

Capstone Day, May 4, 2017
A Sessions - 9:45-10:45

A1 Spanish, Latin American and Caribbean Literatures and Cultures Moderator: Marina Pérez de Mendiola Elise Berendt Kathleen Muenzen Ariana Stuart	Humanities 101
A2 Economics Moderator: Sean Flynn Mia Shackelford Emma Knoesen	Humanities 119
A3 Politics Moderator: Tom Kim AnaMei Boyd Isabel Carter-Kahn Shanisha Coram	Humanities 120
A4 Neuroscience & Biology Moderator: Gretchen Edwalds-Gilbert Amanda Maheras Meril Tomy Adrian Baris Chloe Sumner	Humanities 105
A5 Environmental Analysis, Geology, STS Moderator: Branwen Williams Iris Holzer Tricia Light Emily Gratke Sonia Sheno	Humanities 103
A6 Asian Studies, Asian-American Studies, Art History Moderator: Warren Liu Stephanie Doan Vivian Zhang Isabella Ramos	Humanities 121
A7 Athletics	Humanities Courtyard

B Sessions – 11:00-12:00

B1 Chican@ Latin@ Studies and Latin American & Caribbean Studies Moderator: Rita Cano Alcalá Maya Salas Kristen Sibbald Nereida Montes	Humanities 101
--	----------------

B2 Economics Moderator: Nayana Bose Yinghan (Rachel) Qi Alison Choe Julia Tambone	Humanities 119
B3 Physics Moderator: Scot Gould Cosette Dwyer Rachel Kahn Nina Vincent	Humanities 104
B4 French Studies, Dance, and Theater Moderator: France Lemoine and Kevin Williamson Abigail MacCumber Cherish Molezion Sophie Fahey Sharon Keenan KC Read-Fisher	Humanities 120
B5 Biology, Human Biology, Biochemistry Moderator: Findley Finseth Raquel Selcer Mia Farago-Iwamasa Leonida Radford Kathleen Muenzen	Humanities 105
B6 Anthropology Moderator: Seo Young Park Harriet Lindeman Rebecca Millberg Gina Robertson	Humanities 121
B7 Athletics	Humanities Courtyard

12:00-1:30 Malott Commons – taco bar for lunch, and chocolate bread pudding, strawberries and cream for dessert!

C Sessions – 1:30-2:30

C1 Feminist, Gender, and Sexuality Studies (FGSS) Moderator: Jih-Fei Cheng Eden Amital Tara Partow Abby Kissane	Humanities 119
C2 English Moderator: Michelle Decker Uma Bates Sawyer Henshaw	Humanities 120

Helen Yenser Cynthia Flores	
C3 Media Studies Moderator: Trang Tran Diva Gattani Sara Scheidemantle Natalie Eisen Jessica Rice Maria Weiss	Humanities 101
C4 Music Moderator: Anne Harley Karen Chan	Balch Auditorium
C5 Art History Moderator: Juliet Koss Katherine (Katie) Shearer Taylor Carr-Howard Mary Chawaga Rachael Herrera (Art Conservation)	Humanities 105
C6 Philosophy and American Studies Moderator: Rivka Weinberg Lucienne Altman-Newell Lara O'Connor Isobel Zoe Morrison Joelle Leib	Humanities 103
C7 Politics Moderator: Nancy Neiman-Auerbach Vanessa Rosato Muxuan (Muriel) Wang Jackie Givelber	Humanities 121

D Sessions – 2:45-3:45

D1 Art Moderator: Adam Davis Mary Coppock Mia Siracusa	Ruth Chandler Williamson Gallery
D2 Chemistry, Biochemistry Moderator: Babak Sanii Sydney Rosenblum Eliza Lewis Aurora Weiden Brynne Ichiuji	Humanities 104
D3 Psychology & Legal Studies Moderator: Jennifer Ma Ariel Leavitt Alice Mullin Leigh Thomas	Humanities 119

Gabriela Paganini	
D4 Mathematics Moderator: Christopher Towse Elena Pinsker	Humanities 102
D5 Writing, Sociology Moderator: Kim Drake Bridgette Ramirez Rachel Berner-Hays Annie Bonsey	Humanities 103
D6 History & Humanities (HMISC) Moderator: Andrew Aisenberg Julia Thomas Meghana Ravikumar Cassidy Villeneuve	Humanities 121
D7 English Moderator: Tessie Prakas Claire Daly Elisabeth Mayer Rochelle Kim Rachel Miller-Haughton	Humanities 120

3:45-5:00 Scripps Tea “Celebrating Our Seniors” Margaret Fowler Garden

5:00-6:00 Seniors vs. Faculty / Staff Soccer Game Tiernan Field

- **Co-Captains Faculty & Staff:** Thierry Boucquey and Roberto Pedace
- **Co-Captains Students:** Hannah Huston and Alley Bellack
- **Announcer:** Joelle Leib
- **Referees:** Kelsey D'Ewart and Natalie Honan
- **Student Roster:** Alley Bellack, Meagan McIntyre, Ella Kim, Mikayla Avalos-Feehan, Elizabeth Gross, Hannah Huston, Marzia Zendali, Raemi Thomas, Meril Tomy, Isabella Levin, Elisabeth Mayer, Diva Gattani
- **Faculty/Staff Roster:** Amy Marcus-Newhall, Gretchen Edwalds-Gilbert, Roberto Pedace, Copeland Andrews, Lola Trafecanty, Linda DeChaine, Julie Loppacher, Lyanne Dominguez, Anne-Marie Wood, Jennifer Shipley, Roberto Escobar, Rachel Bratlien, Jenna Monroy, Dave Smith, Corey Tazzara, Akan Noto, Kim Drake, Raina Coutin, Thierry Boucquey

A Sessions

9:45-10:45

Session A1 Spanish, Latin American, and
Caribbean Literatures and Cultures

Humanities 101

Moderator: Marina Pérez de Mendiola

ELISE BERENDT

Spanish, Linguistics

Atevimiento sintáctico: El hipérbaton en los sonetos de Luis de Góngora

The Baroque-era Spanish poet Luis de Góngora is renowned for his difficult syntax, and particularly for the literary device called hyperbaton. This thesis uses the generative model of syntax to describe the stylistic inversions present in Góngora's sonnets.

Advisor: Jennifer Wood

Advisor: Meredith Landman, Paul Cahill

KATHLEEN MUENZEN

Latin American & Caribbean Literatures and Cultures

Repensando los sistemas de salud interculturales y comunitarios en Chile desde la metáfora del tejido social

La larga historia de colonización europea en Chile ha impactado enormemente a los pueblos indígenas en el país, y este pasado afligido solo ha mutado en el neocolonialismo del mundo actual. Como víctima recurrente del colonialismo, el estado-nación Mapuche ha sufrido el desplazamiento de sus tierras ancestrales, la asimilación cultural forzada y la negación sistemática de sus propias prácticas culturales, incluso de sus prácticas ancestrales en la salud. La fragmentación de las comunidades mapuches en Chile y la desposesión en cuanto a sus tierras han amenazado continuamente al bienestar de la gente. Sin embargo, existe una corriente de resistencia dentro de las comunidades como existen hoy, que reta la devaluación de las vidas indígenas y la invisibilización de la cultura mapuche. El presente trabajo considera las varias teorías y prácticas en salud que intentan construir sistemas de salud nacionales que abordan el bienestar de las poblaciones indígenas, y considera los méritos y problemáticos de tales sistemas a partir de otro mapa conceptual: la metáfora del tejido social. Esta metáfora repiensa los sistemas de salud desde la paradójica “complejidad organizativa” de las redes sociales existentes, y enfatiza las raíces autónomas y comunitarias de sistemas de salud equilibrados. Una encarnación posible de la metáfora surge de una “casa de salud” mapuche en la región metropolitana, que demuestra los principios de integralidad y auto-empoderamiento que nutren a la comunidad inmediata, y a la red más grande de comunidades mapuches en Chile.

