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2018 Senior Symposium Program

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SENIOR SYMPOSIUM 2018

A CELEBRATION OF THE SCHOLARLY AND
ARTISTIC ACHIEVEMENTS OF THE CLASS OF 2018
FRIDAY, APRIL 27 | KING BUILDING

Welcome to the ninth annual Senior Symposium at Oberlin College and Conservatory. Over the course of this daylong series of talks, we will hear from members of the graduating class of 2018. This year's symposium features a record 90 student presenters who will share their work from capstones, courses, honors theses, private readings, student assistantships, summer research, Winter Term projects, and more. Today's event represents the best of what Oberlin students can do when they bring together what they have learned in the classroom with what they are encountering beyond it.

Oberlin is in a period of dramatic change. With May approaching, we are coming to the end of our first academic year under the leadership of the first Black woman who has ever served as this institution's president. When I initially heard President Carmen Twillie Ambar speak in August, she encouraged us, as a community, neither to view questions as criticism nor to ask questions simply to be critical. In one of my earliest conversations with Dean of the College of Arts & Sciences, Tim Elgren, I remember him saying that one way in which Oberlin stood out from any other institution he had known, was in our communal capacity to sit with "the hard questions." Those two early encounters have always stayed with me. At heart they were about questions--how we ask them and what we do with them in this place where we learn, work, and live together--and questions, too, are at the heart of creativity and research.

Today we will spend time in community, sitting with the questions together, learning about them from seniors who have sat with them even longer. Among those from whom we will learn is the senior-faculty pair, Yasmeen Mussard-Afcari '18 and Dr. Adam Eck, selected to give the keynote address. Theirs is a truly Oberlinian story of a student and her professor, sitting with the hard questions for the past couple of years, thinking creatively at the intersections of computer science and activism. You will also notice some talks marked with the label "FEATURED PRESENTATION". This designates the projects of students who put particular thought toward contextualizing their work in terms of its role in their Oberlin education, its impact beyond campus, and its accessibility for a general audience. I thank these individuals together with all of our Senior Symposium speakers, for the creativity and care that they put toward what they will teach us today.

The 2018 Senior Symposium is sponsored by the Office of Undergraduate Research (OUR). For making this event possible, I first have to thank OUR Administrative Assistant Diana Tebo, my treasured collaborator in this work; much of this day rests on her shoulders. I would also like to thank OUR student volunteers Brian Smith '20, Emmanuel Navarro '19, Olivia Vasquez '19, Frank Cheng '19, Ify Ezimora '19, Sheridan Blitz '21, Colin Sanborn '19, Eder Aguilar '20, and Nae McClain '20 for expanding our capacity this week. Special thanks go to Dr. Cortney Smith and Ally Fulton in Rhetoric & Composition and to Speaking-Writing Associates Faith Shaeffer '19, Sarah Dagleish '20, Charlie Kimball '18, and Frances Purcell '18 for the public speaking workshop series that they crafted and taught for our presenters. My gratitude goes, in addition, to Kelly Viancourt, Emily Crawford, Ryan Sprowl, and Hillary Hempstead in the Office of Communications; to Bethany Greenawalt in Catering Services; to Jessica Lear in the Registrar's Office; and to Wendy Brill in Printing Services. Thanks go as well to the course instructors, and students, who generously opened up space in this building for us to meet and learn in a different way today; to all the faculty and staff members who have volunteered their time to serve as panel moderators, whose names you will find in the pages to follow; and to the 2017-18 General Faculty Committee on Undergraduate Research—Pam Snyder, Nicolle Mitchell, Daphne John, Leslie Kwakye, Jan Cooper, Gina Pérez, Gillian Johns, Aaron Goldman, Renee Romano, Jason Stalnaker, and Joseph Lubben—for its work in support of this event.

Finally, and with great appreciation, I would like to recognize the project mentors and academic advisors who sat with these students while they sat with the hard questions. Our classroom today is built on a foundation of their collaborations. All of us are the beneficiaries of their knowledge and care.

AFIA OFORI-MENSA

ASSISTANT DEAN AND DIRECTOR OF UNDERGRADUATE RESEARCH

Schedule

All events take place in the King Building, 10 North Professor Street, Oberlin, OH.

SESSION I · 11:00AM-12:20PM

Panel 1 · IDENTITY | PERFORMATIVITY · King 237

Moderator: **KJ Cerankowski**, Assistant Professor of Comparative American Studies and Gender, Sexuality & Feminist Studies

Ari Rosenblum

Gender Nonconformity and the Stereotype Content Model

Shai Wolf

Exploring Implications of Artistic Motivations in Dance

Elly Higgins

“Get Yourself out of Whatever Cage You Find Yourself In”: Queerness of Form in Contemporary Queer Literature

Claire Kotarski

Gay Shamans and Gatekeepers: Radical Faeries and the Implications of “Playing Indian” in the New Age

Panel 2 · MUSICAL | AFFECT · King 127

Moderator: **Arnie Cox**, Associate Professor of Music Theory

Anthony Dennis FEATURED PRESENTATION

The Restricted Section: A Study of Chromatic Mediants and Their Effect on Film Music

Gus Perkins

Between Recorded Worlds: Comparing Studio and Live Sound through Musical Affect

Jennifer Schapiro

Oppression in Musical Theater Songwriting: How the “I Want” Song Illuminates Formal Dilemmas

Matthew Bach-Lombardo

Understanding Film Sound through Musical Theory

Panel 3 · POLITICAL | CONFRONTATIONS · King 243

Moderator: **Zeinab Abul-Magd**, Associate Professor of History and Chair of International Studies

Madeleine Cravens

Making Modernity in Saudi Arabia: Technology, Territory, and Global Networks of Control

Steven Levin

After the End of History

Thomas Cohn

Historical Record and Narratives of Israel's Operation Cast Lead (27 December 2008 – 18 January 2009) in Gaza

Ethan Aronson

A Covenantal Theology of Protest: The Jewish Tradition of Moral Confrontation with God

SESSION II · 12:00-1:20PM

Panel 4 · HEALTH | ECONOMIES · King 241

Moderator: **Jan Cooper**, John C. Reid Associate Professor of Rhetoric & Composition and English

Ellyn Butler

Medical Cannabis Expectancies Questionnaire

Christina Ruggiero-Corliss

Strengthening Networks of Expertise: Midwives, Obstetricians, and Complementarity in Danish Obstetrics

Tess Jewell

Gendering Genitals: Medical Discourse and Healthcare Provider Education on Intersex Conditions

Louisa Liles

The Effect of Living-Cost Adjusted Minimum Wage on Low Birth Weights: A County-Level Analysis

Panel 5 · HISTORIAS | LATINOAMERICANAS · King 239

Moderator: **Claire Solomon**, Associate Professor of Hispanic Studies and Comparative Literature

Lilah Drafts-Johnson

The Language of Sport: Understanding Chile through Marathon Races and Fútbol Games

Josephine Marshall

Art and Havana's Experience of the "Special Period"

Rita M. Pérez-Padilla

De pura cepa: Seis cuentos

Sonia Bloom

Cuban Literature in Translation: Fina García Marruz's *Créditos de Charlot*

Panel 6 · **PHILOSOPHICAL | CRITIQUE** · King 123

Moderator: **Todd Ganson**, Professor of Philosophy

Jiyao Tang

Philosophy of Truth, and Philosophical Life of Michel Foucault

Chester Leopold

The Cognitive Science of Moral Judgment

Isabel Canfield

Responsibility in Just War Theory

Cameron Campbell

Surviving Death: The Possibility of an Afterlife

Panel 7 · **POLITICIZED | KNOWLEDGE** · King 101

Moderator: **Sarah El-Kazaz**, Assistant Professor of Politics

Jesse Docter

The Left Wing of the Possible: Building an American Labor Party in the Shadow of the New Deal: 1936-1947

Liam McLean

The Terror Experts: Producing and Policing Terrorist Subjects at a University Research Center

Sydney Solomon

Internet Censorship in Egypt and Iran

Radia Lahlou

"Crooked" Language: Moroccan Heritage, Identity, and Belonging on Youtube

SESSION III · 1:00-2:20PM

Panel 8 · **ARCHAEOLOGICAL | STUDIES** · King 227

Moderator: **Drew Wilburn**, Associate Professor and Chair of Classics, Chair of Archaeological Studies, Irvin E. Houck Associate Professor in the Humanities

Susanna Faas-Bush

Ancient Textile Production in the Archaeological Record of Karanis, Egypt

Christian Bolles

Stories of the Material Record

Walter Campbell

Capturing the Past through Elyria's Architecture

Emma Schechter

Elementary School Students and STEM: Creating an Archaeology Lesson Plan for Get with the Program

Panel 9 · **CROSS-CULTURAL | LANGUAGES** · King 243

Moderator: **Kirk Ormand**, Nathan A. Greenberg Professor of Classics

Tara Wells

Distinguishing between Romans and Non-Romans in Tacitus's *Germania* and *Agricola*

Rose Rosenthal

The Literature of Pompeii

Mengtian Bai

Tombstones as Witnesses: A Cross-cultural Study on the Yangzhou Latin Tombstones

Hanyu Qu FEATURED PRESENTATION

Das Lied von der Erde: A Cross-cultural Approach

Panel 10 · **GENDERED | LABOR** · King 237

Moderator: **Tamika Nunley**, Assistant Professor of History

Muntaha Mohamed

Healing and Restoration Under Slavery, and the Public Memory That Lets Us Remember

Izzy Hannigan

"Overrun all this country...": Two New Mexican lives through the U.S. Civil War

Eleanor Lindberg

Sí, Me Afectó: The Women of Bracero Households in Michoacán, 1942-1964

Tal Netter-Sweet

The Mothers of the Plaza de Mayo: Motherhood as a Tool to Undermine the Patriarchy

SESSION IV · 2:00-3:20PM

Panel 11 · MODERN | EUROPE · King 123

Moderator: **Leonard Smith**, Frederick B Artz Professor of History

Eliza Guinn

"A Spectacle of Vice": Sex Work and Moralism under the Paris Commune

Monica Chen

French Exotic Music and the Musical Construction of Spain

Leah Barber

The Metonymic Carnival: Showman Figures in Modern German Drama

Julia Butterfield

Searching for Utopia in Postwar British Urban Planning

Panel 12 · STUDENT | SUCCESS · King 101

Moderator: **Libni López**, Program Coordinator for Undocumented Student Initiatives in the Multicultural Resource Center

Rayna Storm Holmes

Defining Success: A Study of Oberlin College Programming

Charis Stanek FEATURED PRESENTATION

Identifying with Mental Illness at Oberlin: Social Barriers to Help-Seeking

Zurisaday Gutierrez Avila

Bearing the Dream: Undocumented Students in Higher Education

Jenny Xin Luan

The Chinese Student Commencement Speech Controversy: a Discourse Analysis of Responding Microblogs

Panel 13 · MARGINALIZED | EDUCATION · King 127

Moderator: **Gina Pérez**, Professor of Comparative American Studies

Andre Jamal Cardine Jr.

The Chicago Renaissance: Activism in Chicago's Music Scene

Niya Smith-Wilson

“It Takes a Village”: How Investment in Self, Community, and Environment Can Influence Low-Income Black Children to Succeed

Brian Cabral FEATURED PRESENTATION

Testing and Disciplining Young Men of Color in Urban Public Schools

Thobeka Mnisi

Demystifying the Education Crisis: An Analysis of the Foundational Causes of Poor Academic Outcomes in South African Rural Schools

SESSION V · 3:00-4:20PM

Panel 14 · **ECOLOGICAL | INTERACTIONS** · King 241

Moderator: **Roger Laushman**, Associate Professor of Biology and David Orr Associate Professor of Environmental Studies

Caroline Edwards

Phylogenetics and Niche Evolution in Members of the Four o'clock Family, *Abronia* and *Tripterocalyx*

Hannah Rodgers

Invertebrate Diversity in an Agricultural and Post-Agricultural Field in Oberlin, Ohio

CJ Blair

A Reconstruction of Emerald Ash Borer-induced Mortality in a Northeast Ohio Forest

Stephanie Gunter

Effects of Emerald Ash Borer on Ant Diversity at Chance Creek Nature Preserve

Panel 15 · **EDUCATIONAL | MODELS** · King 239

Moderator: **Daphne John**, Associate Dean of the College of Arts & Sciences, Associate Professor of Sociology and Comparative American Studies

Megan Cox

Investigating Restorative Justice: A Four-Year Journey

Naomi Roswell FEATURED PRESENTATION

The Courage You're Looking For: Linking Academics to Community-Based Arts Programs in Oberlin

Val Masters

An Exploration of Native Alaskan Cultural Heritage through Technology, Ethnography, and Oral History

Elka Lee-Shapiro

Limitations of NAGPRA: The Mohegan Mask in the Penn Museum's Collection

Panel 16 · **GENDERED | CULTURE** · King 237

Moderator: **Shelley Lee**, Associate Professor and Chair of Comparative American Studies, Associate Professor of History

Brandi Lee Metzger

Underneath the Mythical Iceberg: Musings on My Novel-in-Progress

Leah Cohen

A Friendly Discourse: *How Should A Person Be?* At the Intersection of Female Friendship and Epistolarity

Han Taub

"Unsex Me Here": Teaching Shakespeare across Race and Gender

SESSION VI · 4:30-5:20PM

Keynote · **TECHNOLOGICAL | JUSTICE** · King 106

Yasmeen Mussard-Afcari and Dr. Adam Eck

Creating Barriers to Determination of Structurally Cohesive Subgroups

SESSION VII · 5:30-6:50PM

Panel 17 · **CULTURAL | PRODUCERS** · King 101

Moderator: **Afia Ofori-Mensa**, Assistant Dean and Director of Undergraduate Research, Assistant Professor of Comparative American Studies and Africana Studies

Xun Zheng

Mori Ogai's Suicidal Samurai and Bushido in Early Twentieth-Century Japan

Monika Cecilia Franaszczuk

Chopin Onscreen: Media Representations of Frederic Chopin

Henry DuBeau FEATURED PRESENTATION

A Melody in a Different Key: Reconstructing Cultural Subjectivity from Shaw to O'Casey to Hansberry

Michelle Fikrig

Queering the Grid: Zanele Muholi's Archival Project

Panel 18 · **NARRATIVE | INTERJECTIONS** · King 123

Moderator: **Gillian Johns**, Associate Professor of English

James Fleming, Laura Jingyi Li, and Nina Lorence-Ganong FEATURED PRESENTATION

The Nominally Morphological Behavior of the Interjection 'Ori' in Hiaki

Cella Wright

The Nature of Narratives and the Narratives of Nature: Wildlife Film, the Ecology of Folklore, and Wild Metamorphoses

Melissa Karp

Madness and Memory: Reading Collaboration as Trauma in Kim Sa-ryang's "Tenma" and Patrick Modiano's *La Place de l'étoile*

Andrés Emil González FEATURED PRESENTATION

Horror Without End: Narratives of Fear under Modern Capitalism

Panel 19 · **PHYSICAL | SCIENCE** · King 237

Moderator: **Dan Stinebring**, Francis D Federighi Professor of Physics

Gabrielle Walsh

Optimization of Magnetic Fluidic SELEX to Select Aptamers for Ovarian Cancer Biomarker HE4

Adam Jussila

Simulation of Interstellar Scattering of Pulsar Signals

Stella Ocker

Testing the Production of Scintillation Arcs with the Pulsar B1133+16

Nic Vigilante

Deviations from Ideality: Quantum Cluster Equilibrium Theory and the Methanol-Benzene Binary Mixture

Panel 20 · **POSTWAR | ASIA** · King 239

Moderator: **Renee Romano**, Professor and Chair of History, Professor of Comparative American Studies and Africana Studies

