplatense Spanish

Rioplatense Spanish (RPS; Argentina and Uruguay) is known for its distinctive pronunciation. In Standard American Spanish, the sound associated with the letters ‘y’ or ‘ll’ is [j] (‘yellow’), but in RPS the sound is [ʒ] (‘measure’) or, more recently, [ʃ] (‘shoe’). Previous studies found this sound change ([ʒ]→[ʃ]) is almost complete in speakers from Uruguay and Argentina, but the change in Uruguay is more recent. In this study, RPS speakers from both countries will be presented with manipulated recordings of words so that participants hear each of the aforementioned sounds. After listening to the recordings they will determine the country of origin of the speaker. We expect Argentinian participants to attribute [ʃ] to Argentinian Spanish, and Uruguayan participants to not differentiate between the two.

Zoe Stearns, University of Oklahoma
Mentor(s): Dr. Jude Mitchel, Assistant Professor, Brain & Cognitive Sciences and Center for Visual Science
Oral Presentation, Session # 1, Room: Acoma B
Title: Reporting perceived direction: Motion estimation in human and non-human primates

In what ways does active behavior shape visual perception? How do perceptual systems extract task-related information from sensory data to ultimately achieve a goal or action? Motion is a unique perceptual attribute that offers the opportunity to study information processing from sensation to action. More than 90% of neurons in the middle temporal visual area (MT) are direction-selective neurons, but the relationship between the neural response and the visual perception of motion is unclear. This study compares marmoset—New World monkey— performance to human behavior in the identical motion estimation task. Further directions of this research include electrophysiology paradigms and modeling the contextual biases involved in motion processing.
Andrew Tao, Trinity University
Mentor(s): Dr. Tim O’Sullivan, Professor, Department of Classical Studies
Oral Presentation, Session # 2, Room: Fiesta A
Title: *Commentary, Genius, and the Potential Behind a Digital Medium*

The classical commentary is a research tool whose main purpose is to elucidate the meaning of a work of literature. An archetypal model includes the text of a particular work followed by explanatory comments, organized such that the content follows the progression of the text. Despite the widespread presence of commentaries, they themselves have rarely been the object of study. In my presentation, I explore the genre of commentary, addressing such issues as their purpose and methods. I then turn to comparing commentaries with the website Genius, which offers explanations for song lyrics rather than literature. Finally, I end by touching upon potential advantages behind using a digital medium to express information that has existed nearly exclusively in written form for over two millennia.

Tiffany Tasker, University of Colorado Denver
Mentor(s): Donna Martinez Ethnic Studies Department
Oral Presentation, Session # 12, Room: Lobo B
Title: *Insufficiency of Financial Education*

There are many aspects of poverty; it is connected to the ethnic community due to a historical context. Individuals in impoverished communities do not typically contain knowledge in financial education, therefore, the lack of financial literacy being taught in ethnic communities expedites them to continuing to experience poverty and not being able to climb the socio-economic hierarchy. This study examines the historical connection between poverty and the ethnic community as well as focusing on the impact of financial literacy provided to the youth. A financial literacy course will be provided in diverse communities to view how the financial knowledge has impacted their lives. It is discovered that providing financial literacy to marginalized communities is not the only issue, there are other components such as nutrition and how the students are treated which assist in keeping them in a low status on the socio-economic ladder.

Eric Taylor, Purdue University Northwest
Mentor(s): Dr. Songtao Mo, Professor, Quantitative Business Studies
Poster Presentation, Session # 1, Room: Atrium
Title: *An Examination of the Impact of Technology On the Accounting Profession and Traditional White Collar Jobs in the 21st Century*

The objective of this research is to address a growing concern within the United States over the proliferation of AI and information systems which have increasingly altered standard business processes. The prevailing notion of maximizing productivity stands as both an immediate threat to professionals in all industries and resides as a hindrance to the prosperity of the middle class. Analysis upon a particular industry, such as the accounting profession, serves as an effective starting point for identifying microeconomic disparities associated with technological growth. Research will further enable a broader investigative report to be conducted identifying a possible correlation between disruptions in the accounting industry and transformations in geopolitical, social, and cultural landscapes.

Elizabeth Torres, University of Arizona
Mentor(s): Dr. Richard Wood, Associate Professor of Practice, Family and Consumer Sciences
Oral Presentation, Session # 1, Room: Fiesta B
Title: *Perceived Differences in Cultural Competency Between Healthcare Providers and Latino Patients*

This preliminary explorative qualitative study, informed by grounded theory (Glaser & Strauss, 1967) examined physician awareness of cultural competency as it relates to healthcare vs. patients’ cultural perception for the Latino community within Pima County. Individual interviews were conducted with open ended questions which included personal background and cultural competency. Overall, the patients expressed concern and lack of trust in providers. While provider perception
showed unawareness of the impact of cultural competency within patient care. However, some expressed positive re-
sponse to increased extensive cultural sensitivity training to provide better quality care. Further interviews and implement-
ed case studies could support improved physician-patient relationships, cultural competency, and healthcare outcomes.

