

Apr 27th, 1:00 PM - 6:00 PM

## 2012 Senior Symposium Program

Office of the Dean of Studies

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2012

## SENIOR SYMPOSIUM

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Celebrating the Scholarly and Artistic  
Achievements of Oberlin's Class of 2012

April 27, 2012  
Oberlin Science Center

'12

**OBERLIN**  
COLLEGE & CONSERVATORY

## DEAN'S GREETING

One of the hallmarks of an Oberlin education is the opportunity to pursue independent research or creative endeavors. Each year, hundreds of students engage in intensely focused work on their own projects: investigating phenomena in the laboratory, combing through archival materials, analyzing a collection of texts, finding new patterns in social science data, or creating new works for exhibitions or performances. The Senior Symposium establishes a forum for the recognition and celebration of these accomplishments and invites students to bring their work from the laboratories, libraries, and studios to share with the community as a whole. In this third annual celebration, more than 50 seniors will present their work this afternoon, and dozens more will be displaying or performing their work in other venues throughout April and May.

This event was made possible by the efforts of Randal Doane, assistant dean of studies, and funding from the Mellon Foundation. Cosponsors for this event include the Office of the Dean of Studies and the Office of the Dean of Arts and Sciences. To the seniors presenting at the symposium: congratulations on your accomplishments. I am looking forward to hearing more about your work.

*Sean Decatur*

*Dean of the College of Arts and Sciences*

# PROGRAM

1:00 P.M.

*Science Center  
Craig Lecture Hall*

OPENING REMARKS

Sean Decatur, Dean, College of Arts and Sciences

1:30-2:30 P.M.

*locations vary*

SESSION 1

Choose from among six panels, see pages 4-5

2:45-3:45 P.M.

*locations vary*

SESSION 2

Choose from among five panels, see pages 5-6

4:00-5:00 P.M.

*locations vary*

SESSION 3

Choose from among six panels, see pages 6-7

5:00-6:00 P.M.

*Academic Commons  
Science Center*

RECEPTION

NOTE: Room A262 in the Science Center is located just above the Academic Commons. K209 is located above the entryway into the Science Center off Lorain Street. To get to K209 from the first floor, head south down the main corridor and take the staircase adjacent to the Lorain Street entrance to the second floor. To get to K209 from A254, exit the room and turn right, then left down the hallway, and left again at the end of the hallway.

# SESSION I • 1:30-2:30 PM

## **PANEL 1: Listening in: Case Studies of Musical Form and Historical Change**

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*Moderator: Charles McGuire, Professor of Musicology*

Amy Hess	Interpretation as Analysis: Sonata Form in the First Movement of Ravel's String Quartet
Chad Putka	Egalitarianism, Musical Excellence, and Style Preservation in the Barbershop Vocal Contest
Galen Rogers	Taiko Drumming in the Northeastern United States: Transmission, Innovation, and Power

*Science Center, A154*

## **PANEL 2: Hablar el pasado: La 'negociación' de las Guerras Civiles en la ficción y la memoria histórica (To Speak the Past: The "Working Through" of Civil Wars in Fiction and Historical Memory—this panel is presented in Spanish)**

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*Moderator: Sebastiaan Faber, Professor of Hispanic Studies*

Aubrey Dueweke	La memoria histórica en España y Chile: La influencia de los documentales de Montserrat Armengou / Ricard Belis y Patricio Guzmán
Naila Paul	Autoría, ambigüedad, y autoritarismo en las narrativas carcelarias de Sinan Antoon y Dulce Chacón
Evanne Gordon	Dos caras a la luz: El lugar de la objetividad en obras españolas de la época posfranquista

*Science Center, A155*

## **PANEL 3: Causes of Despair, Delight, and Ambivalence in American Education**

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*Moderator: Ana Cara, Professor of Hispanic Studies*

Roger Kligerman	The Funding of Education in Ohio and the Perpetuation of Inequality
Emily Gazda	Los niños que se quedan atrás: The Double Standard of Bilingualism for Minority Language Children in American Public Schools
Netta Rappaport	The Mozart Effect: Music, Success, and Socioeconomic Status in an American Classroom