Advisor: Marina Perez de Mendiola

Advisor: Claudia Arteaga, Carmen Sanjuán-Pastor

ARIANA STUART

Foreign Languages

La Narrativa de la epidemia: un análisis del VIH/sida a través de los mecanismos discursivos de la enfermedad

Las palabras que usamos para describir el contagio instilan la enfermedad con características personificadas. Dentro de la época de la guerra fría, este fenómeno discursivo entraba en unas narrativas nacionales de paranoia del contagio del otro. En este tesis, examino la retórica

empleada para describir la epidemia del sida en Los Estados Unidos y América Latina, y cómo estos discursos eran apropiados con propósito de marginalizar y condenar a las comunidades homosexuales.

Advisor: Marina Pérez de Mendiola

9:45-10:45

Session A2 Economics

Humanities 119

Moderator: Sean Flynn

MIA SHACKELFORD

Mathematical Economics

NOT SO EZ:

EVALUATING THE EFFECT OF CALIFORNIA ENTERPRISE ZONES ON RESIDENT WELFARE

I study the impact of the California Enterprise Zone program on resident welfare, using individual and household level data from the American Community Survey (2005--2014) and a difference in difference regression approach. I find a significant relationship between enterprise zone designation and both rental costs and income from work, with results varying by demographic group. My results have significant implications for the design of public policy under free mobility and racially stratified labor networks.

Advisor: Nayana Bose

Advisor: Kerry Odell

EMMA KNOESEN

Economics and Mathematics

COMPENSATING AGAINST TURNOVER: MANAGERS' TALENT RETENTION DECISIONS IN MAJOR LEAGUE BASEBALL UNDER A BUDGET CONSTRAINT

Recently, Major League Baseball has had a luxury tax on high payroll teams. My thesis analyzes the impact of the tax as a budget constraint on teams' ability to reward and retain high performing players. The results suggest that there are fewer top performers in periods with a luxury tax/budget constraint. We use efficiency wage theory to understand this decrease in top performers as the result of a decrease in motivators.

Advisor: Nayana Bose

Advisor: Mark Huber

9:45-10:45

Session A3 Politics

Humanities 120

Moderator: Tom Kim

ANAMEI BOYD

Politics

Social Movements in Bolivia and California: The Implementation of the Human Right to Water

This thesis investigates social movements that address inadequate access to clean water in Cochabamba, Bolivia and the Californian Central Valley. By analyzing the political opportunity structure, advocacy tactics, and community coalitions this piece attempts to increase understanding regarding the challenges associated with making the UN General Assembly Resolution, recognizing a Human Right to Water, a reality. This project showed how the top down implementation approach does not adequately address the needs of marginalized communities.

Advisor: Sumita Pahwa
Advisor: Heather Williams (2nd reader)

ISABEL CARTER-KAHN

Politics and International Relations

Digital Media and the Collapse of News Gatekeeping Power During the 2016 Presidential Election

This thesis is concerned with the question of whether misleading, narrative driven content captured mainstream political media during the post-primary portion of the 2016 United States presidential election. I surveyed of two types of political story: conspiracy theory and scandal. I conducted content analyses of political articles and compared each article's factual content with its narrative frame. I then traced narratives to their sources to determine which actors had gatekeeping power over mainstream media.

Advisor: Vanessa Tyson

Advisor: Thomas Kim

SHANISHA CORAM

Politics

The Question of Remilitarization: Is Japan's Pacifist Nature in Danger of Reform

Why has the Japanese constitution and the pacifism that it enshrines been so resistant to change despite a changing political context? Taking a constructivist approach, I will argue that although pro-constitutional revision forces in Japan have tried to use fear politics and the revival of a Japanese “national spirit” to promote constitutional revision and ultimately re-militarization, the Japanese public has been relatively unreceptive to their ploy due to the integration of pacifism into the Japanese collective identity.

Advisor: Sumita Pahwa

9:45-10:45

Session A4 Neuroscience & Biology

Humanities 105

Moderator: Gretchen Edwalds-Gilbert

AMANDA MAHERAS

Biology

RNA-Seq analysis in an adult Zebrafish (Danio rerio) model of mild Traumatic Brain Injury (mTBI)

To better understand the neuronal repair mechanisms of zebrafish (*Danio rerio*), a novel weight drop mild traumatic brain injury (mTBI) model was used to identify differentially expressed genes (DEGs) at 3 and 21 days post injury (dpi) through RNA-Sequencing analysis. The DEGs were categorized into gene ontology (GO) clusters, which indicated regulation of cell death at 3 dpi, and cellular differentiation, development, and regeneration at 21 dpi, therefore validating the mTBI model.

Advisor: Dr. Rory Spence

Advisor: Dr. Barbara Fortini

MERIL TOMY

Molecular Biology

Studying the Effects of Dsk1 and Kic1 Protein Kinases on Poly(A)-binding Protein in mRNA Export

Dsk1 and Kic1 protein kinases may execute their novel role in mRNA export by modulating activity of an export factor, poly(A)-binding protein. The preliminary data constitute part of our investigation to decipher the molecular basis of regulatory functions of Dsk1/Kic1 kinases in eukaryotic gene expression. As the kinases are conserved through evolution from yeasts to humans and are fundamental to life, this research sheds light on the molecular mechanisms of these kinases in all organisms.

Advisor: Dr. Zhaohua Tang

Advisor: Dr. Edwalds-Gilbert

ADRIAN BARIS

Biochemistry

The ERG2 gene is necessary for the optimal functionality of the Unfolded Protein Response after phenol stress in Saccharomyces cerevisiae

This thesis examines the effects of Butylated hydroxytoluene (BHT), butylatedhydroxyanisole (BHA), and bisphenol A (BPA), common food preservatives with potentially harmful effects, on the Unfolded Protein Response in $\Delta erg2$ mutants of *Saccharomyces cerevisiae*. I found that all three phenols induce the UPR in $\Delta erg2$ strains and that the UPR is not attenuated. I found that this is due to the inability of the Ire1 proteins to release from dimerization.

Advisor: Gretchen Edwalds-Gilbert

Advisor: Emily Wiley

CHLOE SUMNER

Biology

Saccharomyces cerevisiae membrane fluidity impacts the unfolded protein response pathway when induced by phenol stress

The unfolded protein response (UPR) responds to endoplasmic reticulum stress. Previous research identified the ergosterol biosynthesis pathway as important to the phenol stress response. We investigated impacts of membrane fluidity on the UPR in yeast when induced by phenol stress in an ergosterol biosynthesis mutant, *erg24Δ*. We quantified Hac1 splicing after RT-PCR, and conclude that the *erg24Δ* deletion impacts the induction and attenuation of the UPR induced by phenol stress, and each phenol behaves differently.

Advisor: Gretchen Edwalds-Gilbert

Advisor: Jennifer Armstrong

9:45-10:45

**Session A5 Environmental Analysis, Geology,
Science Technology & Society**

Humanities 103

Moderator: Branwen Williams

IRIS O. HOLZER

Geology: Geochemistry Track

Geochemistry of the Burgess Shale at Marble Canyon, Kootenay National Park, British Columbia

The recently discovered fossil assemblage at Marble Canyon exhibits exemplary soft-bodied preservation of an early animal community from the Middle Cambrian. This site invites exploration of the paleoenvironmental conditions that supported these complex ecosystems and enabled this unique preservation. This project uses a multi-proxy geochemical approach to examine the hypothesis that a chemically stratified water column and reduced oxidant

availability in the sediment were present and facilitated preservation of these soft-bodied organisms at Marble Canyon.

Advisor: Robert R. Gaines

TRICIA LIGHT

Chemistry

*Assessing paired d18O and Mg/Ca analysis of the coralline algae *Clathromorphum compactum* as an Arctic climate proxy*

Arctic climate variability is poorly understood, largely due to a scarcity in historical climate data. This investigation explored the proxy potential of coralline algae to augment these records. Paired d18O and Mg/Ca analysis was conducted on a *C. Compactum* specimen, and correlations between both data sets and instrumental climate records were investigated. A significant correlation between only d18O and Mg/Ca was found, which suggests that both captured a temperature signal not represented by instrumental data.