Shang Yasuda

Flying Tigers: Transnational Memories of a World War II Collaboration

Alexander Somogyi

"An Island Reborn": Imagery of Japan in Mid-twentieth Century American Magazines

Yingyue Kang

Political Survival and the Yasukuni Problem: The Logic Behind the Rising Chinese Popular Nationalism Towards Koizumi Junichiro's Annual Prime Ministerial Visits to Yasukuni Shrine and Koizumi's Diplomatic Policy in Relation to China

Melissa Harris

Using Filipino American National Democratic Activism as a Lens for Redressing American Empire in the Philippines

Panel 21 · **SUSTAINABLE | GEOGRAPHIES** · King 241

Moderator: **Chie Sakakibara**, Assistant Professor of Environmental Studies

Yiyin (Mia) Zhong

Tōkaidō in Modern Representation

Owen Ellerkamp

Purifying the Sacred: How Hindu Nationalism Reshapes Environmentalism in Contemporary India

Julia Ranney

The Green Revolution in Africa: How Domestic Institutions Empower Market-Oriented Development Projects

Madeline Moran

An Environmental and Cost Comparison between Petroleum-Based Plastic Drinking Straws and a "Greener" Alternative

Panel 22 · **VERTEBRATE | BIOLOGY** · King 243

Moderator: **Yolanda Cruz**, Robert S. Danforth Professor of Biology

Aviva Blonder

Zebrafish (*D. Rerio*) Preferentially Associate with Bolder, but not Familiar, Conspecifics

Julie Watiker

Structure-Function Study of the Lab Opossum Prostate

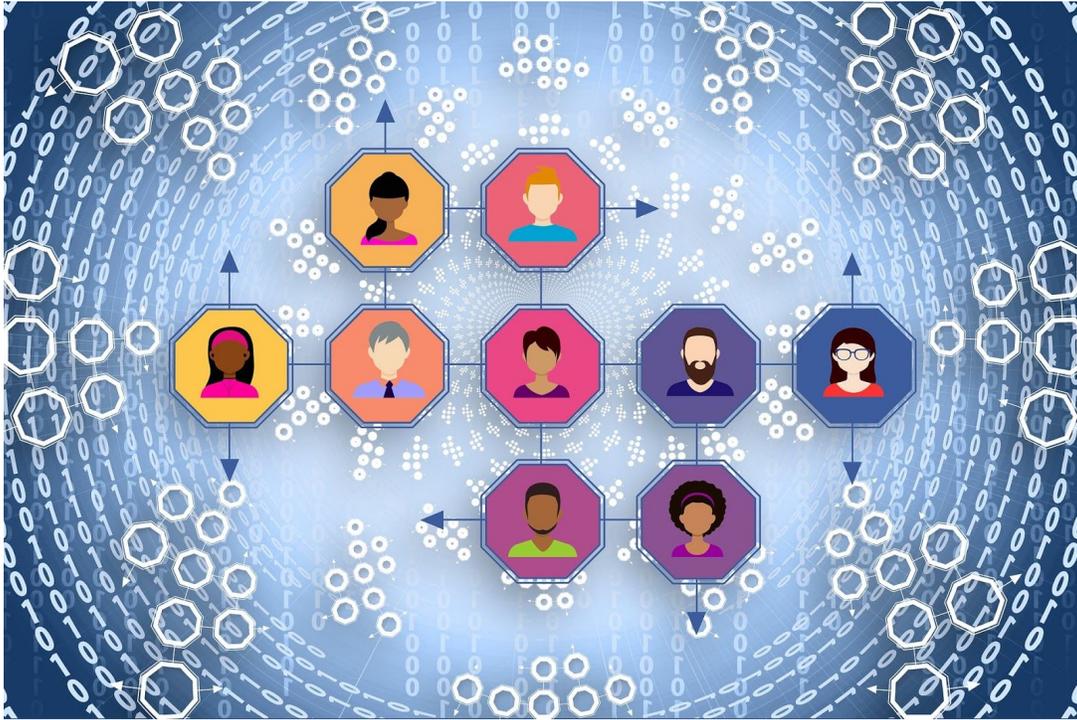
Kobi Griffith

The Path to Fertilization: SPAM 1 and Sperm Pairing in *Monodelphis domestica*

Keynote

A featured student-faculty pair selected to present the story and results of their collaboration

Creating Barriers to Determination of Structurally Cohesive Subgroups



Many activists and human rights defenders have turned to the use of communication with enhanced security in response to governmental repression and surveillance. However, because such security is not predominant in all social networks, its use to protect activist communication can act as a marker for suspicious activity. Furthermore, corporate surveillance facilitated by private companies is becoming increasingly common, much of which governments or other malicious actors could potentially access. This study examines possible methods to prevent the identification of subgroups (such as activist groups) within a communication network, with a special focus on the security concerns of activists and the broader social context of surveillance. We began by constructing a set of guiding philosophies for methodologies using activist materials and academic reviews of activists' security desires and relationships to surveillance. Next, we reviewed the literature and identified several approaches that researchers are currently using to find subgroups in social networks. We selected one, by Sinkovits et. al (2016), which performed significantly better than the rest. Afterwards, we analyzed how the approach worked identify its weaknesses, then developed our own algorithm exploiting those weaknesses to make it more difficult to find subgroups within larger network graphs. Evaluating our solution on benchmark datasets revealed that minor modifications to the social network allowed for substantial obfuscation of the actual subgroups present in the original network.

Yasmeen Mussard-Afcari '18 is a double major in Africana Studies and Computer Science and a Mathematics minor who will graduate with honors in Africana Studies this May. Yasmeen plans to pursue graduate studies in computer science, continuing her broader research goals of utilizing theoretical computer science to advance a more just world. Yasmeen will present her and Dr. Eck's research at the Data Justice Conference in Cardiff, Wales this summer.

Dr. Adam Eck is an Assistant Professor of Computer Science and Director of the Social Intelligence Lab at Oberlin College. His research interests include interdisciplinary applications of artificial intelligence and machine learning to solve real-world problems, such as decision making for intelligent agents in complex environments (e.g., robotic fire fighting), as well as data science for improving data collection and analysis in the computational social sciences (e.g., Survey Informatics).

Abstracts

Alphabetical listing by presenter's last name

Ethan Aronson

RELIGION

Academic Advisor: Cindy Chapman, Religion

Project Mentor: Corey Barnes, Religion

A Covenantal Theology of Protest: The Jewish Tradition of Moral Confrontation with God

In this thesis, I contend that a robust moral and political framework can be best located within theistic Judaism through a covenantal theology of protest that centers the Jewish tradition of moral confrontation with God. Prior attempts at Jewish liberation theology have relied on universalistic hermeneutics that weaken the authority of Jewish tradition, covenant, and commandment. I outline an alternative theological framework by tracing covenantal agency in the writings of theologians Abraham Joshua Heschel and David Hartman, explicating Hartman's use of Maimonidean harmonization to reconcile religious and ethical imperatives. By presenting a short survey of Biblical and Rabbinic texts that understand unresolved moral confrontation with God as normative to the covenantal relationship, I suggest an emendation to Hartman's theology that emphasizes confrontation over harmonization. This theological approach can both be rooted in Jewish sources and allow for a religious and political paradigm emphasizing justice and compassion for all human life.

Matthew Bach-Lombardo

MUSICAL STUDIES and CINEMA STUDIES

Academic Advisors: Rebecca Leydon, Music Theory; Patrick Day, Cinema Studies

Project Mentor: Kathryn Metz, Ethnomusicology

Understanding Film Sound through Musical Theory

The purpose of this project is to investigate the relationship between embodied cognition and film sound through a focus on a form of musical theory. Developed by Arnie Cox, a music theorist, this process moves away from traditional music theory, exploring the psychology and affect of a listener to offer a framework to discuss any music with ease. I believe that Cox's ideas extend to sound design in film. Scholarship on this topic is rare, and seldom provides effective ways to talk about and understand film sound. I will explore whether – through the lens of Cox's theory – the ineffable can become more expressible. I will analyze multiple filmic examples as well as affective responses to a film scene for which I will design the sound. These evaluations will include my own reactions, as well as those of a focus group instructed in Cox's method. I will detail how the understanding of film sound through this analytical methodology contrasts with previous analytic processes.

Mengtian Bai

ART HISTORY and LATIN LANGUAGE & LITERATURE

Academic Advisor: Erik Inglis, Art History

Project Mentors: Erik Inglis and Bonnie Cheng, Art History

Tombstones as Witnesses: A Cross-cultural Study on the Yangzhou Latin Tombstones

In 1950s, two fourteenth-century tombstones with Latin inscriptions were discovered in Yangzhou, China, a port city described by the Italian adventurer Marco Polo as a city of wonders. Both tombstones were made for an Italian merchant family. The tombstones bear Christian iconography such as the Last Judgment, the Virgin and Child and

the martyrdom of St. Catherine of Alexandria, while non-western details are represented as well, including the Mongol garments, Chinese furniture and Islamic and Nestorian gravestones. My research considers the dynamic matrix of various religious and ethnic groups, which concomitantly arrived in Yuan Dynasty China under an overarching control of the Mongol Empire. By valorizing the pictorial language on the tombstones, I will illustrate how Christian iconography on the tombstones reflects the material influence from diverse cultural groups and how the pictorial language reveals the social interactions during the pluralistic Yuan Dynasty. Given the lack of primary textual evidence directly related to the Yangzhou Latin tombstones, my study aims to reconstruct the contextual situation of the tombstones by assembling and interweaving fragmentary historical and visual information. My cross-cultural study attests to the potential of images in articulating their own circumstances and the mobility and elasticity of Christian iconography in a foreign cultural setting.

Leah Barber

COMPARATIVE LITERATURE and GERMAN

Academic Advisors: Stiliana Milkova, Comparative Literature; Steve Huff, German

Project Mentors: Stiliana Milkova, Comparative Literature; Steve Huff, German

The Metonymic Carnival: Showman Figures in Modern German Drama

I will present my honors thesis in Comparative Literature, which charts the prominence and development of the showman figure across 19th and 20th century German drama. This project seeks to investigate the showman's status as metonym for the carnival and his adaptable meaning for questions of literary modernism in three German dramas spread across these centuries: Georg Büchner's "Woyzeck," Frank Wedekind's "Lulu" cycle, and Ernst Toller's "Hinkemann." These modern playwrights took a special interest in the figure, whose metatheatrical potential and extra-artistic association presented an experimental avenue out of Aristotelian, and later Naturalist, strictures on the drama. Even as these dramatists appropriated the figure for his formal potential and distance from high drama in their search for a more open theatre form, two of them (Büchner and Toller) painted the showman as a nefarious symbol of the capitalist conflation of entertainment and oppressive propaganda, while the fin de siècle provocateur Wedekind embraced the figure's ambiguous morality as a challenge to bourgeois (sexual) sensibility.

Aviva Blonder

Evolution of Cognition (Individual Major)

Academic Advisors: Keith Tarvin, Biology; Paul Thibodeau, Psychology

Project Mentors: Keith Tarvin, Biology

Zebrafish (D. Rerio) Preferentially Associate with Bolder, but not Familiar, Conspecifics

A wide range of fish species form social aggregations that confer various benefits onto the individual members. For example, many fish species inspect potential predators in groups to decrease the risk to each individual of being eaten. Approaching predators more closely to inspect them is considered bolder or more cooperative because the individual closest to the predator is at the highest risk of being eaten and therefore decreases the risk to the other inspecting fish. Individuals of several species that engage in predator inspection have been shown to prefer to associate with bolder conspecifics. I tested whether social zebrafish prefer to shoal with bolder versus more familiar conspecifics. In two experiments, I evaluated whether they prefer to shoal with bolder individuals by exposing trios of zebrafish, each including one focal and two unfamiliar partner fish, to a predator and preventing one of the partner fish from inspecting it. I then measured how much time the focal fish spent with each partner fish after the predator was removed. In a third experiment I evaluated whether zebrafish prefer to shoal with familiar individuals by measuring how much time the focal fish spent with a familiar partner fish relative to an unfamiliar partner fish in the

absence of information about boldness. These experiments suggest that zebrafish prefer to shoal with bolder conspecifics, but have no preference for more familiar ones. A preference for shoaling with more cooperative individuals may enable reciprocal altruism in zebrafish or just decrease that individual's chances of being eaten.

CJ Blair

BIOLOGY

Academic Advisor and Project Mentor: Roger Laushman, Biology

A Reconstruction of Emerald Ash Borer-induced Mortality in a Northeast Ohio Forest

The Emerald Ash Borer (EAB) is an invasive beetle that has killed millions of American ash trees (*Fraxinus* spp.). Anecdotal evidence suggests that ash populations at Chance Creek Preserve in Lorain County died almost simultaneously following the rapid spread of beetles through this site. However, no research has determined a mortality date for these trees, and some trees show more advanced decay than others. Based on these observations, we hypothesize that differences in tree characteristics influence ash mortality, and we predicted that a chronology of ash growth would show variation in mortality dates. Between September 2017 and January 2018, we obtained cores from over 200 dead ash trees throughout our 8-hectare study site. We measured the width of growth rings in all the cores to the nearest 0.001mm and developed a chronology of ash mortality dates using COFECHA software. We then obtained GPS coordinates for the ash trees and historic weather data for our site to explore correlates between ecological factors and ash mortality. Our results indicate that ash tree mortality spanned 1985 through 2012, with an exponential increase in mortality rate through the early 2000s. We also found that pre-2000 deaths coincided with increased temperature and major droughts, but mortality was not correlated with tree age or location. We therefore conclude that EAB reached Chance Creek Preserve between 2002 and 2003, and that prior deaths were climate-related, while subsequent deaths varied due to the growth of the EAB population over time.

Sonia Bloom

COMPARATIVE LITERATURE, HISPANIC STUDIES, and LATIN AMERICAN STUDIES

Academic Advisor and Project Mentor: Claire Solomon, Comparative Literature

Cuban Literature in Translation: Fina García Marruz's *Créditos de Charlot*

Begun as the accompaniment to a Spanish-English translation project of Cuban poet Josefina García Marruz's 1990 collection *Créditos de Charlot* [*Thanks to Charlie*], my capstone research investigates the relationship between historical context and the process of literary translation both on the level of the original work and that of the translated work. Specifically, I look at how this particular poetry collection—an homage to film star Charlie Chaplin—can serve as an entry point into Cuban literature's representation of the changing politics of the second half of the 20th century there as well as what implications translating a work such as this holds for a U.S. audience. This project also seeks to better understand how dynamics in the long history of Cuban-U.S. relations manifest in what literature from Cuba is published in translation in the U.S.

Christian Bolles

ARCHAEOLOGICAL STUDIES

Academic Advisor and Project Mentor: Drew Wilburn, Archaeological Studies

Stories of the Material Record

This project seeks to tell the stories of six pieces in the collection of the Allen Memorial Art Museum spanning centuries and cultures. Museums rarely have the time or resources to conduct provenance research on previously-acquired objects, a reality doubly applicable for a small museum like the Allen. By using the ever-expanding resource of the internet to communicate with institutions and individuals worldwide — including archives, museums, conservation authorities, and researchers — Stories has found six narratives deeply rooted in their time. These stories speak not only to the state of archaeology, dealership, and museum curation throughout the 20th century, but to under-recognized personal relationships and discoveries, laying bare the often-ignored human element of the discipline.