*Science Center, A254*

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**PANEL 4: History in Fragments: Icons, Ornamentation, and Imitation in Western Europe**

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*Moderator: Erik Inglis, Associate Professor of Art History*

Alex Cavander	Decoding a 15 <sup>th</sup> -Century Fool
Claire Jenson	Robert of Hangest's Beauvais Missal: Reconstructing a Medieval Illuminated Manuscript
Suzanne Levin	Classical References in the <i>Révolutions de Paris</i> and the Rise of Republicanism, June-September 1791

*Science Center, A255*

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**PANEL 5: Express Yourself: Case Studies in Art, Politics, and Sexuality**

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*Moderator: Nick Jones, Professor of English*

Meghan Farnsworth	Mind the Gap
Samantha Williams	The Legacy of Quetzalcoatl and Huitzilopochtli: Indigenous Imagery in the Murals of Mexico City and Los Angeles
Rose Wesche	Sexual Relationships at the Transition to College

*Science Center, A262*

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**PANEL 6: Us and Them: Explorations of the Boundaries of Identity**

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*Moderator: Len Smith, Chair and Professor of History*

Jake Purcell	Canon, Code, and Cloister: A Legal History of the Nuns' Revolt at Sainte-Croix, 589-591
John Cheng	Left Parties in Western Europe: Capitulating to Xenophobia
Phil Lee	Evangelical Protestants and Political Trust

*Science Center, K209*

## SESSION II • 2:45-3:45 PM

### **PANEL 1: The Echoes of Violence: Trauma, Testimony, and Identity in the Aftermath of War**

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*Moderator: Steven Volk, Professor of History and Latin American Studies*

Hannah Joseph	Why Study Violence? Trauma and Survival After the Pinochet Dictatorship
Sonia Roubini	Education, Citizenship, and Participation: Defining Variables for Post-Conflict Reconstruction in Bosnia-Herzegovina
Maya Matalon	Re-Transforming Identity: Testimonial Literature by Jewish-Argentine Survivors of Argentina's Dirty War

*Science Center, A154*

### **PANEL 2: The Production of Culture and Style**

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*Moderator: Susan Kane, Professor of Art History*

Eli Goldberg	Archeometric Characterization of Roman Tile Fabrics from the Sangro Valley, Italy
Lydia Stout	French Choral Music from the Renaissance to the 20 <sup>th</sup> Century
Violet Peña	Living Greguerías

*Science Center, A155*

### **PANEL 3: The Generative Case: Studies of Verb Morphology, Virtual Sonnets, and Twitter Diplomacy**

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*Moderator: Ben Schiff, Professor of Politics*

Miriam Rothenberg	Nonactive Verb Morphology in Classical Nahuatl
Claire Nelson	Automatic Generation of Shakespearean Sonnets
Owen Henry	The Utility of Social Media in Public Diplomacy

*Science Center, A254*

### **PANEL 4: Making Records: Studies of Musical Style, Musical Scores, and Surveillance**

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*Moderator: Robert Geitz, Chair and Associate Professor of Computer Science*

Daniella Sanchez	(Inter)active Listening: A Study of Video Game Music
Maya Coleman	Time-Lapse in Tappan Square
Aaron Kanter	Location Security in Android Smartphones

*Science Center, A255*

**PANEL 5: Family Trees: Studies of Origins in Flora and Fauna**

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*Moderator: Keith Tarvin, Associate Professor of Biology*

Rachel Plumb	Phylogenetics and Phylogeography in a Gypsum Endemic Clade: Haploësthes and Sartwellia
Chloe Drummond	The Age and Origins of Arid Adaptations and Gypsum Endemism in Nyctaginaceae Inferred Using Relaxed Molecular Dating
Matt Hartsock	Tract-Tracing Study in the Goldfish: A Suspected Homologue of the Mammalian Central Nucleus of the Amygdala

*Science Center, K209*

**SESSION III • 4:00-5:00 PM**

**PANEL 1: Decision/Indecision in East Asia: Studies of Historical Memory and Dialogue Without End**

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*Moderator: Suzanne Gay, Professor of East Asian Studies and History*