Advisor: Branwen Williams

EMILY D. GRATKE

Science, Technology & Society

Menageries Multiple: An Introduction to Zoological Multiplicity in the Modern American Zoo

This thesis examines American zoos residing at a tenacious hub of human ideologies and practices, and proposes that the foundational cause of this tension is zoological multiplicity: the theory that through human practices and perceptions, animals can embody multiple identities. By exploring zoological multiplicity with specific focus on zoo management, zoogoer, and animal activist stakeholder groups, this project emphasizes the necessity of understanding zoological multiplicity in improving global animal care and wildlife conservation projects.

Advisor: Laura Perini

Advisor: Nancy Williams

SONIA MARIE SHENOI

Science, Technology, and Society

Inside the Tent: An In-Depth Analysis on Refugee Camps Through a Science, Technology, and Society Perspective

Currently, over 65 million people worldwide have been forced from their homes; among them are nearly 21 million refugees. Thus, the discussion of refugees and refugee camps on a global scale is ever more salient given the recent heightened attention to the global crises. This thesis uses an interdisciplinary Science, Technology, and Society (STS) approach to analyze the United Nations High Commissioner for Refugees (UNHCR) policies, refugee camps, and their implication in the greater society.

Advisor: Professor Nancy Williams

Advisor: Professor Richard Worthington

9:45-10:45

**Session A6 Asian Studies, Asian-American Studies,
Art History**

Humanities 121

Moderator: Warren Liu

STEPHANIE DOAN

Asian American Studies

*Access and Discussion about the HPV Vaccination
among Second-Generation Vietnamese American Women*

Vietnamese women have the highest rates of cervical cancer when compared to other women of color and white women. The HPV vaccination helps prevent against cervical cancer and is recommended for both female and male preteens to receive the vaccination. Through interviews with second generation Vietnamese American women, this thesis is exploring what second generation Vietnamese American women know about the HPV vaccination, their relationship to healthcare, and their overall health.

Advisor: Todd Honma

Advisor: Warren Liu

VIVIAN ZHANG

Asian Studies

Cultural Studies in the Mandarin-English Dual Immersion Classroom: A Case Study

This thesis uses a Mandarin-English dual immersion program at a Southern California public elementary school as a case study to examine how culture is taught and learned in the dual immersion setting. Based on classroom observations and interviews with students, staff, and parents, this thesis argues that concepts of “China” and “Chinese culture” are conveyed, constructed, and negotiated by students as well as teachers, both implicitly and explicitly.

Advisor: Thierry Boucquey (SCR)

Advisor: Feng Xiao (PO)

ISABELLA RAMOS

Art History

Walking in the City: Koji Nakano's Reimagining and Re-Sounding of The Tale Of Genji

Imagined Sceneries is a chamber music work written by composer Dr. Koji Nakano of Burapha University, Thailand. Imagined Sceneries’ reimagining and “re-sounding” of Heian Kyoto relies on a balance between what is imagined and what is experienced in performance. Its many elements collectively explore multiple layers of Japanese histories, soundscapes, environments, and sensibilities. Using Michel de Certeau’s concepts of the city, this thesis journeys through Nakano’s imagined spaces.

Advisor: Bruce Coats

Advisor: Anne Harley

9:45-10:45

Session A7 Athletics

Humanities Courtyard

B Sessions

11 am – 12 pm

**Session B1 Chican@/Latin@ Studies
and Latin American & Caribbean Studies**

Humanities 101

Moderator: Rita Cano Alcalá

MAYA SALAS

Chicanx/Latinx Studies & Latin American Studies

Young Chicanxs on the Move: Folklórico Dance Education as a Mechanism of Self-Assertion and Social Empowerment

This study shows how embodied knowledge performed through the body's movements in folklórico dance acts as a mechanism for reconnecting Chicax youth to cultural ties and reevaluating educational practices. Data collection incorporated interviews with eight Chicax youth and adults who have either taught or danced folklórico in the U.S.. Interview participants revealed a strong sense of cultural knowledges such as orgullo, familismo, and collective consciousness. Dancers described learning these cultural knowledges through the embodiment of physical dance steps and social customs honored by their folklórico communities. Through these social relationships, individual identities found the support to thrive within collective communities. Given the influx of educational pedagogies that attempt to depersonalize and depoliticize education, such as tracking systems and standardized testing, these stories suggest alternate forms of learning that may account for students' entire well-being.

Advisor: Gilda Ochoa

Advisor: Martha González & Cindy Forster

KRISTEN SIBBALD

Chicano/Latino Studies and Latin American Studies

Nationalism and Education in the Neoliberal Revision of Mexican Historical Narratives

This thesis explores the reconstruction of Mexican national identity and dismantling of revolutionary nationalism in the early 1990's during the implementation of a neoliberal economic model. It examines the changes in the Salinas government's educational policies and the corresponding historical narrative taught in state-sponsored textbooks. The findings suggest that the new educational policies apply a neoliberal framework to the public education system, and that reframed historical narratives are designed to foster capitalist values.

Advisor: Professor Tinker Salas

Advisor: Professor Alcalá

Advisor: Gabriela Bacsan

NEREIDA GUADLUPE MONTES

Latin American and Caribbean Studies

Negotiating Mexican Citizenship: Examining Implications of a Narcoestado and Rebellions in Contemporary México

This thesis highlights evidence of a narco-state in contemporary México. Specifically, arguing that increasing violence, corruption, impunity and poverty have altered the ways Mexicans interact with a weakened and untrustworthy state. This research has shown that the discontent among Mexicans has created the conditions for the formation of autodefensa groups and opened political space for the left. Ultimately, this work serves as an indicator of how drug war policy has affected Mexican rights.

Advisor: Miguel Tinker Salas

Advisor: Marina Perez de Mendiola

11 am – 12 pm

Moderator: Nayana Bose

Session B2 Economics

Humanities 119

YINGHAN (RACHEL) QI

Economics and Legal Studies

A Second Child? No, Thank You!

The Impact of Chinese Family Planning Policies on Fertility Decisions

This thesis analyzes the economic and legal implications of the Chinese family planning policies. By examining the extent to which fertility decisions are affected by government policies, this thesis evaluates the potential effects of the Two-child Policy that came into effect in 2016. The findings suggest that the Two-child Policy might not be effective in increasing the total fertility rate and the demand for children among Chinese families.

Advisor: Kerry Odell

Advisor: Jennifer Groscup

ALISON CHOE

Economics

How Mobile Phones Can Spark an Entrepreneurial Revolution: The Effect of Mobile Phone Networks on Entrepreneurial Activity in Developing and Developed Countries

This thesis investigates the effect of the exponential rise in mobile phones on entrepreneurial activity. Using data from 80 countries from 2007 to 2015, I conduct panel regressions and find that larger mobile networks encourage entrepreneurship, particularly in the early stages and in developed countries. In developing countries, larger mobile networks related to more females than males engaging in early-stage entrepreneurship. Finally, I consider potential implications on economic development due to such increased business formation.

Advisor: Professor Nayana Bose

Advisor: Professor Roberto Pedace

JULIA TAMBONE

Economics

Are Donald Trump and Hillary Clinton Controlling the Stock Market? An Analysis of the 2016 Presidential Election's Impact on Stock Market Volatility

This thesis examines the impact that the 2016 Presidential election had on the stock market. Specifically, I created an index of stocks comprised of the four major U.S. industries and compared their volatility over the lifetime of the stock. I found that the 2016 election year was significantly less volatile than both prior election years as well as non-election years, suggesting that the 2015-2016 election year was not a closely contested race.

Advisor: Roberto Pedace

11 a.m. - 12:00 p.m.