Ellyn Butler

PSYCHOLOGY and FLUTE PERFORMANCE

Academic Advisors: Nancy Darling, Psychology; Alexa Still, Flute Performance

Project Mentor: Meghan Morean, Psychology

Medical Cannabis Expectancies Questionnaire

The current study details the development and psychometric evaluation of the Medical Cannabis Expectancy Questionnaire (MCEQ), a novel measure of the positive and negative effects that users anticipate experiencing after using combustible, vaporizable, or edible MC. The 27-item MCEQ evidenced a 2-factor structure (positive and negative MCEs). MC users held more positive MCEs for combustible cannabis than for vaporizable or edible cannabis, more negative MCEs for combustible cannabis than for vaporizable cannabis, and more negative MCEs for edible cannabis than for vaporizable cannabis. MC users who also used for recreational purposes reported more positive MCEs for all cannabis products compared to medical-only users. Preference for and more positive MCEs associated with using a given product were associated with more frequent use of that product. More negative MCEs for combustible and edible cannabis were associated with experiencing more negative consequences. In sum, the MCEQ is a psychometrically promising measure of adult MC users' expectancies associated with using combustible, vaporizable, and edible cannabis for medical purposes. It is the first assessment tool that measures expectancies for different product types and that clearly disassociates different expectancy constructs among MC users. Being able to measure expectancies will allow for future research to uncover why people choose to begin using, and to cease using MC.

Julia Butterfield

HISTORY

Academic Advisor: Annemarie Sammartino, History

Project Mentor: Tamika Nunley, History

Searching for Utopia in Postwar British Urban Planning

My project examines the intellectual discourse surrounding urban planning in postwar Britain. Specifically, I discuss what were known as “new towns”, communities planned by experts that were meant to decentralize larger cities, help solve the massive postwar housing crisis, and modernize Britain. Experts in architecture, public health, economics, and the emerging field of urban sociology came together to design communities that would be economically independent, architecturally pleasing, and promote new types of social relations. I examine new towns in conjunction with other postwar attempts to build an ideal society such as the establishment of the welfare state and the United Nations. I analyze articles from academic journals, secondary sources, and contemporary newspaper and magazine articles about new towns to determine how the intellectual discourse shifted in the 1970s as the towns proved less

successful than initially predicted and the public and government became disenchanted with the possibility of creating an ideal society.

Brian Cabral

SOCIOLOGY

MELLON MAYS UNDERGRADUATE FELLOWSHIP

Academic Advisor: Rick Baldoz, Sociology

Project Mentors: Gina Perez, Comparative American Studies; Rick Baldoz and Greggor Mattson, Sociology

Testing and Disciplining Young Men of Color in Urban Public Schools

This study begins by locating the development of Social Justice High School (SOJO) in Chicago and examining the educational experiences of young Mexican and Mexican American men. Through analysis of scholarship by education policy and reform scholars, who talk about issues of neoliberal practices and school policies in the Chicago Public School (CPS) network, this research examines the implementation efforts of policies that focus on standardized testing and discipline at SOJO. This research analyzes the student experience and development of these young men using the conceptual framework of socialization and social control. The top-down implementation of standardized testing and discipline fails to enhance the overall learning of the participants. Their experiences are unique but reinforce similar results that other education scholars have found regarding the educational experiences of young men of color. Thus, this study contributes to the existing scholarship on urban public high schools and their influence on young men of color, specifically through the lens of achievement, resistance, and policy.

Cameron Campbell

PHILOSOPHY

Academic Advisor: Martin Thomson-Jones, Philosophy

Project Mentor: Todd Ganson, Philosophy

Surviving Death: The Possibility of an Afterlife

During my Honors project, I aim to present intelligible conceptions of what an afterlife might look like, specifically in a way that we might care about. I take “afterlife” to mean continued existence after a biological death and assume that the kinds of afterlives that people care about deal with themes like resurrection, Heaven, reincarnation, etc. As such, I will be exploring such themes by analyzing theories such as Descartes’s dualism, Socrates’s theory of land where souls travel to after death, H.H Price’s world of dream-images, resurrection, re-creation, and the swapping of identities and consciousnesses as presented [in different ways and contexts] by John Locke and David Parfitt.

Walter Campbell

ANTHROPOLOGY and ARCHAEOLOGICAL STUDIES

Academic Advisor and Project Mentor: Amy Margaris, Anthropology

Capturing the Past through Elyria’s Architecture

Archaeologists can learn a great deal about past peoples by studying the architecture of the dwellings they inhabited. This presentation reports on research analyzing historical documents from the establishment of my hometown, Elyria, Ohio [1817], to the present in order to investigate how the city's built environment has transformed over time. Through my analysis, I have found that some architecture has endured the test of time, while other structures have not been as fortunate. These changes stand as a testament to the changing of values of Elyrians throughout the decades. As a result of my research, and moving forward, I have created a virtual tour of the commercial and residential buildings of downtown Elyria both past and present, by using a Google software called Tour Builder, in which the greater community can dive into their hometown and explore it in new ways.

Isabel Canfield

PHILOSOPHY and LAW & SOCIETY

Academic Advisors: Katherine Tomson-Jones, Philosophy; Harry Hirsch, Politics

Project Mentor: Todd Ganson, Philosophy

Responsibility in Just War Theory

This project examines the Responsibility Dilemma in revisionist just war theory. Just war theory is the study of applied military ethics and revisionist just war theory is a more recent school of thought within just war theory. The Responsibility Dilemma, a problem noted by Seth Lazar, results from the challenges that arise when responsibility for the threat of harm in war is assigned to individual soldiers. I begin this project by exploring the predominant views in just war theory. Then, I look at the Responsibility Dilemma and the solutions that various philosophers have offered. Finally, I conclude that none of these solutions solve the problem raised in the Responsibility Dilemma and I offer my own suggestions on how to solve this problem. I argue that one way to address this problem is to look at how responsibility could be derived and assigned to individuals as the result of state action.

Andre Jamal Cardine Jr.

MUSICAL STUDIES

OBERLIN COLLEGE RESEARCH FELLOWSHIP

Academic Advisors: Chris Jenkins, Associate Dean for Academic Support; Caroline Jackson Smith, Theater

Project Mentor: Kathryn Metz, Ethnomusicology

The Chicago Renaissance: Activism in Chicago's Music Scene

The purpose of my research is to examine the relationship between Chicago musicians and the communities they come from using those artists' responses to controversial events as case studies. Within the last five years, Chicago has been a place of intense creative energy drawing artists to the forefront of Chicago's music scene. Artists such as Chance the Rapper, Vic Mensa, Noname, Ric Wilson, and others have affected hip hop through their music and activism. Teacher strikes, police brutality, and gun violence battered Chicago in the last decade, prompting artists to be a voice for their communities by responding through performance. Moreover, artists take political stances; in March 2017, Chance the Rapper donated one million dollars to Chicago Public Schools as a response to the state governor's demand that low-income Chicago Public Schools file for bankruptcy. This vast community of artists that includes Chance the Rapper deploys its influence to promote the importance of art and education to Chicago's youth and beyond. Though the impact these artists have to promote change is inspiring, the root of the issue is still extremely prominent. A lack of access to education and police violence has been negatively affecting inner city youth. Without these artists actively engaging with these communities, the issue goes unresolved.

Monica Chen
MUSICAL STUDIES

Academic Advisor: Andrew Pau, Music Theory

Project Mentors: Andrew Pau, Music Theory; Kathryn Metz, Ethnomusicology

French Exotic Music and the Musical Construction of Spain

In the 19th and 20th centuries, French exotic music composers, such as Debussy, played an important role in the musical construction of an exoticized Spain. These exotic compositions influenced Spanish composers, such as Manuel de Falla, who created a Spain similar to the French “Spain” in his own works. To explore the idea of auto-exoticization, I will examine the first movement, “En el Generalife”, from Falla’s *Noches en los jardines de España* and identify passages influenced by the French conception of Spain. By focusing on this movement of Falla’s work, I will observe the ways in which exoticization ironically played a part in a Spanish composer’s conception of his own country.

Leah Cohen
ENGLISH and CREATIVE WRITING

Academic Advisor: Gillian Johns, English; Sylvia Watanabe, Creative Writing

Project Mentor: Sandra Zagarell, English

How Should A Woman Be? The Production of Identity in Contemporary Female Friendship Novels

Though English literary conventions of the 18th and 19th centuries often underrate the value of friendship between women and maximize the importance of heterosexual romance in the form of the marriage plot, the “female friendship plot” began to emerge in the 1970s and is experiencing a contemporary resurgence in novels of the last few years. I look at Sheila Heti’s autobiographical novel *How Should A Person Be?* (2012) as a particular form of female friendship novel which integrates an epistolary structure. Because epistolarity, traditionally associated with erotic heterosexual romance, has been deconstructed by critics and novelists of the 20th century, my analysis locates Sheila Heti’s novel in a literary moment when amorous discourse through letters is problematized and female friendship is ripe territory for fiction. Ultimately my analysis combines a critical discussion of female friendship in fiction with a theoretical history of epistolarity and asks: what kind of “friendly discourse” can exist at the intersection, and what does it ultimately mean for two female characters who are friends?

Thomas Cohn
POLITICS

Academic Advisor and Project Mentor: Eve Sandberg, Politics

Historical Record and Narratives of Israel’s Operation Cast Lead (27 December 2008 – 18 January 2009) in Gaza

This paper investigates competing narratives of Israel’s Operation Cast Lead (2008-2009) in Gaza. Israel asserts it disengaged from Gaza in 2005, then Hamas seized power and launched rocket attacks. Israel claims that after years of forbearance, it defended itself militarily, trying to minimize collateral damage, but Hamas hid behind civilians, creating numerous non-combatant casualties. Contradicting this narrative are statements by individual Israeli

policymakers and military personnel, as well as by expert, respectable sources including news media, development and human rights organizations, and United Nations agencies. This paper therefore finds that Israel's narrative did not reflect facts on the ground. The Gaza disengagement exacerbated the longstanding economically crippling "closure" of Gaza and Palestine's territorial fragmentation long designed to prevent statehood. The Fatah-dominated Palestinian Authority was already corrupt. Hamas, which had declared its anti-Semitic charter obsolete and accepted a Palestinian state on the international border, won election in this political-economic context. Hamas preempted a U.S.-backed Fatah coup attempt. Israel imposed a blockade, creating a humanitarian crisis. Israel refused Hamas's diplomatic initiatives for months before agreeing to a ceasefire stipulating cessation of Hamas rocket fire and easement of the blockade. Despite Hamas's compliance, Israel violated the ceasefire on spurious grounds, a *modus operandi* since the 1950s of intentional provocations eliciting enemy retaliation, creating a war pretext in pursuit of strategic interests. Upon Hamas's retaliation, Israel launched Operation Cast Lead, condemned by the U.N. Fact-Finding Commission as "a deliberately disproportionate attack designed to punish, humiliate and terrorize a civilian population"—a more accurate conclusion.

Megan Cox

POLITICS and LATIN AMERICAN STUDIES

Academic Advisors: Michael Parkin, Politics; Danielle Terrazas-Williams, Latin American Studies and History

Project Mentors: Renee Romano, History; Kimberly Jackson Davidson, Ombudsperson

Investigating Restorative Justice: A Four-Year Journey

Restorative justice is a rapidly growing practice of conflict transformation, reconciliation, and healing. However, public knowledge on restorative justice, its cultural applications, and its social benefits is limited. This four-year project began with personal research into restorative justice, expanded to local and national partnerships, and culminated into the creation of a comprehensive ExCo course with the support of faculty and staff. The course aims to educate students on the theory, practice, and principles of restorative justice. Through both theoretical research as well as hands-on activities, the ExCo challenges our conceptions of justice and encourages a healing-based model of community development. Today, several Oberlin students and staff members are workshopping the course curriculum to refine its content. The intention is to continue offering the ExCo to incoming generations of Oberlin students, thus ensuring the institutionalization of learning about and utilizing restorative practices in everyday life.

Madeleine Cravens

POLITICS

Academic Advisor: Michael Parkin, Politics

Project Mentors: Sarah El-Kazaz (Politics) Mike Parkin (Politics) and Zeinab Abul-Magd, (History)

Making Modernity in Saudi Arabia: Technology, Territory, and Global Networks of Control

As states attempt to frame themselves as modern, what price do civilians pay? For centuries, the Middle East has been framed by Western writers as a homogenous and pre-modern region, dominated by tribal dynamics and structurally immune to globalization. While a large amount of this rhetoric has dissipated, academics, politicians, and the media continue to stress the exceptional nature of Saudi Arabia's relationship to modernity. The Kingdom is often framed as a site of paradox, at once authoritarian and neoliberal, integrated within the international community through global flows of capital while remaining domestically repressive. Through situating Saudi Arabia's current political environment within global networks of technological and territorial control, this project aims to destabilize conceptions of Saudi Arabian exceptionalism and highlight the way liberal democracies enable authoritarianism.

Anthony Dennis

MUSICAL STUDIES

Academic Advisors: Brian Alegant, Musicology

Project Mentor: Kathryn Metz, Ethnomusicology

The Restricted Section: A Study of Chromatic Mediants and Their Effect on Film Music

The purpose of this capstone project is to determine how film music signifies action, affect, and essence through a focus on music theory, embodied cognition, and music production. I will include a focus on the chromatic mediant, which is an altered chord based on either the mediant (the third of eight scale degrees) or the submediant (the sixth of eight scale degrees). Most successful film music depends on the chromatic mediant, whether it acts as to signify a hero's journey, to create the soundscape for a horror film, or to create continuity in the repetition of musical gestures. I will also examine embodied cognition, which is a theoretical framework that explains human cognitive response to real world experience, and how it applies to sonic impact. I will conduct analyses of several approaches to film scoring. One includes "traditional" scoring, an approach mastered by John Williams. Hans Zimmer solidified "modern" scoring, another one of the approaches. I will also analyze the music of films including the Batman saga from *Batman* (Danny Elfman, 1989) to *The Dark Knight Trilogy* (Zimmer, James Newton Howard, 2005- 2012), the *Harry Potter* series (Williams, Alexandre Desplat, 2001-2011), and *Inception* (Zimmer, 2010). Additionally, I will personally score a scene to practically demonstrate how these approaches work to aid the director's intention of the film and its potential effect on the viewer.

Jesse Docter

POLITICS and HISTORY

Academic Advisors: Marc Blecher, Politics; Renee Romano, History

Project Mentors: Jade Schiff, David Forrest and Marc Blecher, Politics

The Left Wing of the Possible: Building an American Labor Party in the Shadow of the New Deal: 1936-1947

My research uses a historical account of the American Labor Party (ALP) in New York City from 1936 to 1947 to show how electoral systems structure opportunities for leftist third parties. I unpack the relationship between the exceptional success of the ALP and New York's unique electoral reforms which weakened the principle of winner-take-all and created more proportional representation. In particular, I argue that New York's electoral reforms created opportunities for the ALP by enabling the party to claim partial credit for President Roosevelt's major policy achievements under the New Deal. My research connects two literatures, one explaining the absence of a strong American Labor Party and a second explaining the two-party tendency of America's electoral system. I argue that reforms which strengthen minority representation not only lower the barrier to entry for third parties, but also have specific benefits for parties on the left. These electoral reforms allow leftist parties to circumnavigate the conflict between incremental reform and ideological autonomy which has historically troubled the American left.

Lilah Drafts-Johnson

LATIN AMERICAN STUDIES and POLITICS

Academic Advisor: Claire Solomon, Hispanic Studies and Comparative Literature; Michael Parkin, Politics

Project Mentor: Yago Colás, English

The Language of Sport: Understanding Chile through Marathon Races and Fútbol Games

This project offers a new perspective for understanding the country and culture of Chile by examining the messages embedded in sport competitions. I will first detail the success of distance runner Manuel Plaza in his second-place finish at the 1928 Amsterdam Olympic Games, and analyze how Plaza's success at an international competition was adopted and interpreted to represent the entrance of Chile into modern and Western society. I will then discuss the struggle between different sections of Chilean society to create and monopolize the master narrative of the events that took place following the military coup of 1973. This section will demonstrate how sporting symbols like the National Stadium, World Cup, and Chilean national fútbol team were used as the battleground to propagate these conflicting narratives. This project aims to understand how definitions of *chilenidad*, or Chilean identity, have evolved over time, and explore the intersection of *chilenidad* and sport. Drawing upon historical, political, and literary frameworks, this project advocates for the continued study of sport within the field of area studies, in order to learn from the cultural significance that sport carries.