Ricardo Barrios	Control the Past, Control the Future: The Struggles Behind the Chinese Communist Party's Historiography of the Cultural Revolution
Sarah Fries	Nuclear Power Policy in Japan
Rene Kamm	The Sino-Tibetan Dialogue

*Science Center, A154*

**PANEL 2: Snapshots of the Interior: Case Studies of Cognition, Prediction, and Image Technologies**

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*Moderator: Jan Thornton, Professor of Biology and Neuroscience*

Alex Edwards	Neurological Predisposition to Risk-Taking in Chronic Alcohol Abuse by South African Secondary School Students
Christopher Haddad	Elimination of Implant-Induced Distortions in Computed Tomography Images

*Science Center, A155*

### **PANEL 3: Historical Frequencies of Gender, Literature, and Subjectivity**

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*Moderator: Sandra Zagarell, Professor of English*

Brittany Brahn	Symbolism and Language Within <i>The Handmaid's Tale</i> and its Relevance to Literary Scholarship
Arielle Kaplan	"Trying to Say": Memory, Overheard Mothers, and the Rhetoric of Modernity in Faulkner's <i>The Sound and the Fury</i>
Rebecca Nieto	A Never-Changing Map: Cartographic Experiments and a Return to the Subject in <i>Cloud Atlas</i>

*Science Center, A254*

### **PANEL 4: Empire, Agency, and the Body Politic in Late Modernity**

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*Moderator: Clayton Koppes, Professor of History*

Joe Leffler	A Biological-Historical Narrative of the Bengal Famine of 1943-44
Nicholas Adell	Lyndon Johnson and the Atlantic Alliance
J. Meade Klingensmith	The Reinvention of Britain: British National Identity and the European Community, 1967-1975

*Science Center, A255*

### **PANEL 5: Managing Natural Resources: Case Studies in Scarcity and Abundance**

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*Moderator: Carl McDaniel, Visiting Professor of Environmental Studies*

Annika Sullivan	Community Based Stormwater Management Action: OSWAMP
Kelsey Atkinson	Water Privatization in Latin America
Melissa Elie	Corporate Presence in Trinidad and Tobago: The Stories of Protest Media

*Science Center, A262*

### **PANEL 6: From Fertilization to Infection: Studies of Cellular Action**

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*Moderator: Taylor Allen, Associate Professor of Biology*

Jebran Haddad	The Acrosome Reaction of Paired Sperm in <i>Monodelphis domestica</i>
Nadia Safa	Role of pYap1 in Trophoblast Formation in the Laboratory Opossum
Renee Briemann	Genetic Investigation of a Digestive Motor Program
Inyang Udo-Inyang	HIV Cell Entry and Genetic Host Factors

*Science Center, K209*

# MEET THE PRESENTERS

## NICHOLAS ADELL HISTORY

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*Advisor and Mentor: Clayton Koppes, History*

### **Lyndon Johnson and the Atlantic Alliance**

This study provides a detailed analysis of Lyndon Johnson's management style and the events that challenged the American vision of Atlantic affairs during the Cold War. While in office, Johnson faced Charles de Gaulle's antagonistic policies, increasingly complex monetary problems, and a fundamental shift in the conception of nuclear defense structures. His skill in managing these situations left the North Atlantic Treaty Organization, the Atlantic Alliance, and East-West relations in better shape, and paved the way for a more realistic and fruitful Cold War detente in the future.

*Nicholas is from New York and has been active in a wide range of student government and representative activities at Oberlin. After graduation, he intends to live and work in Chicago and attend law school there in the near future.*

## KELSEY ATKINSON ENVIRONMENTAL STUDIES and POLITICS

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*Advisors: Camille Washington-Ottombre, Environmental Studies, and Paul Dawson, Politics*  
*Mentor: Eve Sandberg, Politics*

### **Water Privatization in Latin America**

Dwindling supplies of fresh water, tight government budgets, pressure from international agencies, and public demands for more inclusive domestic water and sewage infrastructure have boosted the private-sector participation (PSP) in water and sewage utility services around the world. My research focuses on how and why PSP in water and sewage utility services can be beneficial or detrimental to urban centers in Latin America by comparing the cities of São Paulo, Brazil, and Cochabamba, Bolivia.