Moderator: Scot Gould

Session B3 Physics

Humanities 104

COSETTE DWYER

Physics

A Non-Destructive Technique to Identify Presolar Crystalline Silica Grains from Supernovae
Isotope anomalies in small, exotic presolar grains in meteorite thin sections are typically measured using destructive techniques like secondary ion mass spectrometry. We show that Fourier-transform infrared spectroscopy has the capability to detect large isotope anomalies in quartz grains without compromising the grain's structure or composition.

Advisor: Ryan Ogliore

Advisor: Steve Naftilan

RACHEL KAHN

Physics

Hydrodynamics of marine sponge pumping

Through their filter feeding, marine sponges provide an important link between the bottom and suspended environments in coral reef ecosystems. This study used a computational model to examine sponge pumping without the influence of ambient current. Output velocity and pressure were used to qualitatively examine the fluid dynamics around an idealized sponge and determine the pressure gradients driving excurrent jets. The results will serve as a foundation for future sponge pump modeling involving ambient currents.

Advisor: Jim Hench (Duke University)

Advisor: Scot Gould

NINA VINCENT

Physics

Examining the air-water interface of carbon dioxide uptake to aqueous monoethanolamine surfaces

One feasible way to reduce CO₂ emissions that are greatly contributing to climate change is to capture CO₂ from post-combustion stationary sources. Aqueous monoethanolamine (MEA) has been proposed as a possible chemical to capture CO₂ in this way, but there is still a lack of understanding of the surface chemistry during CO₂ scrubbing. My studies focused on understanding the air-water interface during this MEA-CO₂ reaction using pH, surface tension, computational studies.

Advisor: Laura McWilliams

Advisor: Scot Gould

11 am – 12 pm

**Session B4 French Studies,
Dance, and Theater**

Humanities 120

Moderators: France Lemoine and Kevin Williamson

ABIGAIL MACCUMBER

French and Media Studies

Culture as a Tool of Exclusion: An Analysis of Mathieu Kassovitz's La Haine

Using the film *La Haine* (1995), directed by Mathieu Kassovitz, as an object of analysis, this paper explores culture as a tool of exclusion in France through sociological, architectural, and political contexts. It investigates *La Haine* as one of the first representations of the banlieue to mainstream French audiences, as well as the ways in which the film reveals how immigrants and children of immigrants struggle to find personal, cultural, and national identity in France.

Advisor: Thierry Boucquey

Advisor: a6Nancy Macko

CHERISH MOLEZION

French Studies and Public Policy Analysis

Social cohesion as a gateway: Examining France's efforts in building equitable education access for marginalized immigrants

This thesis examines the effects of France's educational social cohesion policies, arguing that these policies affect access to education for working-class descendants of immigrants. However, France's republican ideology inhibits the extent to which equitability can be established between working-class descendants of immigrants and the majority population. Through data analysis, I scrutinize trends in education access and make policy recommendations centering around positive discrimination approaches that France should adopt to prioritize its most marginalized population.

Advisor: Nathalie Rachlin

Advisor: Pierre Englebert

SHARON KEENAN

Dance

A Choreographic Exploration of Race and Gender Representation in Film and Dance

Through extensive research which culminates in a choreographic component, this thesis explores the lack of diverse representation within artistic and entertainment industries in regards to race and gender. Looking specifically at dance and film, it considers and analyzes why this absence persists, along with ways to ensure progress. By detailing all that goes into creating a space that consistently hinders representation of minorities, this project will provide a better understanding of how minority communities are affected as a result.

Advisor: Ronnie Brosterman

Advisor: Kevin Williamson

KC READ-FISHER

Theatre

One Size Fits No One: The Dramatic Truth About Size Discrimination in the Performing Arts

American theatre and media contribute to violent systems of thinking around size and weight and their correlation to health. Educating the general public about health and size can assist in creating new models of representation and bodies can start to reclaim the space they deserve to take up, moving beyond the societal shame they currently face. In this thesis, size discrimination is explored and unpacked through careful analysis of contemporary plays, television shows, and movies.

Advisor: Carolyn Ratteray

Advisor: Kevin Williamson

11 am – 12 pm

**Session B5 Biology, Human Biology
Biochemistry**

Humanities 105

Moderator: Findley Finseth

RAQUEL SELCER

Human Biology

Repurposing Nitroxoline Using In Vitro Combinatorial Drug Assays Against Pathogenic Bacteria and In Vivo Assays Against Bacillus cereus in Drosophila melanogaster.

As antibiotic resistance grows and treatment options lag, drug repurposing through library screens can expedite the process. Nitroxoline, which was found to be active against many bacterial species, was tested for synergistic interactions using in vitro combinatorial assays with 8 other drugs across 5 bacterial species. Survival assays of *Drosophila melanogaster* infected

with *B. cereus* and treated with nitroxoline were also performed and nitroxoline was found to partially protect female *D. melanogaster* against *B. cereus*.

Advisor: Mikhail Martchenko, Ph.D.

Advisor: Audrey Chen, Ph.D.

MIA FARAGO-IWAMASA

Biology

*Individual and Group Nest Choice in the Turtle Ant *Cephalotes varians**

This research project sought to characterize nest investigation and decision making of a turtle ant species. Turtle ants are especially interesting social insects because they use multiple pre-made nest cavities and defend them with specialized soldier ants. While soldier allocation and defense strategies have been studied, the mechanism for information gathering and choice is not clear. By understanding how ant colonies make good decisions, we may be able to make comparisons to other systems.

Advisor: Matina Donaldson-Matasci

Advisor: Elise Ferree

LEONIDA RADFORD

Biochemistry

Investigation of Base Stacking Effects on DNA Duplex Stability in the Cre-Sequence Using UV/Vis Spectroscopy and Circular Dichroism

The cyclic AMP response element (Cre) is responsible for the regulation of many cellular processes such as neuronal signaling, metabolic processes, and cell proliferation. Due to its involvement in cell proliferation, Cre has become of interest to many cancer researchers. Specifically, the Cre-sequence, a highly conserved sequence, is of interest in this project because of its ability to bind the anti-cancer drug Actinomycin D (AMD). Previous work has shown that while AMD binds to the central CpG step of the Cre-sequence, different flanking sequences result in different binding affinities. This study examines the possible relationship between the binding affinity of AMD to the Cre-sequence and the overall stability of the DNA duplex. In regards to stability, the role of base stacking is of interest and is examined using thermal denaturation and circular dichroism. While preliminary data has been collected, definitive conclusions cannot be drawn. Comparison of CD spectra of each sample to a reference spectrum of similar %GC, shows that the spectra are similar, but not identical. This difference could be due to base stacking interactions, but this result is not verified due to a lack of quality melting data. Future steps include developing an improved methodology for gathering base stacking data and analyzing how it relates to overall DNA stability and AMD binding.

Advisor: MARY HATCHER-SKEERS

Advisor: BABAK SANII

KATHLEEN MUENZEN

Biology

PEVK Finder: A novel annotation tool designed for giant muscular proteins

Ascertaining the function of proteins based on their molecular composition is a blooming field of research, driven by increased availability of genomic sequencing data and DNA annotation tools. One limitation of current annotation tools is their inability to annotate giant genes with many small exons. For example, the nucleotide sequence of titin, a giant sarcomeric protein that

maintains passive tension in resting and active striated muscle, is well-annotated in several model organisms, but its unusual length (>30,000 aa) and sequence complexity hamper annotation in other tissues and organisms. Titin's PEVK segment, which contributes to titin-based passive tension, contains many short exons that complicate automatic annotation. In this study, we developed a novel annotation tool, the "PEVK Finder," that extracts PEVK exons from the raw nucleotide sequence of titin given a set of three search parameters. PEVK Finder was tested in two model organisms (human, mouse), and optimized parameters were used to test the efficacy of the tool in PEVK segment annotation. In both controls, PEVK Finder identified close to 84% of the PEVK exons (compared to 65% identified by the popular annotation tool GENSCAN) and captured major trends in exon composition and length, although neither exon composition nor length were perfectly characterized by the tool. These results demonstrate that PEVK Finder effectively captures "big picture" trends in the PEVK segment of titin, but also pinpoint specific areas for improvement that may increase the tool's accuracy. These results show that region-specific gene annotation tools can effectively annotate complex regions of genes that would otherwise be mischaracterized by existing annotation tools. This tool holds promise for widespread characterization of the titin PEVK segment and for the annotation of other giant muscular proteins, which have significant implications in the study of muscle function and pathophysiology.