Ana Paula Trevizo, Our Lady of the Lake University
Mentor(s): Dr. Kathryn Anderson, Professor of Psychology
Oral Presentation, Session # 11, Room: Lobo A
Title: Does a Competitive Context Increase Aggression?

This research tests the relationship between competition and aggression. We will extend previous research on the effects of competitive contexts on aggressive tendencies and behaviors. We are specifically studying how the personality factors of narcissism, interpersonal reactivity and aggressive beliefs and traits, as well as background risk factors, can lead to aggression in a competitive situation. Participants believe that they will compete with an opponent who provides them with mildly insulting or non-insulting feedback and participants have the opportunity to verbally display aggression in response to the feedback. Personality factors may interact with the insult manipulation in affecting aggression.

Holly Trujillo, University of Wyoming
Mentor(s): Holly Trujillo
Oral Presentation, Session # 3, Room: Fiesta B
Title: Speech Language Pathologists Comfort Levels treating K-12 Students with TBI

Introduction: Students with TBI typically struggle with language skills, reading, attention, memory and executive functioning, and should be treated by speech language pathologists (SLPs). A study conducted by Dr.Bush and her colleagues revealed that SLPs either had high comfort, moderate comfort, or low comfort when treating students with TBI. Significantly varying in regards of years of experience, caseload size, work setting, and training. Purpose: The purpose of the study is to further explore SLPs’ experiences treating students with TBI. Methods: I conducted 4 semi-structured interviews with a subset of participants from Dr. Bush’s study. Qualitative analysis was conducted on the interview transcripts. Significance: This research highlights the strengths and challenges of SLPs’ working with students with TBI hoping to create more efficacious treatment services.

Alexis Trujillo, University of Wyoming
Mentor(s): Dr. Robin Barry, Assistant Professor, Department of Psychology
Oral Presentation, Session # 11, Room: Acoma B
Title: Are Internalizing Symptoms Associated with Criminal Behavior in Married Couples?

This study examined the relationship between internalizing symptoms and criminal behavior in married couples. Our study hypothesized that individuals who have engaged in criminal behavior will have higher levels of internalizing symptoms, specifically social anxiety, generalized depression, traumatic intrusions, and panic. Survey questions about internalizing symptoms along with questions regarding criminal behavior were used. 114 heterosexual couples, 18 and older, were used for the sample. Analyses were conducted by grouping the participants responses according to a 1-5 Likert and a True or False scale. Currently minimal research is done to understand the relationship between internalizing symptoms and criminal behavior in married couples. This study will provide new insight into this relationship.
Kaylee Tuttle, University of Wyoming  
Mentor(s): Dr. Michelle Chamberlin, Department of Mathematics  
Oral Presentation, Session # 2, Room: Santa Ana B  
Title: Secondary Prospective Teachers’ Understanding of the Cognitive Demand Of Mathematics Tasks

This research will examine prospective teachers’ understandings of the cognitive demand of different mathematical tasks during a required mathematics classes taken the semester before student teaching. Cognitive demands refers to the kinds of thinking needed to solve the mathematical tasks We will be looking at the prospective teachers’ understandings of the cognitive demands of tasks both before and after associated lessons in the class, and how this may affect how their future mathematics teachings go. To analyze these results we looked at the prospective teachers answers compared to correctly sorted answers. Lastly we looked at a journal entry created at the end of semester to examine how TAG will affect future teaching strategies. Results showed a positive understanding of TAG after the class was finished.

Mason Tyler-Nyman, The University of Texas at Austin  
Mentor(s): Dr. Lisa D. Cook, Associate Professor, Department of Economics at MSU  
Poster Presentation, Session # 1, Room: Atrium  
Title: From Failure to Opportunity? The Impact of School Choice on the Changing Demographics of Texas Public Schools

Our study analyzes the effects of the Texas Public Education Grant (PEG), which provides funds for students to leave academically unsatisfactory schools. The switch from state end-of-year examinations provided an exogenous shock that could alter which schools have a high enough failing rate to qualify their students for a PEG. We utilize a regression discontinuity to examine the difference in outcome for schools on either side of the PEG margin. Our preliminary findings show that low income students participate in school choice programs at a lower rate than students from higher socio-economic backgrounds, whereas minority students opt in to school choice programs at a higher rate. However, due to our low sample size, none of our findings were statistically significant and should be evaluated carefully.