*Kelsey is originally from Wilmette, Illinois, and spends her free time performing slam poetry, removing invasive plant species from campus with OSWAMP, composting, running, and climbing trees. She is an academic ambassador and a former women's varsity soccer player, and she spent a winter term in West Virginia fighting mountaintop removal mining. After college she hopes to research and implement environmentally sustainable initiatives around Chicago and become involved in policy-making.*

## RICARDO BARRIOS EAST ASIAN STUDIES and POLITICS

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*Advisor and Mentor: Marc Blecher, East Asian Studies and Politics*

### **Control the Past, Control the Future: The Struggles Behind the Chinese Communist Party's Historiography of the Cultural Revolution**

Modern Chinese historiography is a battlefield upon which factions of the Chinese Communist Party vie for power over the past in order to control the present—and the future. This study of the changing interpretations of the Cultural Revolution, and the historical debates that shaped them, illustrates the ongoing struggle to shape history and reveals emerging trends that shape Chinese historiography today.

*Ricardo came to Oberlin from Guaynabo, Puerto Rico. An accomplished fencer, he served as captain of the Oberlin College Fencing Team for two years. As next year's Shansi Fellow to Beijing, Ricardo hopes to further his study of Mandarin Chinese and Chinese politics in order to promote understanding and cooperation between the people and governments of the United States and China.*

**BRITTANY BRAHN**  
**CREATIVE WRITING and ENGLISH**

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*Advisors: Sylvia Watanabe, Creative Writing, and William Patrick Day, English*  
*Mentor: T.S. McMillin, English*

**Symbolism and Language Within *The Handmaid's Tale* and its Relevance to Literary Scholarship**

The face of literary scholarship is changing as the divide between what is considered a "popular novel" and "high literature" continues to narrow. In this project, I consider Margaret Atwood's popular yet critically acclaimed dystopian novel *The Handmaid's Tale*. With its innovative manipulation of language and symbolism, *The Handmaid's Tale* is a prime candidate for serious literary criticism. Because the novel challenges traditional methods of analysis, its study can be looked upon as a model for the future of literary scholarship.

*Brittany is a Los Angeles native, a writer, a musician, and a voice actor. She also serves as the audio engineer for WOBC's noir-comedy radio show, "The Dead Hear Footsteps," and as staff editor and treasurer for Spiral, Oberlin's genre-fiction magazine. Brittany has interned with the Rock and Roll Hall of Fame and has written on numerous occasions for ClevelandClassical.com.*

**RENEE BRIELMANN**  
**BIOLOGY**

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*Advisor: Angela Roles, Biology • Mentor: Maureen Peters, Biology*

**Genetic Investigation of a Digestive Motor Program**

Effective coordination of the digestion process requires timely and efficient communication between the cells and tissues of the body. Our lab's goal is to identify genes and proteins that underlie the digestive motor program in *Caenorhabditis elegans*, a small nematode that is used by many biological researchers as a model organism for other multi-cellular creatures. We induce mutations in each gene within the genome, and then test for digestive problems in order to expand our knowledge of this essential process.

*Renee hails from Warminster, Pennsylvania, and has been a deejay at WOBC-FM and helped maintain the Living Machine, Oberlin's own natural wastewater treatment center. Renee hopes to pursue a career in scientific research, and has worked in the Glotzer lab at the University of Chicago, investigating cell polarity in *C. elegans* embryos.*

**ALEX CAVANDER**  
**ART HISTORY**

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*Mentor: Erik Inglis, Art History*

**Decoding a 15<sup>th</sup>-Century Fool**

The Allen Memorial Art Museum holds a unique piece of sculpture, which represents a 15<sup>th</sup>-century fool. The Italian Francesco Laurana presumably carved this bust for a French patron in the court of Anjou in the 1460s. The depiction of the fool raises important questions about the representation of fools in general, and a “fool type” that may have been circulating in the court in which the bust was carved.