Advisor: Findley Finseth

Advisor: Jenna Monroy

11 am – 12 pm

Session B6 Anthropology

Humanities 121

Moderator: Seo Young Park

HARRIET LINDEMAN

Anthropology and Middle East and North Africa Studies

Spoken Resistance: Slam Poetry Performance as a Diasporic Response to Discursive Violence

This project foregrounds the work and perspectives of spoken word poets of Middle Eastern and North African (MENA) descent in connection to the NYC slam poetry scene. Through interdisciplinary ethnographic analysis, I consider slam poetry as a site of intersectional struggle, arguing that the engagement of MENA diaspora poets with this scene illuminates the ways in which poetry both constitutes resistance to discursive violence and works to mobilize audiences against tangible structures of violence.

Advisor: Seo Young Park

Advisor: Lara Deeb

REBECCA MILLBERG

Anthropology

Spacializing Mexicanness:

The (Re)Production of Racial and Cultural Meaning in Los Angeles' Olvera Street

This thesis uses ethnographic fieldwork to challenge the common, simplistic understanding of Los Angeles' Olvera Street as merely a cultural or historic landmark. Exploring the site's role in Los Angeles' popular culture over the past several decades through today, this thesis argues that, as a 'Mexican marketplace' that is simultaneously presented as historical, Olvera Street has been imbued with substantial power to shape the perception of Latinx culture and identity in the city.

Advisor: Seo Young Park

GINA ROBERTSON

Anthropology

A Meditation on Meditation: Exploring Perceptions of Mindfulness and Meditation in the Claremont Community

This study explores perceptions of “mindfulness” and “meditation” in the Claremont community, investigating how understandings of these terms are socially exchanged and reproduced.

Research involved 21 semi-structured interviews and 30+ hours of participant observation in guided meditations. Results demonstrated largely secularized, decontextualized, and wellness-oriented perceptions that rarely mention the concepts’ previously perceived “eastern” roots. This research illuminates the way in which concepts alter via relocation from perceived abroad origins to the mainstream United States.

Advisor: Professor Seo Young Park

11 am – 12 pm

Session B7 Athletics

Humanities Courtyard

12:00-1:30 Malott Commons – taco bar for lunch, and chocolate bread pudding, strawberries and cream for dessert!

C Sessions

1:30 pm – 2:30 pm Session C1 Feminist, Gender, and Sexuality Studies Humanities 119
Moderator: Jih-Fei Cheng

EDEN AMITAL

Feminist, Gender, and Sexuality Studies

Developmental Measures: The Zika Virus, Microcephaly, and Histories of Global Northern State Anxieties

This project seeks to understand anxious and fearful responses to the Zika virus and microcephaly that began circulating in February, 2016. I historicize scientific literature and media articles on Zika and microcephaly by connecting contemporary moments and histories, among them the Rio Olympics, Victorian era freak shows, phrenology, and eighteenth-century racialized notions of sexuality. I argue that these histories constitute microcephaly as a metric of civilizational development key to conceptions and practices of proper subjectivity.

Advisor: Jih-Fei Cheng

Advisor: Cindy Forster

TARA PARTOW

Feminist, Gender, & Sexuality Studies

Choreographing Diaspora: The Queer Gesture and Racialized Excess of Mohammad Khordadian

This thesis engages the life, career and performance of Mohammad Khordadian, a gay, Iranian American dancer who's instructional dance videos were played in the homes of enough Iranians across the globe to grant him transnational celebrity status. Khordadian's dancing also incites

violence, in the form of xenophobic and homophobic slurs online and his imprisonment by the Iranian government. This simultaneous adoration and disciplining of the dancer makes hypervisible Iran's historically fraught relationship with dance and homosexuality, undergirded by Orientalism.

Advisor: Piya Chatterjee

Advisor: Anthony Shay

ABBY KISSANE

Feminist, Gender, Sexuality Studies and Biology

The Effect of Oxidative Stress on Myometrial MicroRNA Expression

Approximately 1 in 11 births in the United States are preterm (<37 weeks gestation). Within the United States, there are huge racial disparities for risk of preterm birth. This thesis addresses these issues by proposing a molecular biomedical research study. It concludes with an outline of the many considerations vital for discussing the research and analysis of preterm birth disparities using a feminist, antiracist, queer self-reflexive analysis..

Advisor: Emily Wiley

Advisor: Jih-Fei Cheng

1:30 pm – 2:30 pm

Session C2 English

Humanities120

Moderator: Michelle Decker

UMA BATES

English, Creative Writing

The Mall In America

"The Mall In America" centers around female protagonist, Sam, as she navigates the sociological and psychological realities of adolescent life. Readers follow Sam through the strained atmosphere of her home, into the transcendental realm brought on by "Aquatic Underworlds," an IMAX production. Told in the humorous yet vulnerable voice of a teenager, "The Mall In America" demonstrates the varying levels of complexity within human life.

Advisor: Adam Novy

SAWYER HENSHAW

English – Creative Writing Concentration

Daffodils: A Completely Unrelated Collection of Short Stories

"Daffodils" is a collection of three fictional stories without thematic connection, yet all containing tenacious female characters. "The Winner" is told from the unflinching voice of a woman in her struggle for control coaching at a boarding school. "The Seers" is a dystopian story, taking place in a world with months of "Sun" and months of dark at a time. "Plastic Flowers" examines the loss of love within relationships, depicting the insecurities of young adulthood.

Advisor: Professor Adam Novy

Advisor: Professor Kevin Moffett

HELEN YENSER

English

"LINDA LAND:" A Short Story

“LINDA LAND” is a short story about a man who created an amusement park based on Hell, and his teenage son, who has developed a crush on the preacher’s daughter. Though there are many real-life muses that inspired the story—like Simon Rodia, the artist behind the Watts Towers—the four main literary sources are William Shakespeare’s play, “Romeo and Juliet,” Karen Russell’s novel, “Swamplandia!,” Sylvia Plath’s poem, “Mirror,” and Charlie Kaufman’s screenplay, “Adaptation.”

Advisor: Professor Novy

Advisor: Professor Lethem

CYNTHIA FLORES

English with an emphasis in Creative Writing

Song of Myself?

This creative thesis responds to Walt Whitman’s “Song of Myself” and questions what it takes to live “the American Dream.”

Advisor: Warren Liu

Advisor: Brent Armendinger

1:30 pm – 2:30 pm

Session C3 Media Studies

Humanities 101

Moderator: T. Kim-Trang Tran

DIVA GATTANI

Media Studies

Delicate & Unshaven: Dismantling the stigmatization of female body hair through embroidery and interviews with women of the Hair Belt

This thesis examines the stigmatization of female body hair by Western media. It has constructed female hair removal on screen as taboo, while perpetuating the association of femininity with hairlessness. Through personal interviews, digital design and embroidery, my two projects, *Delicate & Unshaven* and *Women of the Hair Belt*, emphasize that female body hair is natural and, moreover, feminine and beautiful.

Advisor: T. Kim-Trang Tran

Advisor: Nancy Macko

SARA SCHEIDEMANTLE

Media Studies

in(attention)

My project, *(in)attention*, is an exploration of attention through abstract experimental animation. While Chapter One chronicles my personal experience with Attention Deficit Disorder in the primary education system, Chapter Two ponders how society values attention, and the tendency to conflate attention, love, and commodity.