Giselle Valdes, Florida International University  
Mentor(s): Dr. Eliezer Calo, Assistant Professor, Department of Biology, Massachusetts Institute of Technology  
Both Oral & Poster Presentations, See schedule for session # and room  
Title: Elucidating the Molecular Mechanisms Underlying the Pathogenesis of Treacher Collins Syndrome

Treacher Collins Syndrome (TCS) is an autosomal dominant disorder of craniofacial development incurred by heterozygous mutations in the Pol I cofactor TCOF1, or subunits POLR1D and POLR1C. A large fraction of the mutational spectrum of TCOF1 results in a premature stop. This suggests that a truncated form of TCOF1, lacking in the C-terminal domain, is being produced in mutant cells. To test this, I cloned truncated mutants of TCOF1 and fused them to GFP. Transfection of these truncated TCOF1-mutants into HeLa cells shows that they are expressed and localize to the nucleus. However, mutants host to the C-terminal portion of TCOF1 localize to the nucleoli, thus implicating that this domain is critical for the localization and function of TOCF1. Given this, I am investigating whether truncated forms of TCOF1 are host to dominant negative effects in cells. If so, this will provide a molecular explanation as to how TCS-mutations impair development of the craniofacial skeleton.

Yolanda Valencia, University of Colorado Denver  
Mentor(s): Dr. Bassem Hassan, Department of Political Science  
Oral Presentation, Session # 12, Room: Acoma A  
Title: The Sound of Sumud

Palestinian women in the midst of occupation find creative ways to resist, honor their struggle and transform themselves. This research project will outline Palestinian women’s strategies in dealing with the challenges presented by the Israeli occupation policies on one hand and varies expectations of the Palestinian patriarchies on the other end. Palestinian women strategies are expressions of Sumud, a notion that depicts a transformative process and experience. Focusing on this notion and these strategies, I argue that Palestinian women defy the image of Arab women in Orientalist discourses.
Katrina Van Nort, University of Minnesota Duluth
Mentor(s): Dr. Lorena Rios-Mendoza
Oral Presentation, Session # 6, Room: Acoma B
Title: Polycyclic Aromatic Hydrocarbons

Polycyclic aromatic hydrocarbons are a persistent organic pollutant caused by the incomplete combustion of organic materials, such as oil. The purpose of this research was to determine if any PAHs are in the area surrounding Husky Refinery. The explosion occurred in April 2018, which led the oil drums to catch fire. Soil and water samples were collected in four of the Husky sampling sites and the community donated other samples. Extractions were performed on the samples, then concentrated, and analyzed in the GC-FID and GC-MSD. Analysis found a surfactant commonly used as a foaming agent for fire suppression. Further research and analysis are needed to determine if these pollutants are persistent and a direct result of the explosion.

DeShawn Vaughan, University of New Mexico
Mentor(s): Dr. Lisa Cook and Dr. Luis Araujo, Assistant Professors, Michigan State Department of Economics
Oral Presentation, Session # 3, Room: Santa Ana B
Title: Debt, Financialization, and the Probability of Recession.

This paper attempts to contribute to the literature on the causes of recessions by comparing the economies of Greece, Japan and the United States. We estimate a dynamic probit regression model outlined by Estrella (1995) & Sutherland (2012) to study a potential effect of debt-related variables and the slope of the yield curve on the probability of recession in future periods. Our results for the yield curve are consistent with the existing literature for the United States, and we find evidence supporting a negative relationship between household net-worth and the probability of recession in quarters 1-4 in the US.

Jesus Vazquez, University of New Mexico
Mentor(s): Dr. Arjun Krishnan, Assistant Professor, Department of Computational Mathematics, Science and Engineering and Department of Biochemistry and Molecular Biology at Michigan State University
Oral Presentation, Session # 10, Room: Santa Ana A
Title: Learning Numerical Representations of Biomedical Concepts from 28 Million Abstracts

Machine learning (ML) has gained momentum as a critical component of Natural Language Processing (NLP), analytical techniques for discerning meaning from vast text corpuses. Learning word embeddings has gained enormous popularity as a tool for deriving semantic relationships and similarities between words but this method is underexplored in the biomedical domain. In this research project, we explore the use of word embeddings to glean similarity and semantic relationships between biomedical entities from PubMed using Name Entity Recognition (NER). We observe that expert curated knowledge from the Gene Ontology structure can be captured computationally using this method.