{ *Alex grew up in New York City and spent a winter term and summer interning at the Metropolitan Museum of Art for two different curators. He is undecided as to his future career path, but is applying for gallery positions in the Bay Area for next year.*

**JOHN CHENG**  
**POLITICS**

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*Advisor and Mentor: Chris Howell, Politics*

**Left Parties in Western Europe: Capitulating to Xenophobia**

My project examines how leftist parties in Western Europe have responded to the rise of racist, xenophobic, and anti-immigrant sentiment since the Second World War. Using the examples of the British Labour Party, the French Socialist Party, and the Swedish Social Democratic Party, I argue that both a varieties-of-capitalism approach and examinations of party type can illuminate and possibly explain the divergence in the rhetoric, ideology, and public policy among these parties.

{ *John comes to Oberlin from East Hampton, Connecticut. He served as an officer for the College Democrats; edited the Wilder Voice; and wrote pieces for United Press International, The Hartford Courant, and The Wilson Quarterly. John hopes to pursue careers both in journalism and academia, teaching political science.*

**MAYA COLEMAN**  
**MUSICAL STUDIES**

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*Advisor: Jared Hartt, Music Theory • Mentor: Charles McGuire, Musicology*

**Time-Lapse in Tappan Square**

Time-lapse is a film process derived from chronophotography. Instead of taking fast movements and breaking them into parts, time-lapse covers a range of motion and turns it into one fluid movement. After researching time-lapse photography and films, I made a film in Tappan Square. My presentation explores how I composed the music to illuminate rarely used compositional elements for an image that changes subtly but consistently over time, in contrast to the highly dramatic shifts characteristic of film music.

{ *Maya spends her time composing, singing, and co-directing the a cappella ensemble Nothing but Treble. As a vocalist, she has appeared at Carnegie Hall and at venues in Germany and London, and she recently collaborated with the Oberlin Jazz Ensemble and jazz bassist Rufus Reid. Her film scores include The Lone Wolf (2010), by Jacob Coburn, and Anna Rising (2012), by Ben Tobin.*

**CHLOE DRUMMOND**  
**BIOLOGY and PIANO PERFORMANCE**

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*Advisors: Roger Laushman, Biology, and Sanford Margolis, Piano • Mentor: Michael Moore, Biology*

**The Age and Origins of Arid Adaptations and Gypsum Endemism in Nyctaginaceae Inferred Using Relaxed Molecular Dating**

Exposures of the mineral gypsum are scattered in an island-like fashion throughout the Chihuahuan Desert. Despite being a difficult substrate for plants to survive on, many plant species grow only on gypsum, including several in the plant family Nyctaginaceae. To determine whether gypsum specialist plants represent ancient species or are relatively young, we infer the age of gypsum endemism in Nyctaginaceae through a molecular dating approach incorporating analyses of DNA sequences and the fossil record.

*Chloe came to Oberlin from New York City. She is a recipient of an NSF scholarship in Science, Technology, and Mathematics, and works in the America Reads program at Prospect Elementary School. Chloe was a Bonner Scholar and served in leadership roles with the Asian American Alliance and the Edmonia Lewis Center for Women and Transgender People. She begins a PhD program for plant systematics this fall.*

**AUBREY DUEWEKE**  
**HISPANIC STUDIES and PSYCHOLOGY**

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*Advisor and Mentor: Sebastiaan Faber, Hispanic Studies • Advisor: Stephan Mayer, Psychology*

**La memoria histórica en España y Chile: La influencia de los documentales de Montserrat Armengou / Ricard Belis y Patricio Guzmán**

The people of Spain and Chile have dealt with the painful histories of their military dictatorships in distinct ways. In this project, I analyze two documentary films from each country about their dictatorial pasts in order to explore the concept of historical memory and how the processes of healing and understanding differ in Spain and Chile. For decades, a lack of openness regarding the Franco Regime persisted in Spain, whereas the people of Chile are much more forward with their demands for truth and justice. The documentaries of Armengou/Belis and Patricio Guzmán are important catalysts to dialogue and the creation of a shared version of the past.