Henry DuBeau

THEATER and LAW & SOCIETY

Academic Advisors: Justin Emeka, Theater; Greggor Mattson, Sociology

Project Mentor: Caroline Jackson Smith, Theater

A Melody in a Different Key: Reconstructing Cultural Subjectivity from Shaw to O'Casey to Hansberry

This paper traces a direct line of influence between three of the 20th century's most famous playwrights: George Bernard Shaw, Sean O'Casey, and Lorraine Hansberry. Through a comparative analysis of three of their plays—*John Bull's Other Island*, *Juno and the Paycock*, and *A Raisin in the Sun*, respectively—supplemented with biographical and historical information, a shared set of themes and dramatic goals can be derived from their works even though they were intended for vastly different audiences. Most research that draws connections between these dramatists tends to segment them into pairs. However, by addressing them as a cohesive unit we can observe how naturalist critiques of the Irish Literary Revival would later inform post-war African American drama.

Caroline Edwards

BIOLOGY

Academic Advisor: Mary Garvin, Biology

Project Mentor: Mike Moore, Biology

Phylogenetics and Niche Evolution in Members of the Four o'clock Family, *Abronia* and *Tripterocalyx*

Abronia and *Tripterocalyx* are closely related genera in the four o'clock family (*Nyctaginaceae*) with centers of diversity in the western U.S., and are herbaceous perennials or annuals with umbellate inflorescences whose seeds are dispersed by distinctive large wings on the fruits. While all four species of *Tripterocalyx* live on sandy soils, the approximately 20 species of *Abronia* grow on a wide variety of substrates such as sand, gypsum, and clay. Because of the wide diversity in this group of plants, *Abronia* species can occur in nearly every ecosystem in the western U.S., including high-elevation alpine environments, coastal beaches, warm deserts, the Colorado Plateau, and east and south Texas. To understand the evolution of these species, we have constructed a phylogeny using chloroplast and

nuclear gene regions to map the relationships of these species, and through a computer program, have reconstructed how traits such as soil preference and lifespan may have evolved as well as the biogeography.

Owen Ellerkamp

RELIGION & ENVIRONMENTAL STUDIES

Academic Advisor: Karl Offen, Environmental Studies; Cheryl Cottine, Religion.

Project Mentors: Emilia Bachrach, Corey Barnes, and Margaret Kamitsuka, Religion

Purifying the Sacred: How Hindu Nationalism Reshapes Environmentalism in Contemporary India

The transposition of the cultural, religious, and sacred onto physical geographies is practiced by humans everywhere as landscapes are canvases for meaning making and place holders of histories. In the Indian context, this practice is distinct for several reasons. Scholars of Hindu traditions recognize that the place-oriented disposition and centrality of land to Hindu religion and culture is unprecedented, and integral to identity formation in modern India. As India faces increasing environmental degradation, the preservation of “sacred geographies” is crucial to the identity of Hindu traditions. The rise of Hindu Nationalist (Hindutva) political parties (e.g., the BJP) has heavily influenced the mapping of landscape as distinctly Hindu. By analyzing contemporary environmental movements in India and delineating Hindu Nationalist histories and contemporary politics, this project claims environmental work politicizes the landscape in exclusionary and possessive way that shapes environmentalism to prioritize geographical features tied to imagined Hindu pasts and futures.

Susanna Faas-Bush

ARCHAEOLOGICAL STUDIES and LATIN LANGUAGE & LITERATURE

Academic Advisor and Project Mentor: Drew Wilburn, Classics and Archaeological Studies

Ancient Textile Production in the Archaeological Record of Karanis, Egypt

This project examines the evidence of textile production in the archaeological record of Karanis, a Greco-Roman town in Egypt’s Fayum Region, in an attempt to address questions of craft quartering in the Roman world. Elsewhere, such studies have been often been limited to textual evidence (i.e. tax records) or architectural elements (i.e. fullers’ basins). Karanis was excavated in the 1920’s and 30’s by the University of Michigan with unusually thoroughly documentation for the time, allowing this study to examine the spatial distribution of the more transient textile-working tools in a period where production was taking place in both domestic and industrial contexts. While the complex chronology, varying preservation, past looting of the site, and the possibility of refuse contexts complicate an understanding of the site, spatial analysis of the distribution of textile-working tools and textiles as well as of the different compositions of assemblages suggest that, unlike other findings, serious textile production may have been more clustered in Karanis. This study has implications for all forms of ancient craft production and broader social organization in the Roman world.

Michelle Fikrig

ART HISTORY

Academic Advisor & Project Mentor: Matthew Rarey, Art History

Queering the Grid: Zanele Muholi’s Archival Project

This paper focuses on the display practice of contemporary South African photographer and visual activist Zanele Muholi's (b. 1972) extensive photographic archival project, *Faces and Phases*. The series documents South Africa's black queer community which has continued to be stigmatized and threatened even with the progressive legislature of the post apartheid constitution. I will examine specific curatorial strategies used for *Faces and Phases* in order to understand the subversive qualities of the series as a postcolonial archive. Using queer theory, I will consider the display of Muholi's archive as a queering of the colonial archival projects that have dominated South African visual history. Case study exhibitions from around the world of Muholi's work will be compared to other artist reimaginings of the archive such as Santu Mofokeng's *The Black Photo Album / Look at Me 1890-1950*, and examined individually in order to establish the effect of display on photographic archival projects.

James Fleming

LINGUISTICS and RELIGIOUS STUDIES

Academic Advisors: Jason Haugen, Anthropology; Paul Thibodeau, Psychology; Mohammad Jafar Mahallati, Religion and Middle East & North Africa Studies

Laura Jingyi Li

CINEMA STUDIES and EAST ASIAN STUDIES

Academic Advisor: Hsiu Chuang-Deppman, East Asian Studies and Cinema Studies

Nina Lorence-Ganong

LINGUISTICS

Academic Advisor: Jason Haugen, Anthropology

Project Mentor: Jason Haugen, Anthropology

The Nominally Morphological Behavior of the Interjection 'Ori' in Hiaki

We do not always know exactly what we are going to say before we say it. You might pause to think, stumble with your words. Umm... Hiaki, an indigenous language spoken in northwest Mexico and southern Arizona, has a word for this, 'ori.' And it behaves just like it does in English of the time. However, based on our observation of its various uses, our current hypothesis expands upon previous claims about this lexeme. 'Ori' may be a noun because it can take noun endings. Most of these examples are when a speaker is trying to think of a specific word, which we will call the referent. 'Ori' is also often used as an interjection meaning 'um' with no particular referent. We will present our findings on the syntactic uses of 'ori.' We hope to back the claim that the category of 'noun' in languages like English is not universally applicable to other languages, such as Hiaki.

Monika Cecilia Franaszczuk

MUSICAL STUDIES and RUSSIAN AND EASTERN EUROPEAN STUDIES

Academic Advisors: Charles McGuire, Musicology; Arlene Forman, Russian

Chopin Onscreen: Media Representations of Frederic Chopin

The purpose of this research project is to investigate the relationship between biographical films about Chopin and the context in which they were produced. Chopin's life lends itself well to the "tortured romantic artist" trope, due to

his estrangement from his home country, his romantic troubles with George Sand, and the illness that led to his untimely death. His dramatic story has yielded several fictionalized interpretations of his life. This project explores several of these adaptations, discussing the portrayal of Chopin's character as well as his music, and how the cultural context of a film's place and time of production affects this. I will analyze several films, including: *A Song to Remember* (American, 1945), *Młodość Chopina (Youth of Chopin)* (Polish, 1952), *La Note Bleue (The Blue Note)* (French, 1991), *Impromptu* (British, 1991), and *Pragnienie Miłości (Desire for Love)* (Polish, 2002). I will also explore a video game, *Eternal Sonata* (Japanese, 2008). Each of these media come from a different sociopolitical context, and the representation of the Chopin's character changes accordingly. The directors exaggerate specific aspects of Chopin's story, and create a fictional persona tailored to their audiences, turning Chopin into a relatable figure across time and culture.

Andrés Emil González

COMPARATIVE LITERATURE and POLITICS

Academic Advisors: Claire Solomon, Comparative Literature; Marc Blecher, Politics

Project Mentors: Claire Solomon and Patrick O'Connor, Comparative Literature

Horror Without End: Narratives of Fear under Modern Capitalism

Across the world, capitalist and neoliberal economic policies have trapped communities in chaotic cycles of boom and bust. bell hooks writes about this chaos of connected systems of economic and social domination, "this is what the worship of death looks like." The aim of this project is to explore points of formal association between popular horror media, or narratives of fear, and the politically unconscious beliefs, dreams, and knowledges of subaltern classes that live and tell stories under a social order that demands either complicity or silence. These narratives of fear demonstrate how certain political discourses are, and have been, culturally unspeakable as collective experiences of trauma and violence. From Argentina, to South Korea, to Japan, studying narratives of fear gives us a point of access to the cultural process of integrating and narrating the previously unspeakable. These examples foreshadow dynamics discernible in modern Western narratives of fear, and thus I propose that the deeply traumatic class violence that underlies neoliberal order is emerging from a condition of unspeakability on a massive scale. To support these claims, I focus my analysis on conventions and tropes of modern horror media, in both narrative and formal terms. Works discussed include *Halloween*, the *Scream* franchise, *World War Z* (the novel), *Get Out*, *Train to Busan* and more. Bringing these works, in conversation with ideas from Jameson, Rancière, and Gramsci, into a Crenshawian intersectional framework, this project presents a hopeful vision of class consciousness by reading horror in a new way.

Kobi Griffith

BIOLOGY

Academic Advisor & Project Mentor: Yolanda Cruz, Biology

The Path to Fertilization: SPAM 1 and Sperm Pairing in *Monodelphis domestica*

New World marsupials such as the lab opossum, *Monodelphis domestica*, have a remarkable characteristic unknown in other vertebrate animals: sperm pairing. After maturation in the male reproductive tract, sperm undergo a series of maneuvers, resulting in the precise alignment and adhesion of two adjacent sperm heads. Work in our lab suggests that such maneuvers are facilitated by temporary but simultaneous sperm adhesion to a planar surface, ensuring that sperm-sperm adhesion occurs only at the acrosomal surface of the sperm head. Work by others indicates that paired sperm swim faster and more efficiently than unpaired sperm. Paired sperm unpair just before encountering an egg during fertilization. Thus, the sperm pairing adaptation ensures successful reproduction. The mechanics of sperm pairing remain unknown. A candidate adhesive agent is Sperm Adhesion Molecule 1 (SPAM1), a glycoprotein that has

been localized in the male and female reproductive tract, and on the sperm heads of many mammals. This study hypothesized that if SPAM1 plays a role in pairing, it should be present in the lining of the tubes that sperm travel in both the male and female reproductive tracts. SPAM1 should also be detectable on the acrosomal surface. Results support this hypothesis, reinforcing the notion that SPAM1 has an adhesive role in sperm pairing. Moreover, in vitro experiments designed to disable SPAM1 function via exposure to anti-SPAM1 antibody demonstrated a time-dependent relationship between exposure and sperm unpairing. Taken together, these results point to a role for SPAM1 in sperm pairing in the lab opossum.

Eliza Guinn

HISTORY and FRENCH Artz Research Grant

Academic Advisors: Leonard Smith, History; Matthew Senior, French
Project Mentor: Leonard Smith, History

"A Spectacle of Vice": Sex Work and Moralism under the Paris Commune

In order to form an intelligible image of the moralism that affected prostitutes' lives and work before and after the Paris Commune of 1871, I will be looking closely at research on 19th century French prostitution and women in the Commune, and combine the two to form a more coherent picture of the social and political effects of prostitution and the enforcement of morality in the years leading up to and following the Commune. Studying prostitution in the context of the Paris Commune illustrates simultaneously a disruption of political and social life with the continuation of the bourgeois moralism that dominated policing of sex work in the 70 years previous, as the Commune grappled with its commitment to economic liberation and its ingrained expectations of women's respectability. I will argue that prostitution formed a unique intersection of gender and sexuality with labor, that forced both the Commune and the era that followed to grapple with sexual and political transgressiveness in new ways.

Stephanie Gunter

BIOLOGY and ENVIRONMENTAL STUDIES

Academic Advisor & Project Mentor: Roger Laushman, Biology and Environmental Studies

Effects of Emerald Ash Borer on Ant Diversity at Chance Creek Nature Preserve

Our project investigates the effects of habitats and the invasive Emerald Ash Borer (*Agrilus planipennis*- EAB) on ant distribution and abundances at Chance Creek Nature Preserve. EAB has killed hundreds of ash trees (*Fraxinus* spp.) in the last 20 years, affecting forest structure by opening canopy light gaps that alter sub-canopy environments. While research has focused on vegetation, no work has examined how these changes affect invertebrate diversity. Ants specifically are critical seed dispersers for a majority of spring ephemerals, so are the focus for this study. In summer 2016, this lab collected ant specimens from pitfall traps in permanent survey plots at Chance Creek Nature Preserve between June and August. We hypothesized that habitat differences influence ant distributions, and we predicted that ant taxa would be non-randomly distributed with respect to plot history and disturbance. I organized and identified ant specimens during summer 2017 - March 2018, with data analysis done in March. I recorded >500 ants in 11 genera from the 72 collecting sites. Two of the genera (*Camponotus* 56% and *Aphaenogaster* 22%) were the most abundant. As predicted, the species were distributed in a non-random pattern ($p < 0.0001$); disturbed plots had more genera, but fewer total ants as compared to undisturbed sites. *Aphaenogaster* spp. are the most important taxa for dispersing spring ephemerals; both are essentially absent from the disturbed plots. Two genera (*Tapinoma* and *Crematogaster*) were found only in the disturbed plots. Our research is valuable in understanding the effects of disturbance on forest ecology.

Zurisaday Gutierrez Avila
SOCIOLOGY and PSYCHOLOGY
JEROME DAVIS RESEARCH GRANT

Academic Advisors: Daphne John, Sociology; Nancy Darling, Psychology
Project Mentors: Rick Baldoz and Greggor Mattson, Sociology

Bearing the Dream: Undocumented Students in Higher Education

I seek to investigate the reason why there are few undocumented students graduating from colleges and universities in the United States despite their institution's public stance in support of such students. My research's overall purpose is to find what undocumented students need to succeed in institutions of higher education. Undocumented immigration is embedded in U.S. history. In the past fifteen years, undocumented immigration has been under media scrutiny due to its increased visibility. An increased number of unauthorized migrants are sharing about their status on social media platforms with an attempt to draw attention to the obstacles they face as well as their positive societal contributions. Immigration activists have engaged in social movements to push for legislation that will grant legal status. Higher education institutions have promoted awareness and acceptance. Despite those triumphs, out of the 65,000 undocumented students that graduate from high school, about 5 to 10% continue to college. Out of those enrolled in college, 1 to 3 percent graduate.

Izzy Hannigan
HISTORY and LATIN AMERICAN STUDIES
ARTZ RESEARCH GRANT

Academic Advisors: Danielle Terrazas-Williams, History; Claire Solomon, Hispanic Studies and Comparative Literature
Project Mentor: Tamika Nunley, History

"Overrun all this country...": Two New Mexican Lives through the U.S. Civil War

My History Honors thesis reconstructs the lives of two elite Hispanic New Mexican men who grappled with the upheavals on the North American continent during the nineteenth century. Union army officers and influential *patrones* Nicolas Pino (1820-1896) and Jose Francisco Chavez (1833-1904) serve as the center of this paper's narrative chronological historical analysis. Intensive primary source work in the New Mexico State Archives reveals their footprints in the military, political, and legal spheres before, during, and after the war. The biographies of Chavez and Pino serve as a microcosm of the changes and continuities in Nuevo Mexicano social, cultural, and military practices during these turbulent years, revealing historical moments as they were lived by individuals. Their responses to American Indian conflicts, shifting borders, fluid borderlands identities, two international wars, and the penetration of Anglo-Americans into the territory reveal how two members of the elite Hispanic New Mexican community worked to maintain their elite status in the face of massive change.