Gregory Vigil, University of New Mexico
Mentor(s): Dr. C. Randall Truman, Professor, Department of Mechanical Engineering
Oral Presentation, Session # 3, Room: Acoma B
Title: Development and Characterization of a Gravity-driven Particle Curtain

The study of particle curtains is an important topic due to their relevance in fields ranging from renewable energy systems to high energy density physics. To better understand the underlying physics, the flow of the curtain must be characterized. This research looks at different techniques for characterizing a gravity-driven curtain consisting of approximately 30-μm soda lime particles. Particular attention is given to the use of advection corrected correlation image velocimetry software, a relatively new form of particle image velocimetry which uses the advection equation to reduce the uncertainties in the analysis.
Carissa Villanueva, Saint Louis University
Mentor(s): Dr. Mary R. Vermilion, Department of Anthropology
Oral Presentation, Session # 7, Room: Acoma A
Title: Effects of Racial and Ethnic Background on Maternal Health in the U.S.

This project aims to look both qualitatively and quantitatively at maternal care and maternal mortality in the American healthcare system. Specifically examining the relationship between racial and ethnic background, quality of care, and fatalities. In the quantitative research, data regarding births, maternal deaths, and demographic information of the mothers was collected from different individual states. The data was analyzed, examining different relationships between race, ethnicity, and maternal death.

For the qualitative research, information regarding social infrastructure that may contribute to poor maternal health, is considered, and is used to examine differences between ethnic groups. As well as helping explore how demographics affect maternal health in America statistically, and examine ways social and medical elements are likely contributing to maternal health disparities in the United States.

Juan Vintimilla, University of Wyoming
Mentor(s): Dr. Benjamin Wilkowski
Oral Presentation, Session # 6, Room: Lobo A
Title: The Role Of Self-Compassion During Interactions In A Second Language

In this study, we analyzed the level of self-compassion when bilingual speakers use a second language, and its role in mitigating negative affect. We used surveys to measure negative and positive affect and self-compassion. We hypothesized that increased self-compassion would be associated with decreased negative affect when speaking a second language. We used z tests to test the hypothesis. The study demonstrated that the levels of self-compassion in speaking a second language play an important role in negative affect.

Nicholas Walters, Delta State University
Mentor(s): Melody Fortune, PhD, CPM / Assistant professor, Healthcare Administration
Poster Presentation, Session # 2, Room: Atrium
Title: The Widening Gap of Health Disparity for Prostate Cancer Among Men in the Mississippi Delta

The purpose of this study is to explore and understand why African American men in the Mississippi Delta are disproportionately dying from prostate cancer compared to any other male population in the state of Mississippi. There are no known causes of prostate cancer, but there are certain genetic, social, and environmental risk factors that increase the likelihood of one being diagnosed and prematurely dying from this disease. Therefore, this research will seek to answer the question, why are African American men in the Mississippi Delta disproportionately dying from prostate cancer.

Aaron Wesche, University of Colorado Boulder
Mentor(s): Wei Zhang, Professor, Department of Chemistry and Biochemistry
Poster Presentation, Session # 1, Room: Atrium
Title: Fully Recyclable and in situ Repairable Polyimine-based Carbon Fiber Reinforced Composites

Carbon Fiber Reinforced Composites (CRFCs) have been employed for use in many areas because of their excellent strength to weight ratio. Along with the widespread production of CRFCs comes a focus on the reduction of material and production costs as well as the ability to repair and recycle them. Using a polyimine network as the binder and carbon fiber as the filler, we have been able to create a CRFC that is fully recyclable and can self-heal. Using one of the 3 starting materials to dissolve the CRFC into solution, the polymer can be reformed by the addition of the remaining starting materials. Further studies hope to show the ability to repair damaged CRFCs using powdered polyimine under the application of moderate heat and pressure.
Jamila White, Purdue University Northwest  
Mentor(s): Dr. Mita Choudhury, Professor, English  
Oral Presentation, Session # 10, Room: Acoma B  
Title: The Fetishization of the Black Female Body: A literary critique of 12 Years a Slave

The purpose of this presentation is to examine and describe the character dynamics between Patsey, the favored slave, and Edwin Epps, a plantation owner in the 2013 film, 12 Years a Slave. The relationship between Patsey and Epps gives a credible account of the brutality and dehumanization of female Africans throughout colonial and slavery eras. I will describe why the aforementioned psychological issues are a result of the traumatic sexual relations between white men and African women, and, at the root of this trauma, is the “Jezebel” stereotype. I argue that this ongoing stereotype has created a barrier in reforming the African American family structure and continued to hinder, the psychological and sexual health of the Black woman.