*Aubrey hails from Kalamazoo, Michigan, and spent the most recent school year living in South America. After graduation, she hopes to teach English as a second language and eventually pursue a graduate degree in clinical psychology.*

**ALEX EDWARDS**  
**NEUROSCIENCE**

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*Advisor: Jan Thornton, Neuroscience • Mentor: Herman Singh, Vice Principal, Bonela Secondary School*

**Neurological Predisposition to Risk-Taking in Chronic Alcohol Abuse by South African Secondary School Students**

There is a wealth of research on the effects of chronic alcohol abuse on risk-taking behavior in adults, but very little research on its effects on children. In this study, 75 chronic alcohol-abusing students and 75 control students were administered a battery of cognitive tests in order to evaluate risk-taking behavior. This study has found that chronic alcohol-abusing children are predisposed to risk-taking, compared to control group subjects.

{ Alex grew up in Portland, Oregon, and is a member of the fencing team. He is an active member of club sports council and an editor for The Synapse. Alex has interned with Dr. John Crabbe, one of the leading researchers in the field of alcohol abuse, and hopes to work in related areas of research.

**MELISSA ELIE**  
**COMPARATIVE AMERICAN STUDIES**

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*Advisor: Gina Perez, Comparative American Studies*  
*Mentor: Steven Volk, History and Latin American Studies*

**Corporate Presence in Trinidad and Tobago: The Stories of Protest Media**

In the mid-20<sup>th</sup> century, through the work of foreign corporations, oil and natural gas began to dominate the economy of Trinidad and Tobago. This research explores the activities of BP and Alcoa from the standpoints of the corporations themselves and citizen protestors, respectively, and analyzes the stakes of each party in relation to the notions of empire, neoliberalism, and sustainable development.

{ Melissa was born in Trinidad and Tobago and came to Oberlin by way of Oak Park, Illinois. She is the chair of Students of Caribbean Ancestry, works with the Oberlin College Dialogue Center, and is a member of the track and field team. Melissa wants to be an ecological systems designer in the Caribbean. She interned in Costa Rica as a designer of a rainwater collection system; the design was built in 2011 and is currently in use.

**MEGHAN FARNSWORTH**  
**MUSICAL STUDIES**

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*Advisor: Ellen Sayles, Associate Dean of Studies • Mentor: Nicholas Jones, English*

**Mind the Gap**

Constrained by their parent's conservatism, British youth looked for new ways to live in the mid-1960s. They found it in the epic "happenings" of the psychedelic era. At the 14-Hours Technicolor Dream in 1967, rock, avant-garde jazz, and art melded as figures representative of these genres—Pink Floyd, John Lennon, Yoko Ono, and Barry Miles—came together to create an artistic and metaphysical utopia. My presentation investigates the implication of this groundbreaking performance and its challenge to traditional categories of high and low art.

{ During her time at Oberlin, Meghan has studied violin with Alla Aranovskaya and performed in Collegium Musicum. As a staff writer for the Oberlin Review, she has covered politics and classical music, contemporary music, and jazz. Her interviews with Andrew Bulbrook of the Calder Quartet and David Wannan of the New York Gilbert and Sullivan Players were featured on ClevelandClassical.com. Meghan also worked at the Hechinger Report, an education news source, and has an article forthcoming in for McClatchy Newspapers.

**SARAH FRIES**  
**EAST ASIAN STUDIES and MATHEMATICS**

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*Advisor and Mentor: Suzanne Gay, East Asian Studies • Advisor: Susan Colley, Mathematics*

**Nuclear Power Policy in Japan**

How did Japan, a victim of nuclear warfare, become the world's third largest nuclear power country? Drawing upon English and Japanese sources, as well as pro-nuclear and anti-nuclear publications, this project aims to analyze Japan's nuclear power debate and establish a context in which to understand

the 2011 Fukushima Crisis. By analyzing the roles of the press, the anti-nuclear coalitions, and the pro-nuclear coalitions, I examine the reasons for the pro-nuclear Japanese energy policy and hazard an argument that nuclear power will likely continue to exist in Japan.