Melissa Harris
HISTORY and ENGLISH

Academic Advisors: Shelley Lee, History; Harrod Suarez, English
Project Mentor: Shelley Lee, History

Using Filipino American National Democratic Activism as a Lens for Redressing American Empire in the Philippines

Historical justice projects have emerged within the past 20 to 30 years throughout the world in an attempt to rectify perpetrations throughout history, tackling apartheid, slavery, genocide, and colonialism. However, U.S. imperialism—a term that rarely emerges in American discourse—is a crime that has not seen justice, let alone the light of day. This study specifically addresses the issue of American empire in the Philippines and how Filipino national democratic activists in the United States from the 1970s to the present have advocated against U.S. imperialism—which they argue continued in the decades beyond the Philippines’ formal declaration of independence in 1946. The aim of this study is to extrapolate from the strategies, actions, and missions of the national democratic organizations, Katipunan ng mga Demokratikong (1973-1986) and Anakbayan (1998-present) to propose how to make the United States accountable for 120 years of empire, and how the legacies and ongoing operations of U.S. empire can be rectified and stopped.

Elly Higgins

ENGLISH

Academic Advisor: Harrod Suarez, English

Project Mentor: David Walker, English

“Get Yourself out of Whatever Cage You Find Yourself In”: Queerness of Form in Contemporary Queer Literature

My capstone explores the creation of a queer affect in three works of contemporary queer literature: Alison Bechdel’s *Fun Home*, Anne Carson’s *Autobiography of Red*, and Maggie Nelson’s *The Argonauts*. My focus is on the connection between the form of the work and its content. My research drew upon the primary texts, literary theory on form and genre, as well as queer theory. Most prior research attended to either the literary aspects or queer aspects of the work without considering them in conversation. I discovered that all three queered similar formal aspects - blending genres and pulling from a queer genealogy - in order to tell queer stories. This work creates the opportunity for new methods of queer literary analysis which build from the connection between form and content.

Rayna Storm Holmes

PERFORMING ARTS MANAGEMENT

Academic Advisors and Project Mentors: Eric Steggall, Managing Director for Theater, Dance and Opera; Chris Jenkins, Associate Dean for Academic Support

Defining Success: A Study of Oberlin College Programming

This research project explores the current climate of music programming at Oberlin through the lens of success. In the artistic world, it is a constant struggle to find the right language to evaluate an arts institution that satisfies both business and artistic constituents. How, then, do we choose to define success? Institutions are often forced to focus on numerical indicators: attendance numbers, donation rates, and revenue trends, to describe the otherwise subjective nature of artistic value. The plethora of programming on campus allows us to use Oberlin as a microcosm of larger arts environments such as New York City and Los Angeles and gauge how balance can be struck between qualitative and quantitative measures of evaluation. Through booker interviews, student surveys, and statistical analysis of records from the past eight years, this project focuses on the patronage of Cat in the Cream, The Dionysus Disco, and Finney Chapel to develop a more informed understanding of the inner workings of Oberlin’s musical climate. It becomes clear that significant changes must be made in how we present, communicate about, and understand these

spaces to ensure they serve their purpose. By accurately identifying how and why these spaces are incurring change, students, staff, and faculty alike can feel more informed in their efforts to create spaces that students continuously want to be in.

Tess Jewell

GENDER, SEXUALITY, & FEMINIST STUDIES and BIOLOGY

Academic Advisors: Rebecca Whelan, Gender, Sexuality, and Feminist Studies; Taylor Allen, Biology
Project Mentors: Rebecca Whelan, Chemistry and Biochemistry; Evangeline Heiliger, Comparative American Studies; Greggor Mattson, Sociology

Gendering Genitals: Medical Discourse and Healthcare Provider Education on Intersex Conditions

When an infant is born, parents are often asked, “is it a boy or a girl?” The fixation on a binary gender determined by bodily sex characteristics leads to stigma against people who are born with bodies that don’t conform to the two inflexible sexes posited as the norms in our society. Intersex conditions result in combinations of external genitalia, internal genitalia and chromosomes in such a way that they don’t neatly fit our society’s expectations of “man” or “woman.” There exists a long history of people with intersex conditions being mistreated by healthcare providers, and to improve and standardize care for people with intersex conditions, the Consensus Statement was published in 2006. To understand the impact of the Consensus Statement on the language used in medical discourse, I conducted a two-part analysis on a sample of peer-reviewed journal articles accessible on Pubmed. I investigated the frequency of use of gendering and pathologizing language as well as the framing of the patient’s body, sex and gender in the literature. To understand the education experience for healthcare providers I conducted semi-structured in-depth interviews with seven providers from two institutions in the United States. Healthcare providers often described not learning about intersex conditions until they began seeing patients, once established in their careers. Many cited Pubmed and journal articles as a source of knowledge. Themes of gendering and pathologizing language were present in articles published in ten years before and after the publication of the Consensus Statement, but there was a significant decrease in the use of gendering language, as well as a notable decrease in the use of pathologizing language following the Consensus Statement.

Adam Jussila

PHYSICS

Academic Advisor & Project Mentor: Matthew Rarey, Art History

Simulation of Interstellar Scattering of Pulsar Signals

I spent the last year simulating the distribution of material in the interstellar medium as a combination of two components, namely a random scattering component in the form of a continuous cloud of material, and coherent sheets of material that cause an ordered deflection of photons as they traveled to us. This work builds upon a project which I worked on in previous years, which indicated that parabolic, arc-like structures in our data are much more prevalent than we expected. This implies that we might need to adjust models of the local ISM to account for these sheets of material that are believed to cause these “scintillation arcs,” as we call them. My simulation attempts to tackle each of these phenomena independently and combine them in order to construct simulated spectra and understand the mechanisms at play. The hope is that the result will teach us about the actual data that we observe from pulsars.

Yingyue Kang

EAST ASIAN STUDIES

Academic Advisor: Ann Sherif, East Asian Studies

Project Mentor: David Kelley, History and East Asian Studies

Political Survival and the Yasukuni Problem: The Logic Behind the Rising Chinese Popular Nationalism Towards Koizumi Junichiro's Annual Prime Ministerial Visits to Yasukuni Shrine and Koizumi's Diplomatic Policy in Relation to China

Over the past decades, bilateral ties between China and Japan have seen moments of strain due to unresolved historical grievances stemming from World War II. While such discord had already existed in the bilateral relations in the 1970s, it burgeoned and slid the two states into the worst quagmire in recent memories following Koizumi Junichiro's annual visits to Yasukuni Shrine. Notably, factors that foster the mitigation of antagonistic anti-Japanese emotions, such as an increasingly interdependent bilateral economic relation, exist in present days. Hence, there emerges the uncertainty that questions the root of this exacerbation of Chinese people's anti-Japanese emotions, as well as an inquiry of why the Japanese side still displayed recalcitrance on official Shrine visits facing constant pressure from domestic China. Addressing these issues, this research analyzes real-world cases that illustrate the rising tide of popular anti-Japanese nationalism towards the Yasukuni controversy in China during Koizumi's tenure from 2001 to 2006. It also assesses Chinese government's effort in mobilizing these contentious reactions towards Koizumi's official worship to the Shrine in particular and presents an interpretation of China and Japan's respective state vision on the Yasukuni issue from the perspective of political survival. The interpretation of this paper further offers insights demonstrating the possibility for the two nations to rid bilateral relations of the Yasukuni controversy in the foreseeable future, and can be suggestive to resolutions dealing with other areas of frictions induced by the negative historical legacy between the two states, such as the textbook controversies.

Radia Lahlou

ANTHROPOLOGY and LINGUISTICS

Academic Advisors: Baron Pineda, Anthropology; Gillian Johns and Jason Haugan, Linguistics (IM)

Project Mentors: Erika Hoffmann-Dilloway and Baron Pineda, Anthropology

"Crooked" Language: Moroccan Heritage, Identity, and Belonging on Youtube

With the advent of user-generated social media, users are able to assert their ideas, opinions and positionality through online multi-way communication and participation. One such website is Youtube, a video platform where language production and identity negotiation are common. This thesis looks at a series of videos published on Youtube, entitled the "Moroccan Tag," to examine the ways 5 second-generation French-Moroccan Youtubers assert their national identities online. Using methods of guerrilla ethnography, I glean discourse from video content and comments to outline three key scalar processes by which identity performance manifests: through language ideologies, semiotic ideologies surrounding "authenticity," and the construction of imagined community. Together, my observations add to continuing conversations on diasporic identity, translanguaging and digital discourse.

Elka Lee-Shapiro

ART HISTORY and EAST ASIAN STUDIES

MELLON MAYS UNDERGRADUATE FELLOWSHIP

Academic Advisor: Bonnie Cheng, Art History and East Asian Studies

Project Mentors: Bonnie Cheng and Erik Inglis, Art History

Limitations of NAGPRA: The Mohegan Mask in the Penn Museum's Collection

This project examines a repatriation case surrounding a wooden mask in the University of Pennsylvania Museum of Anthropology and Archaeology's collection. Carved by Harold Tantaquidgeon of the Mohegan Tribe in the 1930s, the mask was collected by anthropologist Frank Speck for the Penn Museum at around the same time. In 1996, the Mohegan Tribe requested the return of the mask as a "sacred object," filing a claim under the Native American Graves Protection and Repatriation Act (NAGPRA), a federal law passed in 1990 that provides a legal framework for Native American groups in the United States to make claims for the return of cultural items held in museums that receive federal funding. The Penn Museum denied the claim, yet offered the mask to the Tribe on a long-term loan. Approaching the case through cultural property frameworks, I examine how the case surrounding the mask, settled outside of the legal parameters of NAGPRA, highlights the inadequacies of NAGPRA in addressing Native American claims for restitution. I argue that the agreement between the Penn Museum and the Mohegan Tribe provides an example of how the cultural history of objects might be addressed beyond fixed definitions of culture beholden to the nation-state, recognizing the mask as a Mohegan cultural item that emerged from a history of settler colonialism and Native American resistance, and takes on fluid meanings. More broadly, through this case study, I seek to address the central role nationalism and national boundaries play in problematizing contemporary cultural property debates.

Steven Levin **POLITICS**

Academic Advisor and Project Mentor: Stephen Crowley, Politics

After the End of History

Central Asia is a strange case in comparative political study. The individual countries within this region can only attest to 25 years of separate history and yet each shows remarkably different conditions. This holds especially true for human rights violations, not only in terms of the extent and degree of the abuses, but perhaps even more critically, their key targets. Therefore, it is important that we ask ourselves what explains these human rights differentiations and how well does a state-centered perspective account for it? Ultimately observations prove challenging for contemporary theories of the state in the former USSR region. While, many today flock to the state-centered perspective to explain phenomena such as the color revolutions or the lack of Eurasian democracy, such a school of thought cannot explain certain empirical observations regarding human rights abuses. While this school of political thought would have us think that countries like Uzbekistan and Turkmenistan have no need for abusing their peoples given the large degree of elite cohesion achieved, the evidence demonstrates that this simply is not the case, especially in Uzbekistan. Moreover, this school of thought also de-emphasizes the power of international actors over domestic states, something that goes a long way towards explaining not only the Tajik state's stability but also Rakhmon's seemingly god-given ability for power consolidation, something that left some state-centered theorists, namely Lucan Way, completely stumped.

Eleanor Lindberg **HISTORY** **Frederick B. Artz Lectureship Grant**

Academic Advisor: Shelley Lee, History
Project Mentor: Danielle Terrazas Williams, History

Sí, Me Afectó: The Women of Bracero Households in Michoacán, 1942-1964

Between 1942 and 1964, the U.S. and Mexico made a series of agreements collectively referred to as the Bracero Program. The Mexican men, "Braceros," who were contracted in this program worked in agriculture and industry across the U.S. In my research, I study the lives of ten women in the Mexican state of Michoacán whose husbands, brothers, or fathers worked as Braceros. I examine how these women negotiated patriarchal expectations at this particular moment in Mexican history. Oral testimonies from the women of Bracero households indicate that they negotiated their husband's absence by taking on nontraditional economic roles while also reinforcing traditional social values. Though they hoped that the Bracero Program would assist them economically, they also recognized that the ensuing disruption of Michoacán's peasant family structures was a threat to their livelihood. The women of transnational families thus took pains to defend the household against claims of loss of patriarchal control.

Chester Leopold

PHILOSOPHY

Academic Advisor: Todd Ganson, Philosophy

Project Mentor: Peter McInerney, Philosophy

The Cognitive Science of Moral Judgment

This thesis defends recent experimental philosophical and psychological works that argue that certain test subjects' responses to abstract moral dilemma presentations, such as Philippa Foot (1967) and J.J Thomson's (1986) "Trolley Problems", offer evidence for the theory that humans evolved a module/ "organ" of the mind devoted to making moral judgments (Hauser et al. (2006), 214). The relevant evidence indicates that high majorities of test subjects, cross-culturally judge categorical variations in the dilemma descriptions of an agent's actions they have never encountered before, to warrant the same status of "morally permissible" or "morally impermissible", or a similar judgment value on scales ranging from "(1) 'extremely morally good' to (7) 'extremely morally bad' with a midpoint (4) of 'neither good nor bad'" (Mikhail (2011), 105; Switzgebel and Cushman (2012),138). Most test subjects switch their response judgments to the same dilemma descriptions only when certain classes of changes are made to the agents' intentions, and the mind- independent circumstances he or she is described to act in, though not others. I support philosopher John Mikhail's (2011) claim that this response pattern may hold across an infinite number and variety of categorical changes made to the dilemma descriptions presented to subjects (Mikhail,16). If true, then moral knowledge may not be acquired solely from identify patterns in contingent mind-external stimuli processed during a subject's finite lifetime (Mikhail (2012), 7 on Hume (1740), 473).

Melissa Karp

COMPARATIVE LITERATURE, EAST ASIAN STUDIES and FRENCH

Academic Advisors: Jed Deppman, Comparative Literature and English; Sheila Miyoshi Jager, East Asian Studies; Preamvada Leelah, French

Project Mentors: Sheila Miyoshi Jager, East Asian Studies; Leonard Smith, History

Madness and Memory: Reading Collaboration as Trauma in Kim Sa-ryang's "Tenma" and Patrick Modiano's *La Place de l'étoile*

This project explores a spectrum of traumatic experience in collaborator literatures from two texts: Patrick Modiano's novel, *La Place de l'étoile* (1968) and Kim Sa-ryang's short story, "Tenma" (1940). I argue that, in these texts, the paradoxical reality of the intellectual-collaborator sustains an inescapable experience of psycho-emotional, immaterial violence perpetrated against and by collaborators. Therefore, collaborators' unique traumatic encounters defy categorization in a perpetrator-victim binary. By focusing on their experiences instead of their motivations, we can better understand the ways in which structures of occupation make collaborators enthusiastically complicit in

their own destruction. This paper draws on a range of collaboration tropes, from sexual violence to self-hatred to suicide. The comparable use of these imageries and the prevalent irony in these texts written from and about disparate vantage points of collaboration—Late Colonial Korea (1937-45) and Occupied France (1940-44)—reveal consistent characteristics of intellectual-collaboration and its traumatic impact on its participants. I use theorizations of collaboration and memory, specifically those in Michael Rothberg’s *Multidirectional Memory*, to build a meaningful discursive space in which the hybridity of collaborators, their narratives, and memory artifacts can be read multidirectionally. In this way, collaboration gives us new tools to read shared postwar memory as a messy, overlapping record. Ultimately, the analysis of these texts as collaborator testimonies raises new questions about the ways in which we might incorporate hybrid memories into shared postwar and postcolonial narratives of violence, even if they make delineations of guilt and innocence ever more ambiguous.