Advisor: T. Kim-Trang Tran

NATALIE EISEN

Media Studies

“She’s Not a Real Monster”: *Orphan Black’s Helena and the Monstrous-Feminine*

This thesis explores the idea of the “monstrous-feminine,” which states that monstrosity within female monsters stems from their femininity. Using Barbara Creed’s initial definition of the

concept as a springboard, this thesis covers various stages of women's lives as seen through the lens of the monstrous. The character of Helena from the television show Orphan Black is used as a concrete example of the four monstrous-feminine life stages: childhood, menstruation and puberty, sexuality, and motherhood.

Advisor: Mark Andrejevic

Advisor: Jih-Fei Cheng

JESSICA RICE

Media Studies

Women in Fairy Tales: The Pursuit of a Modern-Day Heroine

This thesis reexamines the purpose of fairy tales throughout history and explores the effectiveness of a modern alternative to classical methods of telling these stories. To increase interactivity as well as the agency of the female protagonist and players themselves, this thesis reimagines the popular classic, Cinderella, as a visual novel.

Advisor: T. Kim Trang-Tran

Advisor: Carlin Wing

MARIA WEISS

Media Studies and Psychology

American Mom

My short film, American Mom, follows my dear sister Catherine Weiss as she reflects upon her childhood, and more importantly, on becoming a mother at the age of four. Through old home videos taken by my father, and current interviews with Catherine and our parents, American Mom explores youth, motherhood, and the empathic power of imagination, curated into a dialogue of a shared childhood of two sisters.

Advisor: T. Kim-Trang Tran

Advisor: Jesse Lerner (Pitzer)

1:30 pm – 2:30 pm

Session C4 Music

Balch Auditorium

Moderator: Anne Harley

KAREN CHAN

Music (Vocal Performance) and Biology (double major)

Senior Recital

A selection of vocal pieces will be performed, including compositions by Purcell, Rodrigo, and Rossini. Karen will also present on Imaginary Musical Bodies (2016), a vocal work that she commissioned from Malaysian-Chinese composer Yii Kah Hoe, focusing on the intersection between music and medicine, and early Western and Chinese understandings of the human body.

Advisor (Music): Anne Harley

1:30 pm – 2:30 pm

Session C5 Art History

Humanities 105

Moderator: Juliet Koss

KATHERINE (KATIE) SHEARER

Art History

The "Postmodern Geographies" of Frank Gehry's Los Angeles

This thesis examines the ways in which Frank Gehry's architectural contributions to Los Angeles' social and built environment have shaped the region's "postmodern geographies" throughout the 20th and 21st century. Through a focused exploration of three of Gehry's postmodernist structures in Greater Los Angeles—a house, a library, and a concert hall—this thesis analyses how Gehry and his designs reflected and affected the artistic and socio-spatial development of Los Angeles' "decidedly postmodern landscape."

Advisor: George Gorse

Advisor: Bruce Coats

TAYLOR CARR-HOWARD

Art History

The Cultural Mosaic under the Tesserae: Local Identity in the Iconography and Compositions of Roman Floor Mosaics

This thesis examines the way the medium of mosaics was adapted locally by the cities of Antioch (modern Antakya, Turkey) and Thysdrus (modern El Djem, Tunisia) during the second and third centuries CE. Compositional differences indicate different conceptions of the medium and locally specific iconography draws on viewers' local knowledge and experience to situate the city and its inhabitants within the broader context of the Roman empire.

Advisor: Michelle Berenfeld

MARY CHAWAGA

Art History

The Cube³: Three Case Studies of Contemporary Art vs. the White Cube

Museums are culturally constructed as places dedicated to tastemaking, preservation, historical record, and curation. Yet the contemporary isn't yet absorbed by history, so as museums incorporate contemporary art these commonly accepted functions are disrupted. Through case studies, this thesis examines the successes and failures of three New York museums (MoMA, Dia:Beacon and New Museum) as they grapple with the challenging, perhaps irresolvable, tension between the contemporary and the very idea of the museum.

Advisor: Kathleen Stewart Howe

Advisor: Mary MacNaughton

RACHAEL HERRERA

Art Conservation

Body, Blood, and Flood: The Ripple of Kinesics Through Nature in Leonardo da Vinci's Art
The dynamic relationship between Leonardo da Vinci's art and science can be used to better understand the role of the human body within his art. Through studying anatomy, he challenged old theories about the body's relationship with its soul and the physical world. This made his initial ideas about nature and the divine more incomprehensible. Leonardo's art reflects this turn of perspective as he becomes unable to define the physical world through the human body.

Advisor: Professor George Gorse

Advisor: Professor Mary MacNaughton

1:30 pm – 2:30 pm

**Session C6 Philosophy
and American Studies**

Humanities 103

Moderator: Rivka Weinberg

LUCIENNE ALTMAN-NEWELL

Philosophy

Is Bodily Resurrection Compatible with Materialism?

Christianity embraces the theory of bodily resurrection, an event in which people are brought back to embodied life after death. Is this theory compatible with materialism, the doctrine that nothing exists except matter and its movements and modifications? That is, if my “self” is identical with and nothing more than my body, could my unique and particular “self” come to exist again after my death? This thesis examines theories of compatibility from antiquity to present.

Advisor: Yuval Avnur

Advisor: Rivka Weinberg

LARA O’CONNOR

Philosophy

Imposing Existence: Moral Implications & Economic Deterrents

In this thesis I have examined Anti-Natalism, specifically arguments by David Benatar, which conclude that human procreation is under all circumstances wrong, and Seana Shiffrin, which concludes that procreation is a “moral hard case.” I provide objections and responses to each argument of my own, as well as those from Saul Smilansky, Rivka Weinberg, and David Wasserman. I also examine the manner in which female unemployment rates (as well as aggregate female and male) unemployment rates in a year between 2005 and 2014 impact fertility rates in the following year (from 2006-2015).

Advisor: Rivka Weinberg

Advisor: Kerry Odell

ISOBEL ZOE MORRISON

American Studies

Desert to Sea: White Fantasies, Red Rivers, and the Salton Sea

This thesis looks at the birth of the Salton Sea. In a seemingly impossible way, an inland desert sea was accidentally created in the middle of the California desert. What does its existence tell us about settler-ideologies in the 20th century around deserts and rivers? How do we deal with spaces deemed “worthless” or “destroyed?” How can we look to the Salton Sea in order to better understand the American West?

Advisor: Bill Anthes

Advisor: Wendy Cheng

JOELLE LEIB

American Studies

How to be a Good Neighbor: Christianity's role in enacting non-interventionist policies in Latin America during the 1930s and 1940s

This thesis explores how Christianity influenced the creation and implementation of the U.S.'s Good Neighbor policy with Latin America. Specifically, this thesis focuses on the Committee on Cultural Relations with Latin America (CCRLA), founded by Congregationalist minister Hubert

Herring in 1928. The CCRLA provides a concrete example of how an organization inspired by Christian principles helped shape official U.S. foreign policy.

Advisor: Miguel Tinker Salas

Advisor: Laura Redford

1:30 pm – 2:30 pm

Session C7 Politics

Humanities 121

Moderator: Nancy Neiman-Auerbach

VANESSA ROSATO

Politics

The Rise of the Far Right: Explaining Popularity and Potential Influence

Conservative parties in the UK and US have radicalized their rhetoric, as evidenced by the 2016 election cycle and Brexit Referendum. This radicalization is linked to narratives of xenophobia, nativism, and populism that have become increasingly prevalent as Far Right parties experience electoral success throughout Europe. By analyzing the rhetorical strategies used by these parties, this study attempts to elucidate reasons for their success and their potential influence on the center right.

Advisor: Nancy Neiman Auerbach

MUXUAN (MURIEL) WANG

Politics and International Relations, Japanese

Centralization and Decentralization in Natural Disaster Response: A Comparative Case Study of 3.11 Earthquake and Hurricane Katrina

Both 3.11 Earthquake in Japan and Hurricane Katrina in the United States caused significant destruction and revealed flaws in the disaster relief procedure of the two governments. In response to the public criticism, both governments enacted policy reforms within one year, but the reforms differed significantly. This thesis analyzes the factors that led to the government failures in the disaster relief period and evaluates the most influential factors that contributed to the policy reforms.