*Sarah is from Princeton, New Jersey, and has served in various roles on the EXCO Committee and the Oberlin Film Series. She spent three of her winter terms researching aspects of Japanese culture such as film, castles, and raguko (traditional Japanese storytelling). Her experience studying abroad in Japan during the 2011 Tohoku earthquake and the subsequent crisis inspired her to pursue this project.*

**EMILY GAZDA**  
**HISPANIC STUDIES and MATHEMATICS**

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*Advisors: Ana Cara, Hispanic Studies, and Susan Colley, Mathematics*  
*Mentor: Kim Faber, Hispanic Studies*

**Los niños que se quedan atrás: The Double Standard of Bilingualism for Minority Language Children in American Public Schools**

There is an incredible double standard regarding bilingual children in the United States. English speakers are encouraged to learn a second language to maximize their potential, while speakers of other languages are rarely given the opportunity to develop their first language. This project places the No Child Left Behind Act of 2001 in the linguistic and historical context of American bilingual education, and it ultimately argues that the legislation is detrimental to English language learners' educational interests.

*Emily is originally from Sudbury, Massachusetts. Her initial interest in teaching language was sparked by a high school Spanish class, and at Oberlin she is a teacher and coordinator with the Spanish in the Elementary Schools (SITES) Program. She is a member and co-armorer of the fencing team, an intern in the Office of Admissions, and a certified ski instructor. Emily wants to teach and work in educational policy.*

**ELI GOLDBERG**  
**ARCHEOLOGICAL STUDIES and GREEK**

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*Advisor and Mentor: Susan Kane, Art History • Advisor: Thomas Van Nortwick, Classics*

**Archeometric Characterization of Roman Tile Fabrics from the Sangro Valley, Italy**

Although fragments of ancient terra cotta tile are found throughout the Mediterranean, they are woefully understudied. Equally obscure is the economy of the Sangro Valley in east central Italy during and after its conquest by the Romans. This study applied archeometric methods to ceramic tiles from the Sangro Valley to characterize their compositions and explore their relationships to local clays. The results suggest a pattern of decentralized production in a diffusely settled region.

*Eli is from Shelburne, Vermont, and has been doing field work with the Sangro Valley Project since 2009. In his spare time, he works at the Sexual Information Center and the HIV Peer Testing Office, volunteers at Preterm, in Cleveland, and concocts vegan delights in Harkness Co-op. He hopes to pursue a career in health and social services.*

**EVANNE GORDON**  
**HISPANIC STUDIES**

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*Advisor and Mentor: Sebastiaan Faber, Hispanic Studies*

**Dos caras a la luz: El lugar de la objetividad en obras españolas de la época posfranquista**

After Franco's death, oppositional discourses emerged in Spain about the Civil War. Was it possible or desirable to talk about this national trauma in any "objective" way? Using a range of fictive, non-fictive, and historical-analytical sources, I identify an aesthetic way in which the Francoist and Republican camps could start to come together: not with objectivity, but with a recognized inclusion of voices of distinct groups.

{ *Evanne is from Ithaca, New York, and she teaches Spanish at Eastwood Elementary in Oberlin. She is also on the Rhinos rugby team and is a co-founder of the Oberlin Friendship Initiative. Inspired by her travels throughout Latin America, she hopes to live a life rich with cultural exchange. She plans to be a teacher and to continue to work with children after Oberlin.*

**CHRISTOPHER HADDAD**  
**PHYSICS**

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*Advisor: Daniel Styer, Physics and Astronomy • Mentor: Dan Stinebring, Physics and Astronomy*

**Elimination of Implant-Induced Distortions in Computed Tomography Images**

Hip implants, pacemakers, and other metal implants can cause considerable distortions in computerized axial tomography (CT) or computerized axial tomography scans. This distortion can lead to misdiagnoses, which can have fatal consequences. We have developed a novel technique using linear algebra to remove these distortions from CT images. Through a selective removal of intensity data, we are able to eliminate the distortions while maintaining high resolution in 64 x 64 pixel images.