Claire Kotarski

RELIGION

Academic Advisors: Margaret Kamitsuka, Religion

Project Mentors: Margaret Kamitsuka, James Dobbins, and Corey Barnes, Religion

Gay Shamans and Gatekeepers: Radical Faeries and the Implications of “Playing Indian” in the New Age

In this paper, I examine decolonial critiques of the Radical Faerie movement with a focus on how they have appropriated indigenous identity and “played Indian.” I then consider both negative and positive responses to the Radical Faerie movement with a strong focus on Native critiques. These critics argue that the faerie’s displays of whiteshamanism are not harmless, but instead stem from queer colonial behavior. I argue the reactions to this appropriative behavior are justified by Native people, but could also be informed by internalized oppression as a byproduct of colonialism. This especially manifests in the gatekeeping of Native identity and the resistance many feel to understanding the more positive consequences of the relationship between Radical Faeries and indigenous people. Finally, I conclude with proposals to address this conflict by investigating the way ties between these communities could be utilized for intersectional responses to fighting broader systems of oppression.

Louisa Liles

ECONOMICS and MATHEMATICS

Academic Advisors: Ron Cheung, Economics; James Walsh, Mathematics

Project Mentor: Ron Cheung, Economics

The Effect of Living-Cost Adjusted Minimum Wage on Low Birth Weights: A County-Level Analysis

I investigate the relationship between the minimum wage and the share of low birth weights at the county level. Even if the minimum wage reduces employment and hours worked, it may introduce other benefits, and a welfare analysis that focuses only on these two factors is incomplete. My research contributes to the growing body of literature addressing the public health effects of the minimum wage; low birth weights are particularly important public health issue because people with low birth weights have lower educational attainment, earnings and self-reported physical health as adults. To conduct this study, I create a novel dataset by tabulating local, state, and federal minimum wages and deflating them by a measure of local living costs. Then I use a difference-in-difference framework to test whether changes in the minimum wage have a causal effect on the share of low birth weights, ultimately finding no effect. I do, however, find evidence that hikes in the minimum wage tend to happen at the same time as increases in per capita

public health spending, suggesting a possible mechanism and indicating that the minimum wage may not be exogenous to public health outcomes.

Jenny Xin Luan

EAST ASIAN STUDIES and PSYCHOLOGY

Academic Advisors: Sheila Jager, East Asian Studies; Paul Thibodeau, Psychology

Project Mentor: Xin Zhang, East Asian Studies

The Chinese Student Commencement Speech Controversy: a Discourse Analysis of Responding Microblogs

This paper presents a discourse analysis of twenty posts on Sina Weibo (the Chinese Microblog platform) selected from a previously heated discussion under the hashtag, #中国留学生演讲涉嫌辱华# (Chinese student speech suspected of humiliating the nation). The Commencement Speech Controversy started from a commencement speech given by Yang Shuping, a Chinese international student, at the University of Maryland, College Park, in May 2017. This paper examines the history of Liu Xue Sheng 留学生 (students studying abroad) and reviews the demographic information of Chinese Netizens and Sina Weibo users. The analysis identifies patterns of language uses and examines how these usages characterizes Chinese Netizens' socio-cultural identities and the multiple dimensions of their attitudes towards the controversy. Said netizens are profiled as middle-class, well-educated city residents. Data reveals a mismatch between the intended audience (American audience) and the unexpected audience (Chinese Netizens), which contributed to the outburst of multifaceted criticism over the event. Expanding the discussion to the general public view of the Liu Xue Sheng identity on Chinese Internet, this paper shows that while the identity and goals of Liu Xue Sheng have changed drastically over time, many Netizens still subject the conduct of Liu Xue Sheng in the 21st century to the traditional expectations and standards.

Josephine Marshall

LATIN AMERICAN STUDIES, HISPANIC STUDIES and PSYCHOLOGY

Academic Advisors: Ana María Díaz Burgos, Latin American Studies and Hispanic Studies; Patricia deWinstanley, Psychology

Project Mentors: Ana María Díaz Burgos, Latin American Studies; Claire Solomon, Comparative Literature; Patrick O'Connor, Latin American Studies and Comparative Literature

Art and Havana's Experience of the "Special Period"

My project takes a multi-disciplinary perspective to understand the dynamics that emerged from the "Special Period" (a time of major economic crisis) in Cuba. Specifically, I explore how people in Havana used the production of art to embody the "resolve, fight, achieve, and invent" mentality encouraged by the Cuban government in these years. My work is divided into three sections, with each taking a different perspective to analyze art during the Special Period. These sections include: an examination of how economic reform encouraged production of art in the tourist market; a psychological analysis of how art became a form of coping during this period; and a look at the changes in the field of professional art. Most importantly, my research utilizes interviews of Cuban people in Havana conducted this year during Winter Term in order to make more tangible the lingering effects of the Special Period in that city.

Val Masters

GEOLOGY

Academic Advisor: Dennis Hubbard, Geology
Project Mentor: Amy Margaris, Anthropology

An Exploration of Native Alaskan Cultural Heritage through Technology, Ethnography, and Oral History

This presentation reports on my efforts to combine Native American tribal knowledge with digital resources and scientific research. The project began with a University of Michigan-based initiative to predict potential effects of climate change on Great Lakes Native tribes' water resources so the tribes could use this information to make management decisions. Then, using a digital platform called Esri Story Maps, I created two projects for school-age children to illustrate how Great Lakes wetlands function and their importance for both Native American traditions and ecosystem health. Finally, a project for an anthropology course in Fall 2017 provided a new opportunity for me to use Story Maps to engage with indigenous cultural resources, this time of the Unangax peoples of Alaska's Aleutian Islands. I used Story Maps to collate and present my research on a 19th-century Unangax pouch made of animal tissue that was collected by Smithsonian naturalists and is now part of Oberlin's Ethnographic Collection. I learned that by combining oral history with scientific and historical investigation, we can uncover rich object histories and ultimately share them with the people to whom they will matter most - their source communities.

Brandi Lee Metzger

CREATIVE WRITING and AFRICANA STUDIES

Academic Advisor and Project Mentor: Dan Chaon, Creative Writing

Underneath the Mythical Iceberg: Musings on My Novel-in-Progress

I am currently writing a children's/Young Adult (YA) novel about a black girl who must seek the help of her friends, the divine, and her own supernatural powers to save the self-destructing Earth. I have three goals for this presentation: 1.) To share details about the novel, such as its inspiration and critical scenes, 2.) To discuss the particular set of skills I employ to meet the demands of this sub-sub-genre, and 3.) To express how the understanding of such skills may elucidate adolescent genre fiction's long-underappreciated significance in academia. Come for some children's/YA diverse low-fantasy fiction; stay for random cat pictures.

Liam McLean

ANTHROPOLOGY and CREATIVE WRITING

Academic Advisors: Erika Hoffman-Dilloway, Anthropology; Sylvia Watanabe, Creative Writing
Project Mentor: Crystal Biruk, Anthropology

The Terror Experts: Producing and Policing Terrorist Subjects at a University Research Center

My research examines the production and circulation of discourses related to (counter)terrorism at a university-affiliated terrorism and security studies research center in eastern Massachusetts. Much of the existing social scientific literature on the relationship between U.S. national counterterror policy and academic research emphasizes a powerful, government-funded nexus of terrorism experts who produce knowledge that legitimizes U.S. imperialism in the name of combating terror. I analyze ethnographic data gleaned from participant observation, interviews, and media analysis to bring a more nuanced understanding to bear on academic terrorism "experts" and the students they teach. I came to understand these "experts" as relatively peripheral to (trans)national counterterrorism and invested more directly in the consolidation of their own "expertise" than in legitimizing state

violence. At the same time, they are embedded in larger economies of knowledge and power that structure the research they produce. I investigate how this research tends to abstract the “terrorist” from structural inequities, producing an imagined figure of the depoliticized radical that serves the interests of both academic regimes of expertise and state regimes of counterterrorism.

Muntaha Mohamed

HISTORY

Academic Advisor: Zeinab Abul-Magd, History

Project Mentor: Tamika Nunley, History

Healing and Restoration Under Slavery, and the Public Memory That Lets Us Remember

This project examines healing, specifically for Black women, under a slavery context. Slavery is an institution that inhibits even the creation of self, which in turn stops the process of healing from trauma. So this research looks into Black women who were able to create self, community, or even art. And through these outlets, have created a restorative path to healing for themselves and others. By focusing on the lives of Sojourner Truth, Harriet Tubman, and Edmonia Lewis, this paper will examine the paths to restoration made by women under the constricting system of Slavery as well as its aftermath conditions.

Madeline Moran

ENVIRONMENTAL STUDIES and VISUAL ARTS

Academic Advisors: Roger Laushman, Environmental Studies; Nanette Yannuzzi-Macias, Art

Project Mentors: Cindy Frantz and Roger Laushman, Environmental Studies

An Environmental and Cost Comparison between Petroleum-Based Plastic Drinking Straws and a "Greener" Alternative

This study aims to compare the environmental and financial costs of restaurants using petroleum-based plastic (PP) straws versus “greener” alternatives. Plastic straws are one of the most abundant items found in oceans and coastal cleanups around the United States and internationally. Plastic does not degrade over time, so all the plastic we have ever made is still around, affecting every ecosystem on the planet. Drinking straws are made of 100% recyclable material, but because of their small size most plants are not able to recycle them so they are sent to landfills. By considering greener alternatives to PP drinking straws, we can see if there actually are affordable alternatives that can help reduce plastic waste and carbon emissions. This study focuses on the Feve and constructs a modified life cycle analysis to determine if switching to polylactic acid (PLA) plastic straws would decrease the Feve’s carbon and plastic waste footprint. By tracing the carbon emissions created in the production, transportation, and disposal of plastic straws, I compare the carbon footprint of each product to see if one is better for the environment than the other. I also see if using PLA, which is considered to be a green alternative to PP, actually affects plastic waste output given the Feve’s location relative to landfills and industrial composting facilities. I hope that this study can be used as a model for helping other restaurants reduce their plastic and carbon footprint at an affordable cost.

Thobeka Mnisi

POLITICS

OBERLIN COLLEGE RESEARCH FELLOWSHIP

Academic Advisors: Eve Sandberg and Charmaine Chua, Politics; Darko Opoku, Africana Studies

Project Mentor: Eve Sandberg, Politics

Demystifying the Education Crisis: An Analysis of the Foundational Causes of Poor Academic Outcomes in South African Rural Schools

Since the dawn of democracy in South Africa, education has been promulgated as an equalizing principle to elevate people out of poverty, support democracy, and contribute towards the unraveling of apartheid foundations. The government has undertaken education reform with fervor, aiming to eradicate past injustices and replace a racially hierarchical system with one of fairness, equality, and universal accessibility. Yet, while South Africa has experienced some successes in equalizing education, the overhaul of apartheid policy has seen as many delays and disappointments as it has successes. It appears that these setbacks may eclipse whatever successes we have attained. Rural schools have especially suffered and consistently fall behind the national average on test scores, graduation rates, and literacy rates. This study investigates what makes rural schools particularly susceptible to academic failure compared to their urban counterparts. I hypothesize that rural schools trail behind because various factors that militate against educational progress, such as insufficient funding and teacher shortages, perpetuate a cycle of deprivation that leads to an alienating school environment. It is this alienation under conditions of scarcity that leads to colossal failure.

Yasmeen Mussard-Afcari

COMPUTER SCIENCE and AFRICANA STUDIES

MELLON MAYS UNDERGRADUATE FELLOWSHIP

Academic Advisors: Bob Geitz, Computer Science; Yveline Alexis, Africana Studies

Project Mentor: Adam Eck, Computer Science

Creating Barriers to Determination of Structurally Cohesive Subgroups

Many activists and human rights defenders have turned to the use of encrypted communication in response to governmental repression and surveillance. However, because encryption use is not predominant, using encryption for activist communication can act as a marker for suspicious activity. Furthermore, corporate surveillance facilitated by private companies is becoming increasingly common, much of which governments could potentially access. This study examines possible methods to prevent the identification of subgroups within a communication network, with a special focus on the security concerns of activists and the broader social context of surveillance. We began by constructing a set of guiding philosophies for methodologies using activist materials and academic reviews. We selected "Fast determination of structurally cohesive subgroups in large networks" by Sinkovits et al. as a model of state-of-the-art subgroup identification abilities, as their proposed algorithm is both exact and significantly faster than prior existing subgroup identification approximation algorithms. Additionally, Sinkovits et al.'s approach has the benefit of a published coded version of the algorithm and benchmark data. A solution algorithm for preventing subgroup identification was then tested on the networks created by said benchmark data.

Tal Netter-Sweet

HISTORY and LATIN AMERICAN STUDIES

Academic Advisors: Danielle Terrazas Williams and Ari Sammartino, History

Project Mentor: Tamika Nunley, History

The Mothers of the Plaza de Mayo: Motherhood as a Tool to Undermine the Patriarchy

My research examines how the Mothers of the Plaza de Mayo utilized the institution of motherhood as a political tool during the brutal dictatorship of the 1970s and 80s in Argentina. The Mothers are a movement of women who organized in response to the kidnapping of their children by the military regime, subverting traditional gender roles by claiming political space historically reserved for men. Relying on primary sources such as interviews and news footage as well as numerous secondary sources, I analyze how the Mothers invoked their maternal rights to legitimize their public protest, and how in the process, the Mothers transformed the institution of motherhood as well as the political space in which they operated. My research ultimately illustrates how in the search for their missing children during the dictatorship, the Mothers utilized the institution of motherhood and the roles to which they had been confined to undermine the very patriarchal structures that had historically excluded them from political participation.

Stella Ocker

PHYSICS

National Science Foundation (NANOGrav)

Academic Advisor: Stephen FitzGerald, Physics and Astronomy

Project Mentor: Dan Stinebring, Physics and Astronomy

Testing the Production of Scintillation Arcs with the Pulsar B1133+16

Pulsars are extremely dense, highly magnetized stars that emit pulses of radio emission every millisecond or so. The arrival times of their radio signals at Earth observatories can be used as a clock precise enough to detect gravitational waves. Performing such a detection requires the mitigation of interference effects from the interstellar medium: the slightly ionized, mostly hydrogen gas that the radio waves traverse as they travel from the pulsar to Earth. We investigate radio wave delays using a powerful tool: scintillation arcs, fluctuations in frequency and time of the pulsar signal intensity that are manifested as parabolic arcs in the pulsar's secondary spectrum. While scintillation arcs were first observed by Oberlin students almost two decades ago, the structures that cause them are still unknown. We explore a simple, one-dimensional model for the production of scintillation arcs. A measure of the frequency dependence of scintillation arc widths for the pulsar B1133+16 is suggested for use as an empirical test of scintillation arc models.

Rita M. Pérez-Padilla

HISPANIC STUDIES

Academic Advisor: Claire Solomon, Hispanic Studies

Project Mentor: Sergio Gutiérrez Negrón, Hispanic Studies

De pura cepa: Seis cuentos

"De pura cepa" is a collection of six short stories, each in a different time period in Puerto Rican history: the Spanish conquest in the 16th century, the era of slavery and sugar plantations in the mid-19th century, the transition from Spain to the United States in the first years of the 20th century, the start of mass emigrations from Puerto Rico in the mid-20th century, and finally the immediate effects of Hurricane María in the latter half of 2017. There is also an introductory story that takes place in the early 2000s. The collection confronts and interrogates perceptions of Puerto Rico by showing different characters navigate their identities and the struggles they face as Puerto Ricans. The collection is accompanied by a critical commentary, which describes the process of research behind the stories and argues that storytelling serves as a means by which to research and explore Puerto Rico's cultural history.