Cory Wong, University of Colorado Boulder  
Mentor(s): Dr. Serge Campeau, Professor, Department of Psychology and Neuroscience; Jennifer Knight, Associate Professor, Department of Molecular, Cellular, and Developmental Biology  
Poster Presentation, Session # 2, Room: Atrium  
Title: A Student’s Experience in Writing an Introductory Neuroscience Curriculum

Undergraduate neuroscience programs may not adequately develop their students’ mindsets to address the future demands and challenges of their fields. This study was the first step in developing a recitation curriculum for an undergraduate introductory neuroscience course at the University of Colorado Boulder. The curriculum was designed over the course of spring of 2018 and implemented in the June 2018 offering of the course. To evaluate the impact of the new curriculum on student performance and learning attitudes, comparison of exam scores and the Colorado Learning Attitudes in Science Survey for Biology (CLASS-Biology) were utilized, respectively. Results from this pilot study suggest positive shifts in student performance. This study provided extensive personal reflections that has guided future alterations and improvements to the curriculum.

Yamani Woody, Purdue University Northwest  
Mentor(s): Dr. Maria Longas, Professor, Biology  
Oral Presentation, Session # 6, Room: Fiesta B  
Title: Hyaluronan N-Deactylase in Aged Skin

Hyaluronic acid (hyaluronan or HA), an acidic nonsulfated glycosaminoglycan, ubiquitous in the extracellular matrix of most mammalian connective tissues. Hyaluronic acid influences supramolecular assembly of proteoglycan in the extracellular matrix. Thus, HA is essential in hydration and preservation of liquid elastoviscosity in connective tissues and water transportation. Metabolism of HA is complex, in relation to distinct tissue expression of multigene families of HA receptors and HA enzymes. Therefore, hyaluron was extracted from different regions of skin and analyzed via two-dimensional electrophoresis to understand the function, structure and interactions to provide useful information for developmental therapies for hyaluronan related diseases such as Alzheimer’s, Progeria, and skin diseases of the elderly.
Top Floor (Level 3): This level has conference rooms where the workshops will be held on October 4 and the Oral Presentations on October 5.

Level 2, also known as the “Plaza Level,” is home to the large ballrooms and food court. All meals will be held in either Ballroom A or C.

Level 1 (bottom floor) is where the “Atrium” is located. The poster presentations will be held in this area on October 4. The Atrium is an open space that can be seen from level 2, just east of the ballrooms.
Conference Agenda at a Glance
(detailed schedule on page 5)

DAY 1 - THURSDAY, OCTOBER 4, 2018 - UNM Campus

7:30 a.m. – 8:45 a.m.  Conference Registration & Breakfast, Ballroom A, SUB
9:00 a.m. – 10:15 a.m. Opening Ceremony and Networking Event, Rodey Theater, Center for the Arts, First Floor (building directly south of SUB)
10:30 a.m. – 11:50 a.m. Graduate School Fair Session #1* (Ballrooms B & C, SUB) & Research Poster Presentation Session #1* (Atrium, SUB bottom floor)
12:00 p.m. – 1:00 p.m. Lunch, Ballroom A, SUB
1:15 p.m. – 2:30 p.m. Graduate School Fair Session #2* (Ballrooms B & C, SUB) & Research Poster Presentation Session #2* (Atrium, SUB bottom floor)
2:30 p.m. – 2:45 p.m. Snacks & Refreshments, Cherry & Silver Room, SUB Top Floor
2:45 p.m. – 4:30 p.m. Student & Staff Workshops, SUB Top Floor (See page #6 for workshop descriptions and locations).
4:30 p.m. – 6:25 p.m. Special Event: Tethered-hot-air-balloon rides on Johnson Field----Meet in SUB and walk to launch site in small groups. See page # for instructions on this activity.
6:30 p.m. – 8:30 p.m. Banquet Dinner: Featuring the 2018 Conference McNair Alumni Ph.D. Panel, Ballroom C, SUB

DAY 2 - FRIDAY, OCTOBER 5, 2018 - UNM Campus

8:15 a.m. – 9:15 a.m.  Breakfast, Ballroom C, SUB
9:20 a.m. – 12:10 p.m. Morning Concurrent Oral Research Presentations: Sessions 1-7 SUB Top Floor Conference Rooms
12:15 p.m. – 1:15 p.m. Lunch, Ballroom C, SUB
1:20 p.m. – 3:25 p.m. Afternoon Concurrent Oral Research Presentations: Sessions 8-12, SUB Top Floor Conference Rooms
3:30 p.m. – 4:00 p.m. Closing Ceremony, Ballroom C, SUB