Advisor: Sumita Pahwa

Advisor: Lynne K. Miyake

JACKIE GIVELBER

Legal Studies (Feminist, Gender, and Sexuality Studies Concentration)

Is Love a Battlefield? The New Politics of Marriage Equality in the Aging War on Terror

At the Republican National Convention in July 2016, future-president Donald Trump promised “to protect LGBTQ citizens from the violence and oppression of a hateful foreign ideology.” This thesis investigates the unusual emergence of “queer defensibility” as a rhetorical device embraced by Republicans in furtherance of the War on Terror, linking it in particular to the legalization of same-sex marriage, “dignity” as a pillar of proper US citizenship, and the ongoing nation-building project.

Advisor: Mark Golub

Advisor: Kim Drake

D Sessions

2:45 pm –3:45 pm

Session D1 Art

Ruth Chandler Williamson Gallery

Moderator: Adam Davis

MARY JANE COPPOCK

Media Studies & Studio Art

Polarizing Narratives: Harmful Representations of Mental Illness and Bipolar in Popular Media Cycles (Art Installation)

Cycles dismantles infantilizing and dangerous tropes of bipolar disorder found in mainstream media and presents a more accurate representation of the disorder. I use a series of techniques associated with children—claymation, paper maché, and doodles—in order to problematize underdeveloped characters with mental illness in film and television. Informed by true events, the claymation's fictional narrative is inspired by my own experience and augmented with the research and memoirs of manic-depressive clinician Kay Jamison.

Advisor: Professor T Kim-Trang Tran

Advisor: Professor Adam Davis

MIA SIRACUSA

Art

Processing: January through April

This series, Processing: January through April, serves as a documentation of my life with each piece representing a moment in time. The use of abstract expressionism allows me to focus on the process of painting itself and to be open and honest with the viewer, while the rectangular wood format give a consistency to the work. By displaying the pieces on shelves, the pieces are treated as less formal, thus adding to the intimacy of this series. The progress of style throughout this series exhibits the changes I've made and the passing of time throughout the creation of this piece.

Advisor: Adam Davis

Advisor: Kasper Kovitz

2:45 pm –3:45 pm

Session D2 Chemistry & Biochemistry

Humanities 104

Moderator: Babak Sanii

SYDNEY ROSENBLUM

Biochemistry

Rationally designing DNA polymerases for 2'-modified DNA synthesis

The thermostable Taq DNA polymerase I, found in *Thermus aquaticus*, is widely used in biotechnology. Engineering a Taq mutant capable of 2' modified DNA synthesis increases the utility of nucleic acids. SFM19, the precursor to these enzymes was identified as a promising starting point for further engineering. Mutations found to improve activity with unnatural nucleotides or damaged DNA or enhance processivity were incorporated into SFM19 to engineer a polymerase capable of 2'-modified DNA synthesis.

Advisor: Aaron Leconte

ELIZA LEWIS

Biochemistry

Engineering Taq polymerase for the reverse transcription of 2' modified DNA

Used in most experimental assays, DNA is a valuable biotechnological tool because it is easily amplified without the loss of information. 2' modifications of DNA are nuclease resistant, thereby increasing the biological application of DNA. However, DNA polymerases are highly evolved to recognize only natural nucleotides, and therefore cannot effectively synthesize modified DNA. Current efforts are focused on further engineering the most active mutants of *Thermus aquaticus* DNA polymerase I (Taq) to synthesize complete length of DNA templates. In order to apply or utilize modified DNA or secondary amplification applications, M-DNA dependent DNA polymerases must be able to competently reverse transcribe M-DNA into natural DNA. A library of rationally designed polymerases mutants were generated by site directed mutagenesis, isolation of plasmid and protein purification, and was assessed for increased reverse transcription activity. In this study, four mutants showed relatively high reverse transcription activity and give potential for further engineering and analysis on the specific mutations. This research will inform future M-DNA polymerase characterization, and improve the prospect of developing improved M-DNA dependent DNA polymerase.

Advisor: Aaron Leconte

AURORA WEIDEN

Chemistry

The incorporation of 3'-OMe-CTP by mutant DNA polymerases

DNA polymerases efficiently synthesize DNA, but they are limited because they only recognize natural nucleotides. Therefore, these polymerases have been engineered to increase recognition of mutant DNA. This study assessed the ability of mutant DNA polymerases to recognize a 3' modified sugar analog, 3'-OMe-rCTP. The mutants could incorporate a 3'-OMe-rCTP and some could synthesize two 2'-5' linked 3'-OMe-rCTP's. Additionally, we examined possible full primer extension with site-specific 2'-5' linked DNA.

Advisor: Aaron Leconte

BRYNNE ICHIUJI

Biochemistry

Detecting RANKL expression in the head and neck area via MAS-NMR as potential HNSCC therapy

This thesis examines receptor activator nuclear factor-kappaB ligand (RANKL) as a biomarker for the detection and progression of head and neck squamous cell carcinoma (HNSCC). I propose to use proton nuclear magnetic resonance (1H-NMR) on soluble, purified RANKL, identify the chemical shifts of RANKL, determine levels of RANKL in healthy tissues of the head and neck region via magic angle spinning NMR (1H-MAS-NMR), and quantify the increased levels of RANKL at different stages of HNSCC.

Advisor: Mary Hatcher-Skeers

Advisor: Babak Sanii

2:45 pm –3:45 pm

**Session D3 Psychology
& Legal Studies**

Humanities 119

Moderator: Jennifer Ma

ARIEL J. LEAVITT

Psychology and Legal Studies

"PUT YOUR HANDS UP WHERE WE CAN SEE THEM!"

Jury Decision-Making in Police Brutality Cases

This thesis explores jury decision-making in police misconduct cases by examining how procedural justice, race of the victim, and political affiliation of the juror affects perception of brutality and the verdict. The study suggests that liberals are more concerned with proper policing procedure than that of conservatives in such cases. Current policies restrict attorneys from asking jurors about their political affiliation during voir dire—perhaps, policy makers will reconsider these policies in light of this research.

Advisor: Jennifer Groscup

Advisor: Stacey Wood

ALICE MULLIN

Psychology

#Comparison: An Examination of Social Comparison Orientation on Instagram as It Relates to Self-Esteem and State Anxiety

This study examined social comparison orientation on Instagram as it related to self-esteem and state anxiety. Findings for Experiment 1 were insignificant, indicating that using Instagram may not be detrimental to mental wellbeing. Experiment 2 was a follow-up experiment which had methods similar to Experiment 1, with a few changes to the methodology. A surprising significant relationship was found between SCO and state anxiety, with higher SCO being related to a greater decrease in anxiety.

Advisor: Stacey Wood

Advisor: Jennifer Groscup

LEIGH THOMAS

Psychology

Sleep Disruption in Youth with Inter-Episode Bipolar Disorder

This thesis examines the role of sleep in youth with inter-episode (without the presence of mania and depression) bipolar disorder on a level that previous studies have not. Many differences among sleep variables were found, providing new insight into how the disorder presents in adolescents. These findings could lead to potential diagnostic and intervention strategies to improve long-term outcomes for youth with bipolar disorder.

Advisor: Jennifer Groscup

Advisor: Judith LeMaster and Jennifer Ma

GABRIELA PAGANINI

Psychology

Are you feeling me?: The Role of Attention in Physiological Empathetic Responses

This study examined the role of attention and trait empathy on facial mimicry that has been previously associated with the experience of empathy. Participants were shown a series of faces and their attention was manipulated. Attention directed at the emotional content of the photos elicited higher activations than when attention was directed at another characteristic of the stimuli. Trait empathy was not shown to moderate the relationship between physiological responses and level of attention directed.