Gus Perkins

MUSICAL STUDIES

Academic Advisor and Project Mentor: Arnie Cox, Music Theory

Betwixt Recorded Worlds: Comparing Studio and Live Sound through Musical Affect

In this project, I will explore musical affect in studio recording and techniques in comparison to live sound. I will also trace the history of technological advancements of some of those techniques. Part research and part analysis, my project will apply Arnie Cox's mimetic hypothesis and 5x8 framework. I will analyze several case studies, including George Martin's production contributions to the Beatles, as well as my own music and live performances I have given. I will explore why some listeners prefer listening to studio recordings over live recordings, or vice versa, or prefer both for different reasons. I will conduct a close analysis of the possible kinds of studio sounds, how those sounds compare to the confines of a live performance, and how those differences directly affect the listener's experience.

Hanyu Qu

MUSICAL STUDIES

Academic Advisor: Charles McGuire, Musicology

Project Mentors: Kathryn Metz, Ethnomusicology; Charles McGuire, Musicology

Das Lied von der Erde: A Cross-cultural Approach

My research focuses on the analysis of Chinese music and Tang Dynasty literature within Gustav Mahler's *Das Lied von der Erde* in order to understand how Mahler and his contemporaries positioned their compositions in dialogue with art, philosophies, and writings of the time. I will examine the Chinese elements within Mahler's work in three categories: translated Tang Dynasty literature, Chinese melody, and harmony. Through studying Fin de siècle music, I will explore contemporary composers' philosophies. My aim is to determine why Mahler employed elements from Chinese culture, trying to grasp the relationship between exoticism and his identity. With a focus on *Das Lied von der Erde*, I will research philosophies that influenced twentieth and continue to influence twenty-first century Western music that incorporates Chinese elements.

Julia Ranney

POLITICS

Academic Advisors: David Forrest, Politics; Rumi Shammin, Environmental Studies

Project Mentors: Sarah El-Kazaz, Eve Sandberg, and Marc Blecher, Politics

The Green Revolution in Africa: How Domestic Institutions Empower Market-Oriented Development Projects

Utilizing two case studies--Malawi and Makhathini Falls, South Africa--this thesis examines the Green Revolution in Africa. The Green Revolution is characterized as a market-based agricultural development strategy that is implemented by a myriad of international actors. This description overlooks the continued influence of domestic institutions and how they are crucial for empowering Green Revolution projects. Through the dual utilization of Actor-Network Theory and a comparativist approach, this thesis traces and identifies the power dynamics present within the networks of the international and domestic actors involved in each case study. This thesis reveals that not only are domestic institutions adaptable and resilient to different political economies, but also, through their historical legacies, enable the implementation of a market-era project like the Green Revolution. This discovery

should strengthen discourse on the Green Revolution and development and could influence how international actors engage with domestic institutions in the future. Furthermore, the prominence of domestic institutions should build on discussions about farmer agency within these networks.

Hannah Rodgers

BIOLOGY and NEUROSCIENCE

Academic Advisors: Mary Garvin, Biology; Jan Thornton, Neuroscience

Project Mentor: Roger Laushman, Biology

Invertebrate Diversity in an Agricultural and Post-Agricultural Field in Oberlin, Ohio

Agricultural expansion presents one of the greatest threats to biodiversity, causing local and global extinctions. Agriculture is the main land use in northern Ohio, particularly corn and soybean monocultures. Invertebrate communities promote plant growth, comprise an essential step in the food chain, and maintain healthy soil (Altieri, 1999). Monoculture farming tends to reduce invertebrate diversity, which depends on environmental heterogeneity and plant diversity (Diekötter 2010). While the effect of conventional agriculture on bird and mammal populations is widely acknowledged, less is known about the invertebrate populations on which these larger animals depend. This study hypothesized that post-agricultural fields support larger, more diverse communities of macroinvertebrates than cultivated fields. Specifically, we predicted that macroinvertebrates from pitfall traps in the Oberlin solar fields would constitute greater biomass and diversity than those from the nearby soybean field. On property owned by Oberlin College, a conventionally-farmed soybean field stands 200m from a former corn and soybean field that has been left unmanaged since 2011. Pitfall traps were used to collect invertebrate samples in both fields over seven weeks in September through November of 2017 and macroinvertebrates were classified into orders, suborders, or families. The post-agricultural field showed higher invertebrate diversity and biomass as well as other differences in community structure compared to the agricultural field. Learning how invertebrates recolonize farmland will help us understand how natural ecosystems maintain healthy invertebrate communities and prevent dominance by any one pest species.

Ari Rosenblum

PSYCHOLOGY and POLITICS

JEROME DAVIS RESEARCH GRANT

Academic Advisors: Meghan Morean, Psychology; Michael Parkin, Politics

Project Mentors: Cindy Frantz, Sara Verosky, and Paul Thibodeau, Psychology

Gender Nonconformity and the Stereotype Content Model

An increase in transgender visibility over the last few years has highlighted a gap in the social psychology literature about attitudes and biases. There is a relatively large body of literature that examines people's reactions to gender roles, but hardly any that examines people's reactions to gendered traits. This study attempts to uncover the nature of the stereotypes and prejudice that are directed towards transgender and gender-nonconforming people. Transgender people face pervasive discrimination in education, employment, welfare programs, health care, etc. and as a result suffer severe outcomes, including high rates of poverty, homelessness, sexual and physical violence, murder, HIV infection, substance abuse, mental illness, and suicide. In order to combat discrimination and prejudice, it is important to understand how, why, and by whom the stereotypes that inform that prejudice are maintained. The primary purposes of this study were to lay a foundation for research about prejudice towards transgender and gender-nonconforming people and to obtain insight about how transgender and gender-nonconforming people experience discrimination and navigate the world. To test this, participants rated a series of stereotypic and counterstereotypic face-voice pairs on categorical and continuous gender, warmth, and competence. Stereotypic and counterstereotypic

stimuli pairings were then compared with each other and with baseline measures of warmth and competence for each face to determine whether stereotype incongruent gender cues elicited negative backlash. Analyses also assess the role of political orientation, race, gender, familiarity with trans people, and other background factors in moderating backlash effects.

Rose Rosenthal

LATIN LANGUAGE & LITERATURE and MATERIAL PHYSICS

Academic Advisors: Drew Wilburn, Classics; Jason Stalnaker, Physics and Astronomy

Project Mentor: Drew Wilburn, Classics

The Literature of Pompeii

In this paper, I explore the larger literary context of C.I.L. 5296, a Latin graffito from Pompeii describing a female homoerotic relationship. I investigate the ways in which the graffito incorporates common literary tropes found among poets in the early Roman Empire, while examining its place and function within the social context of Pompeii. My analysis of diction and syntax reveals the social perception of the graffito and demonstrates how its author depicted and was influenced by Roman literary tropes. By considering the graffito as single piece of cultural evidence within a larger literary landscape, it becomes possible to expose any originality expressed by the author and allows us to gain a fuller understanding of the variety of Roman literature.

Naomi Roswell

ENVIRONMENTAL STUDIES

Academic Advisor: Rumi Shammin, Environmental Studies

Project Mentors: Lynn Powell, Creative Writing; Ann Cooper Albright, Dance; Phyllis Gorfain, Oberlin Drama at Grafton

The Courage You're Looking For: Linking Academics to Community-Based Arts Programs in Oberlin

At Oberlin, I have participated in and directed three community arts-based programs: Writers in the Schools, Girls in Motion, and Oberlin Drama at Grafton. Each program uses a unique and self-sustaining education model that produces creativity and knowledge and strengthens intra-community and community-college relationships. In this model, which I call a "cascade approach to learning," an expert offers a workshop style course to students as an apprenticeship, who in turn develop and teach lesson plans for other students. Like water down a rocky slope, the knowledge and best practices passed down each step splashes back up in a new arrangement, invigorating the experts and providing immediate feedback and reflection. Through these programs, I am linked to dancers and writers in the middle school and actors in a men's prison in a reciprocal learning-teaching dynamic. This talk will demonstrate how my classwork across the environmental studies, dance, creative writing, and education departments and my engagement in these three arts programs mutually ameliorated each other, while grounding my understanding of social justice and catapulting me into a life of community-based work.

Christina Ruggiero-Corliss

GENDER, SEXUALITY & FEMINIST STUDIES

Academic Advisor and Project Mentor: Ellen Wurtzel, Gender, Sexuality & Feminist Studies

Strengthening Networks of Expertise: Midwives, Obstetricians, and Complementarity in Danish Obstetrics

My research focuses on the relationship between midwives and obstetricians in Denmark, a country with very strong fetal and maternal health outcomes. In Denmark, unlike in the United States, midwives provide all care during normal pregnancy, labor and delivery. Obstetricians are only involved in the case of complication or heightened risk. In order to understand the dynamics that exist within this professional relationship, I performed semi-structured in-depth interviews with 11 midwives, 10 obstetricians, and 4 recent mothers, and conducted 80 hours of observation on Danish labor and delivery wards. I found that the relationship between Danish midwives and obstetricians is characterized by complementarity and collaboration rather than competition: instead of understanding one another as opposing forces, Danish midwives and obstetricians see each other as mutually necessary components to the achievement of a shared goal. Using Eyal's concept of networks of expertise, I argue that this complementary relationship makes it possible to draw upon a wide array of resources for dealing with the challenge that is birth – both those of midwives and those of obstetricians – and that ultimately, this relationship is central to the high quality of care that the Danish obstetric system provides. While this relationship is firmly grounded in the particularities of the Danish social, political, and historical context, it still offers insight into how it may be possible to improve obstetric systems in other contexts by focusing upon the relationship between midwives and obstetricians.

Jennifer Schapire **MUSICAL STUDIES**

Academic Advisor and Project Mentor: Arnie Cox, Music Theory

Oppression in Musical Theater Songwriting: How the “I Want” Song Illuminates Formal Dilemmas

The purpose of this project is to examine the connection between formal systemic oppression in musical theater songwriting and inclusivity within the genre. Since its inception, musical theater has been an Anglo-American (white) genre. With primarily white, cis, (sometimes gay) Jewish men as gatekeepers of the genre, the stories examine white problems for a white audience. This structure systematically prevents people of color, women, trans folk, and differently abled people from composing a musical, and thus, fairly representing themselves on the stage. This is particularly evident in the “I Want” song. Defined by Lehman Engel as the song at the beginning of the musical where the protagonist lays out their mission or goal, the “I Want” song appears in almost every musical from the last 50 years. With few exceptions, there are no “I Want” songs written for characters of color. Thus, if we consider these songs as spotlight moments, the composers of musicals formally deem the goals, and aspirations of people of color unimportant. Using a comprehensive musical framework by Arnie Cox, I will examine the musical affect and sonic fact of musical theater to specify the means whereby white desire is constructed, portrayed, perpetuated and, thus, used as a means of exclusion.

Emma Schechter **ARCHAEOLOGY and ANTHROPOLOGY**

Academic Advisor and Project Mentor: Amy Margaris, Anthropology

Elementary School Students and STEM: Creating an Archaeology Lesson Plan for Get with the Program

The purpose of this project is to address the lack of STEM education in elementary schools and to create lesson plans to introduce students to the discipline of archaeology at a young age. The project was completed in cooperation with a local organization called Get with the Program, a group dedicated to improving STEM education for elementary aged

students. Using my background as an Archaeological Studies major and Education Studies concentrator, I devised and implemented a lesson plan covering the basic aspects of archaeology, with particular focus on the hands-on aspects of the discipline. Archaeology lends itself to STEM education, particularly for young students, because it encompasses skills such as observation, analysis, and making hypotheses. Moreover, a student does not need extensive prior background in order to practice these skills. Some of the activities that Oberlin-area students participated in included: a mock dig, and a “trash bag excavation” where they sorted through a prepared trash bag and worked in groups to make inferences about the owners of the trash. The students also learned to record their findings by drawing and describing “artifacts” or pictures of artifacts. In this presentation, I will go through the process of planning and facilitating this lesson, as well as reflect upon the efficacy of introducing archaeological concepts to students at a young age.

Niya Smith-Wilson

PSYCHOLOGY and AFRICANA STUDIES

OBERLIN COLLEGE RESEARCH FELLOWSHIP

Academic Advisors: Cindy Frantz, Psychology; Pam Brooks, Africana Studies

Project Mentor: Clovis White, Sociology

“It Takes a Village”: How Investment in Self, Community, and Environment Can Influence Low-Income Black Children to Succeed

In a society that often focuses on the negative outcomes of Black men and boys due to incarceration and school dropout rates, it is just as essential to focus on why these outcomes exist in the first place and how to prevent them. Similarly, Black girls and women are often pushed completely to the background of research. There is a need for additional support, encouragement, and motivation for African American children in order to help them gain social mobility. The purpose of my research is to analyze potential practices such as exposure, discipline, and relationships on behalf of faculty, students, and parents that can lead Black low income boys and girls to be promoted to the next grade while gaining a sense of self. I intend to show how one school--Gary Comer College Prep located on the Southside of Chicago--compares to other Chicago Public Schools in their attempts to motivate Black low-income boys and girls through the few practices and policies currently in place. Although the self is the overarching factor that continues to impact one's path through education and upward mobility, the investment of parents, faculty, local community, and environment can positively influence the value of self and the constant mobility of African American boys and girls from low-income neighborhoods. If there is self-affirmation accompanied by a stable relationship with one or more of the factors shown to motivate these individuals, then they are more likely to achieve academic and social mobility.

Sydney Solomon

POLITICS

Academic Advisor: Eve Sandberg, Politics

Project Mentors: Sarah El-Kazaz, Politics; Roberto Hoyle, Computer Science; and David Forrest, Politics

Internet Censorship in Egypt and Iran

My project looks at internet censorship systems in Egypt and Iran. I argue that many state and non-state actors have an influential role in producing censorship systems. I begin by looking at the architecture of the internet. I then widen my angle to include the research centers, government agencies and private companies that produce online censorship technologies. Navigating the networks of internet censorship while spatially located within its infrastructures and institutions exposed past and present actors involved in producing and maintaining internet censorship.

Alexander Somogyi

HISTORY

Academic Advisor and Project Mentor: Leonard Smith, History

"An Island Reborn": Imagery of Japan in Mid-twentieth Century American Magazines

My research takes a look at post-World War II mid-century American magazine visual representations of Japan. By looking at imagery--advertisements, illustrations, photographs--in periodicals like Life and National Geographic, I map out the complicated political and cultural relationship between Japan and the U.S. At the close of the American Occupation of Japan in 1952, Japan was a sovereign country, a World War II menace, and much needed Cold War friend of the United States. In order to rebrand the Japanese as a harmless American ally, American magazine print media imagery and advertising depict an idealized representation of the Japanese and America's relationship with the Japanese. Essentially, this research, an in depth visual analysis of 1950s magazine pictures, seeks to understand how a new image of Japan was sold to a fearful American public.

Charis Stanek

Sociology and Psychology

Jerome Davis Research Grant

Academic Advisors: Daphne John, Sociology; Al Porterfield, Psychology

Project Mentors: Clovis White and Greggor Mattson, Sociology; Cindy Frantz, Psychology; Matthew Hayden, Associate Dean of Students

Identifying with Mental Illness at Oberlin: Social Barriers to Help-Seeking

Previous research shows that mental health issues often manifest in the late teens and early twenties, the age of many college students (Kessler et al., 2007). This report is a case study about mental illness at Oberlin College. The purpose of this study was to test the hypothesis that the subculture of Oberlin may incentivize students to maintain their identity with mental illness. Three hundred and eighty-four Oberlin students were surveyed about their perception of conversations around mental illness and behaviors of mentally ill students at Oberlin. In fifty semi-structured interviews, students were asked to elaborate on how they came to identify with mental illness and factors that may contribute to poor mental health on campus. My results support my hypothesis that while students do not feel as though mental illness is stigmatized at Oberlin, the subculture on campus incentivizes people to prioritize self-image over mental health. An identity with mental illness at Oberlin can give students social capital, a sense of belonging, and contribute to a sense of self. The implication of this study is that social incentives to identifying with mental illness may be an additional variable to poor mental health on campus. Additional research should look into the correlation between motivations to maintain one's identity with mental illness and reduced help-seeking behaviors.

Jiyao Tang

PHILOSOPHY and POLITICS

Academic Advisors: Peter McInerney, Philosophy; Marc Blecher, Politics

Project Mentor: Peter McInerney, Philosophy

Philosophy of Truth, and Philosophical Life of Michel Foucault

In this thesis on philosophy of Michel Foucault, I argue for a consistent reading of Foucault's works and conceive his philosophy as a continuous problematization of concept of truth. In the first half of this essay, I conceptualize Foucault's "critical theory" based on his account of modern concept of truth. I therefore argue that Foucault not only makes a sound critique of the constraints and oppression of present social situation, but for the very same reason avoids a Marxist teleology, to which other critical theorists[1] appeal. For the second half, I analyze Foucault's later works and lectures in College de France. Through his studies of Socrates and Cynics on "care of self" and "parrhesia", I demonstrate how Foucault establishes a "second reality" of philosophy as "philosophical life of permanent becoming" and articulate his understandings of "aesthetic of existence", and "democratic" participatory politics. I then conclude with my attempted definition of Foucauldian freedom that points to intensive self-constitutions and transformations through continuous practices rather than the finalization achieved by either positive Science or a total Revolution.

Han Taub

THEATER and BIOLOGY

Academic Advisors: Matthew Wright, Theater; Keith Tarvin, Biology

Project Mentor: Matthew Wright, Theater

"Unsex Me Here": Teaching Shakespeare across Race and Gender

This paper both examines the history of Shakespeare education and looks forward to the future of Shakespeare in the lives of young people. It argues that the reality of our curriculum in this country is that Shakespeare will always be present, so the question arises - how do we utilize its presence in a way that empowers girls, especially girls of color, in their autonomy, ownership, and self-worth. This paper utilizes the author's experiences running the Oberlin Children's Shakespeare Project as a case study to look at the concrete effects of Shakespeare education along racial and gender lines. By examining the effects of textual violence, image, misogyny, and racism on the students who are enacting them through performance, this paper hopes to provide insight into how to make Shakespeare education, and teaching of classics at large, empowering to girls and students of color.

Nic Vigilante

CHEMISTRY and VIOLA PERFORMANCE

National Science Foundation Syracuse University iREU in Chemistry

Academic Advisors: Manish Mehta, Chemistry and Biochemistry; Kirsten Docter, Viola Performance

Project Mentor: Anne-Marie Kelterer, Institut für Physikalische und Theoretische Chemie, Technische Universität Graz

Deviations from Ideality: Quantum Cluster Equilibrium Theory and the Methanol-Benzene Binary Mixture

The methanol-benzene binary mixture, which has an azeotrope with a 3:2 methanol:benzene molar ratio at 329 K, provides a useful system through which to study the computation of thermodynamic properties of non-ideal mixtures. Methanol-benzene clusters of various molar ratios up to mixed pentamers are described with Density Functional Theory (DFT) to model possible interactions in the binary liquid. Thermodynamic data, cluster populations, and phase transitions are then calculated using Quantum Cluster Equilibrium (QCE) theory in order to evaluate the efficacy of current computational methods in describing deviations from ideality. Vibrational entropy, enthalpy of mixing, Gibbs free energy of mixing, and boiling points are shown to be highly dependent upon the types of normal mode deflections calculated for individual clusters, indicating that vibrational anharmonicity plays an important role

in describing thermodynamic behavior. By accounting for the anharmonic characteristics of this non-ideal mixture, azeotropic behavior can be accurately and robustly modeled.

Gabrielle Walsh

BIOCHEMISTRY and BIOLOGY

Academic Advisors: Manish Mehta, Chemistry & Biochemistry; Yolanda Cruz, Biology

Project Mentor: Rebecca Whelan, Chemistry & Biochemistry

Optimization of Magnetic Fluidic SELEX to Select Aptamers for Ovarian Cancer Biomarker HE4

Ovarian cancer is among the most difficult to detect and deadly cancers, bringing about the need for more sensitive tools in clinical diagnosis. High-affinity nucleic acid aptamers demonstrate many advantages over traditional diagnostic antibodies. In order to select aptamers for the ovarian cancer biomarker HE4, we have optimized magnetic-fluidic SELEX as well as implemented a bioinformatic pipeline to aid in the refinement of the resultant sequence data. As suggested by its name, magnetic-fluidic SELEX makes use of Ni-NTA magnetic agarose beads complexed with the tagged protein of interest, HE4-6-His, aided by a fluidics platform to fix and separate strongly binding potential aptamers from weakly binding potential aptamers. In addition, we improved processing between SELEX rounds by optimizing asymmetric PCR and gel extraction. We used this system for five rounds of SELEX, after which each candidate pool was sequenced on an Illumina HiSeq; resulting sequence data were processed using the Galaxy bioinformatics platform. We found that the population of DNA has been substantially altered during SELEX, with some evidence that select candidates may show affinity for HE4. We expect to continue to use Galaxy alongside capillary electrophoresis and fluorescence anisotropy to analyze the binding capabilities of top aptamer candidates.

Julie Watiker

BIOLOGY

Robert Rich Student Research Grant

Academic Advisor: Yolanda Cruz, Biology

Project Mentors: Yolanda Cruz, Maureen Peters, and Laura Romberg, Biology

Structure-Function Study of the Lab Opossum Prostate

The mammalian prostate gland secretes fluids that, along with sperm from the testes and fluids from other glands, comprise semen. While the structure and function of the prostate is well known in eutherians, the anatomy of the prostate gland in metatherian (marsupial) mammals is poorly studied. My goal is to contribute to the knowledge regarding prostate anatomy as a way of understanding the evolution of internal fertilization as an effective reproductive strategy by exploring the homologous and analogous aspects of this organ in metatherians versus eutherians. Through dissections of male laboratory opossums and rats (*M. domestica* and *R. norvegicus*, respectively), I collected data on their gross prostate anatomy. The rat prostate consists of three lobes, dorsal, lateral, and ventral arranged around the base of the urethra. The opossum prostate consists of three regions, S1, S2, and S3 that wrap around the urethra. Using histological analysis, I compared their microanatomy and immunolocalized three proteins that are produced in the three different lobes of the rat prostate. Detecting their presence similarly in distinct sections of the opossum prostate would provide insight into the functional homology of this organ as well as provide evidence that prostate genes are conserved in both species. While each of the proteins was present in the opossum, they were not as localized as the lobes of the rat prostate. This suggests that the way in which the sections of the opossum prostate function differ from the lobes of the rat prostate despite the conservation of genes.

Tara Wells

LATIN LANGUAGE & LITERATURE

Academic Advisor and Project Mentor: Kirk Ormand, Classics

Distinguishing between Romans and Non-Romans in Tacitus's *Germania* and *Agricola*

In this paper, I explore the ways in which the Roman Historian Tacitus distinguishes between Roman and non-Roman peoples throughout his *Germania* and *Agricola*. In particular, I examine the diction and literary forms that Tacitus uses when describing Romans, Britanni, and Germani. Ultimately, the greatest significance which arises through exploring Tacitus' descriptions of Romans and non-Romans is that non-Romans are more closely aligned with their morals and socio-cultural customs, whereas Romans are defined primarily in terms of political structures. By piecing together these defining moments it is possible to recognize Tacitus' positive and negative attitudes towards social organization in general, and the Roman state in particular. Tacitus' distinctions between Roman and non-Roman peoples reveal, in other words, Tacitus' ideals for a successful state.

Shai Wolf

DANCE

Academic Advisor: Alysia Ramos, Dance

Project Mentor: Crystal Biruk, Anthropology

Exploring Implications of Artistic Motivations in Dance

This research entails a preliminary investigation of the way choreography is created, performed, and interpreted. The aim of the project is to better understand the process in which movers make work regarding identity and the potential implications of music and sound choices, movement, and bodies. □ This research will explore the artistic motivations of storytelling and representations of the self in dance and performance. I will aim to tie together understandings of vulnerability, performativity, and the body within the field of anthropology to explore the intentions of choreographers and dancers making identity based works and how their choices and bodies might reflect larger social implications and function as a field-site for interpretations of identity. The project will involve understandings of my own experiences both in creating and working with choreographers, interviews with choreographers, and participant observation.

Cella Wright

COMPARATIVE LITERATURE and BIOLOGY

Academic Advisors: Claire Solomon, Hispanic Studies and Comparative Literature; Mary Garvin, Biology

Project Mentors: Claire Solomon, Hispanic Studies and Comparative Literature; Mary Garvin, Biology

The Nature of Narratives and the Narratives of Nature: Wildlife Film, the Ecology of Folklore, and Wild Metamorphoses

Narratives profoundly reflect and affect how human beings interact with the natural world and where they place themselves within it. Indeed, nature documentaries and wildlife programs dramatically impose narratives upon biological contexts. A critical analysis of these mediums can inspire viewers to question their perceptions of nature and the presumptive infallibility of science, thus facilitating entirely new views of their relationship to the environment. I use a meta-analytical approach in tandem with close reading on a sampling of nature programs,

wildlife films, folklore, and literature. In nature documentaries in particular, dominant narratives become discernible and can be applied, rather humorously, to new material. Interestingly enough, the role of science and metamorphosis manifests notably in some components of Latin American literature: people are depicted as morphing into wild animals, and the persuasive role of scientism is scrutinized as a (neo)colonial tool. Finally, the folktale of La Llorona, significant in Latinx folk traditions and diasporic communities, has an expansive history comprised of seemingly endless iterations and adaptations that participate in a complex web of communication. The study of ecology explores the complexity of interactions within ecosystemic networks. Narrative ecology can thus help us better understand how texts relate to one another as well as what kinds of conditions may have influenced them, such as gendered archetypes, colonization, and diaspora. In this way, narrative ecology asks: how are we representing ourselves in relation to nature and why?

Shang Yasuda

HISTORY and EAST ASIAN STUDIES

OBERLIN COLLEGE RESEARCH FELLOWSHIP

Academic Advisors: Shelley Lee, History; Hsiu-Chuang Deppman, East Asian Studies

Project Mentor: Renee Romano, History

Flying Tigers: Transnational Memories of a World War II Collaboration

In 1941, under the leadership of General Claire Chennault, the Flying Tigers – a volunteer group of fighter pilots and crewmen from the United States – traveled to Southwestern China to support the Chinese Nationalist military in their resistance against the Japanese. How do these countries remember the Flying Tigers, and how is the memory shaped by domestic and international politics? Drawing from media coverage, museums, popular media, and memoirs, I will trace the evolution of the memories of the Flying Tigers in the U.S. and China from 1941 to the present.

Xun Zheng

EAST ASIAN STUDIES

Academic Advisor: H.C. Deppman, East Asian Studies

Project Mentors: Ann Sherif and James Dobbins, East Asian Studies

Mori Ogai's Suicidal Samurai and Bushido in Early Twentieth-Century Japan

The year 1912 witnessed Mori Ogai, one of Japan's most prominent 20th century novelists, turning away from depicting contemporary settings to portraying Japan's feudal past in his fictional works. Shortly after General Nogi Maresuke and his wife followed the anachronistic practice of loyal samurai and committed ritual suicide to follow Meiji emperor into death on September 13th, 1912, Mori Ogai began to publish historical fiction that center around loyal samurai in the Tokugawa period (1603-1868). My paper attempts to historicize two of Mori Ogai's samurai stories from this period, "The Last Testament of Okitsu Yagoemon" and "The Abe Clan," against the background of the modern articulation of feudal bushido ("the way of samurai") discourse as ethical codes suitable for a civilized and enlightened Japan. By analyzing the contradictions of the warrior value of loyalty in his stories, I argue that Ogai problematizes and satirizes the modern idealization of the feudal samurai-lord bond by referring to samurai tropes in late Meiji popular culture. In addition, I examine the experience of reading Ogai's historical fictions as a modern reader, focusing on the way they highlight the temporal and ethical gap between readers and feudal stories. While revisiting Eric Hobsbawm's critique of "invented tradition" as a means to retain continuity with the past, I suggest that Mori Ogai's representation of feudal samurais goes beyond the seeking of continuity with Japan's warrior past and challenges readers to reconsider the compatibility of former samurai ideals with the modern world.

Yiyin (Mia) Zhong

EAST ASIAN STUDIES and COMPARATIVE LITERATURE

Academic Advisor: Hsiu-Chuang Deppman, East Asian Studies

Project Mentor: Ann Sherif, East Asian Studies

Tōkaidō in Modern Representation

This project examines the representation of the Tōkaidō road in a modern travel book published in 2000, and compares the book to an accordion map from the Edo period (1603-1868). As one of the crucial roads in Japan since the Edo period, the Tōkaidō road was closely associated with travel, either for political, leisure, or pilgrimage purposes. The mingling of people from different classes made the road a unique space, where commoner's culture flourished. The road was represented in many forms, including maps, travel guides, and ukiyo-e prints. The modern travel book adapts some conventions of spatial representations in traditional print media; in its content the history embodied in the locales is also the defining character of the road. On the other hand, the process of modernisation has altered the ways Tōkaidō is approached in the book. The construction of the national railway system, the booming consumer culture, and the travel campaigns in the late 1900s all have exerted influence on the itinerary offered by the travel book. This project tries to investigate how Tōkaidō's historical importance and modern means of travel influence the spatial representation in the book, as well as the Japanese self-identification during the virtual or actual travel on this road.

Recitals

Schedule of Oberlin Conservatory senior recitals taking place in April and May

FRIDAY, APRIL 27, 2018

4:30 PM	Robert Earle, bass	Stull Recital Hall
6:30 PM	Nicolas Randrianarivelo, voice	Kulas Recital Hall
8:00 PM	Jeremy Kreutz, cello	Kulas Recital Hall
8:00 PM	Cory McGee, voice	Warner Concert Hall

SATURDAY, APRIL 28, 2018

1:30 PM	Theodora Nestorova, voice	Kulas Recital Hall
1:30 PM	Justin Sims, trombone	Warner Concert Hall
3:00 PM	Yizhang Liu, composition	Stull Recital Hall
3:00 PM	Madison Warren, horn	Warner Concert Hall
4:30 PM	Maggie McGuire, voice	Kulas Recital Hall
6:30 PM	Brian King - Classical Guitar	Fairchild Chapel
6:30 PM	Rachel Liss, voice	Kulas Recital Hall
8:00 PM	Liuwenji Wang, violin	Kulas Recital Hall
8:00 PM	Cara Bender, voice	Warner Concert Hall

SUNDAY, APRIL 29, 2018

1:30 PM	Andrew Ennis, trombone	Warner Concert Hall
3:00 PM	Zachariah Reff, cello	Kulas Recital Hall
6:30 PM	Thomas Valle-Hoag, voice	Kulas Recital Hall
8:00 PM	Eliot Haas, cello	Stull Recital Hall

TUESDAY, MAY 1, 2018

8:00 PM	Peter Gabrielides, jazz guitar	The Birenbaum
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1:30 PM	Chloe de Souza, voice	Kulas Recital Hall
1:30 PM	Hyeonseo Lee, piano	Warner Concert Hall
3:00 PM	Luke (Yang) Lou, piano	Warner Concert Hall
4:30 PM	Miriam Liske-Doorandish, cello	Kulas Recital Hall
4:30 PM	Celina Kobetitsch, piano	Warner Concert Hall
6:30 PM	Aida Badalian, piano	Stull Recital Hall
8:00 PM	Dongyan Yang, piano	Warner Concert Hall

WEDNESDAY, MAY 9, 2018

6:30 PM	Matt Bickett, organ	Finney Chapel
6:30 PM	David Van Beveren, oboe	Stull Recital Hall

FRIDAY, MAY 11, 2018

4:30 PM	Katarina Chavez, oboe	Kulas Recital Hall
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Events are subject to scheduling changes. For the most up-to-date schedule, please visit <http://new.oberlin.edu/calendar/> or call Concert Production at 440.775.8610.