Advisor: Alan Hartley

Advisor: Jennifer Ma

2:45 pm – 3:45 pm

Session D4 Mathematics

Humanities 102

Moderator: Christopher Towse

ELENA PINSKER

Mathematics

Solving for a Bellman Function

The Bellman method is a tool that can be used to solve a variety of problems from harmonic analysis. However, the question of finding the Bellman function for a specific problem was originally only possible with a guess-and-check method. This paper applies the method pioneered by Vasily Vasyunin of finding a Bellman function directly to a problem presented by Janine Wittwer, and explores how Bellman functions can be used to prove Holder's inequality.

Advisor: Winston Ou

2:45 pm – 3:45 pm

Session D5 Writing, Sociology

Humanities 103

Moderator: Kimberly Drake

BRIDGETTE RAMIREZ

Creative Writing: Nonfiction

HOW TO SURVIVE AUTISM: A FAMILY MEMOIR

This thesis disrupts the popular narrative of high-functioning autistic individuals as the ideal and capable special needs people who are worthy of our attention. It characterizes the author's nonverbal autistic sister as a charming, cunning, and even diabolical figure who cannot be pinned to a single interpretation. Defying convention both stylistically and thematically, this thesis provides a nuanced, in-depth view of a family with special needs as each member copes in different and contradictory ways.

Advisor: Kimberly Drake

Advisor: Glenn Simshaw

RACHEL BERNER-HAYS

Sociology

"A White Issue": Examining Racial Equity Efforts in a Predominantly White Seattle High School

My project explores the ways in which racial equity is addressed in a predominantly white school, through a study of Washfield High School in Seattle, WA. Through semi-structured interviews with three administrators, six teachers and two alumni, I examine themes including the prominence of blackness, segregation, curricular strategies, differential expectations across races, campus efforts and leadership. Through this study, I focus on the role that predominantly white schools have in increasing racial equity in education.

Advisor: Roberta Espinoza

Advisor: Amy Marcus-Newhall

ANNIE BONSEY

Sociology

Navigating Hookup Culture: Critical Perspectives from Students in Their Senior Year

This study explores college students' attitudes towards hookup culture, and how these attitudes potentially shift over their four years in college. More specifically, I examine how being a student at a women's liberal arts college influences students' interactions with the hookup culture, and how the education they receive shapes these interactions. I conducted in-depth interviews with 11 students at Scripps College, all in the spring semester of their senior year. I investigate themes including: pluralistic ignorance, sex positivity and female empowerment, criticisms of gendered stereotypes, and race and class dynamics within the hookup culture.

Advisor: Phil Zuckerman

Advisor: Erich Steinman

2:45 pm- 3:45 pm Session D6 History, Humanities (HMISC)

Humanities 121

Moderator: Andrew Aisenberg

JULIA THOMAS

History

Buses, But Not Spaces 'For All:' Histories of Mass Resistance & Student Power on Public Transportation in Mexico and the United States

Mass transit vehicles are theoretically created with the intention of being public resources for all. This thesis discusses the role of buses in social movements in twentieth century and contemporary Mexico and the U.S. in an exploration of buses as contested power sites between citizens and their respective governments. I will discuss how they serve as both key spaces in moments of resistance against state oppression and are the sites of targeted violence and racism.

Advisor: Miguel Tinker-Salas

Advisor: Lily Geismer, Cindy Forster

MEGHANA RAVIKUMAR

History

The Dancer vs. The Adjudicator: Devadasi Resistance in the 19th-Century Court

This thesis examines the interactions between devadasi women and Anglo-Indian judges of the colonial legal system in 19th-century India. Specifically, this thesis argues that the devadasis understood the judges' perspectives of them and used this information strategically to accomplish their individual goals. It also shows that the judges viewed the women through a prejudiced lens, reducing them to prostitutes, and as a result, they delivered illogical and impartial judgments in the devadasis' cases.

Advisors: Arash Khazeni, Piya Chatterjee, Cindy Forster

CASSIDY VILLENEUVE

Humanities: Interdisciplinary Studies in Culture

The Soundscape of the Self

This work explores soundscape and histories of sound technologies as they relate to the formation of subjectivity. It proposes voice as a means for theorizing one's own subjectivity. What is modernity in sonic terms? What does it mean to listen in an industrialized society? How might voice be taken as an avatar of the self? How does the auditory realm allow for embodied ways of theorizing that respond to systems of power and oppressed subjectivities?

Advisor: Andrew Aisenberg
Advisor: Marina Pérez de Mendiola

2:45 pm – 3:45 pm

Session D7 English

Humanities 120

Moderator: Tessie Prakas

CLAIRE DALY

English

Constructing Difference: An Examination of Madness and Hysteria as Tools to Subjugate Women in Literature

Juxtaposing Kate Chopin's "The Awakening" with Bessie Head's "A Question of Power" reveals the means necessary for each story's protagonist to attain liberation from patriarchal and colonial forces. This thesis examines the constructions of madness and hysteria as diagnoses used to subjugate the respective protagonists. While for Edna of "The Awakening," liberation from the hysteria diagnosis arrives bodily, "A Question of Power's" Elizabeth is freed from the madness diagnosis by reclaiming her mental interiority.

Advisor: Michelle Decker

ELISABETH MAYER

English

Shakespeare and Black Masculinity in Antebellum America: Slave Revolts and Construction of Revolutionary Blackness

This thesis explores how Shakespeare was used by Antebellum American writers to frame slave revolts as either criminal or revolutionary. Through *The Confessions of Nat Turner* by Thomas Gray and "The Heroic Slave" by Frederick Douglass, this paper looks at the way invocations of Shakespeare framed depictions of black violence. Writers turned to Shakespeare and British roots to structure their arguments. The use of British literature constitutes a critique of American ideals that slavery undermines.

Advisor: Thomas Koenigs

Advisor: Tessie Prakas

ROCHELLE KIM

ENGLISH

The "Great Background" in Hardy and Lawrence

This thesis investigates D.H. Lawrence's idea of the "great background" in the context of Thomas Hardy's *Jude the Obscure* and how it reappears in a transformed way in Lawrence's novels *Sons and Lovers*, *The Rainbow*, and *Women in Love*. Through examining the perverse effects of modernism on these novels' characters, this thesis argues that the "great background" is something that gradually moves inward—from the old, traditional "State" to an internal, inscrutable yet attainable reality.

Advisor: Aaron Matz

RACHEL MILLER-HAUGHTON

ENGLISH

Re-Calling the Past: Poetry as Preservation of Black Female Histories

This paper discusses the poetry of Audre Lorde and Natasha Trethewey, and the ways in which they bring to attention the often-silenced histories of African American women. Through close readings of Lorde's poems "Call" and "Coal," and Trethewey's "Three Photographs," these histories are brought to the present with the framework of the words "call" and "re-call," further complicated by re-call vs. recall. Recall is memory and re-call means bringing the hidden past into the future.

Advisor: Warren Liu

Advisor: Michelle Decker

3:45 p.m. – 5 p.m. Scripps Tea "Celebrating Our Seniors" Margaret Fowler Garden

5 p.m. – 6 p.m. Seniors vs. Faculty / Staff Soccer Game Tiernan Field House

Co-Captains (Faculty & Staff): Thierry Boucquey and Roberto Pedace

Captain (Students): Hannah Huston and Alley Bellack

Announcer: Joelle Leib

Referees: Kelsey D'Ewart and Natalie Honan

Student Roster: Alley Bellack, Meagan McIntyre, Ella Kim, Mikayla Avalos-Feehan, Elizabeth Gross, Hannah Huston, Marzia Zendali, Raemi Thomas, Meril Tomy, Isabella Levin, Elisabeth Mayer, Diva Gattani

Faculty/Staff Roster: Amy Marcus-Newhall, Gretchen Edwalds-Gilbert, Roberto Pedace, Copeland Andrews, Lola Trafecanty, Linda DeChaine, Julie Loppacher, Lyanne Dominguez, Anne-Marie Wood, Jennifer Shipley, Roberto Escobar, Rachel Bratlien, Jenna Monroy, Dave Smith, Corey Tazzara, Akan Noto, Kim Drake, Raina Coutin, Thierry Boucquey