{ *Christopher is from El Paso, Texas, and is an active Bonner Scholar. He is also chair of the Oberlin Orthodox Christian Fellowship. Christopher has performed research at the University of Texas at El Paso, plans to attend graduate school at Duke University, and intends to become a medical physicist.*

**JEBRAN HADDAD**  
**BIOLOGY**

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*Advisor and Mentor: Yolanda Cruz, Biology*

**The Acrosome Reaction of Paired Sperm in *Monodelphis domestica***

*Monodelphis domestica*, like other New World marsupials, has an unusual reproductive strategy in that the sperm are paired. This condition suggests that the process of unpairing must occur before sperm-egg fusion (syngamy) because only one sperm fuses with the egg during a successful fertilization event. What is currently known about sperm behavior prior to syngamy does not include an unpairing step. This study is being undertaken to address this knowledge gap.

{ *Jebran hails from Beirut, Lebanon, and has been an active member of OC athletics: he played soccer for one year, and was a member of the swim and dive team for four years—serving as a captain this past year. The Oberlin College Research Fellowship sponsored this research project. Jebran plans to attend The Baylor College of Medicine in the fall to earn his MD, and hopes eventually to return to Lebanon to help improve the nation's health care.*

**MATT HARTSOCK**  
**NEUROSCIENCE**

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*Advisor: Lynne Bianchi, Neuroscience • Mentor: Mark Braford, Biology and Neuroscience*

**Tract-Tracing Study in the Goldfish: A Suspected Homologue of the Mammalian Central Nucleus of the Amygdala**

In mammals, the amygdala is the key brain structure coordinating emotional responses. While amygdalar homologues (i.e. structural equivalents) have been observed across tetrapods, they have yet to be confirmed in bony fishes, which share a common ancestor with tetrapods. I used tract-tracing techniques to examine a proposed amygdalar homologue in goldfish, demonstrating connections comparable to those seen in mammals. My results indicate that amygdalar origins extend beyond bony fish divergence on an evolutionary timeline.

{ *Matt is from Williamsport, Pennsylvania, and has worked as a neuroscience tutor, and co-led Student-Guided Collaborative Learning workshops for introduction to neuroscience. He has served as the membership coordinator for Fairchild Co-op, danced with Street Performance and Rhythm Collective, and enjoys playing, writing, and recording music. He has also conducted research at the University of Vermont, and hopes to pursue a research career in the neurobiology of stress and anxiety.*

**OWEN HENRY**  
**POLITICS**

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*Advisor: Benjamin Schiff, Politics • Mentor: Eve Sandberg, Politics*

**The Utility of Social Media in Public Diplomacy**

Social media represents a revolution in communications technology, and world governments have begun to employ it to connect with populations internationally as a means of public diplomacy. But what does it mean to connect? How can governments and organizations effectively use social media, and what are the best strategies for engaging the general public? In this paper, I explore these questions through a case study of official U.S. State Department Twitter accounts, in order to ascertain the best means of interaction with the broader public.

{ *Owen hails from northern Virginia and hopes to graduate with honors this May. At Oberlin, he penned articles for Fearless and Loathing, the school's alternative news source; performed consulting work for the college; and directed the OCircus! spring production of A Circus in Time.*

**AMY HESS**  
**FRENCH and VIOLIN PERFORMANCE**

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*Advisors: Grace An, French, and David Bowlin, Violin • Mentor: Sigrun Heinzelmann, Music Theory*

**Interpretation as Analysis: Sonata Form in the First Movement of Ravel's String Quartet**

Using Hepokoski and Darcy's sonata theory, I analyze how the formal ambiguities of the first movement of Ravel's String Quartet (1902) open multiple pathways for the interpretation of its sonata form. Through my examination of ten recordings of the movement, I explore how each recording presents an implicit analysis that shapes how a listener perceives the movement's form. In conclusion, I offer cautious assessments of the mutual relationships between the analysis, performance, and perception of form.

*A violinist/violist from Lancaster, Pennsylvania, Amy has made solo and chamber music appearances in Oberlin, Lancaster, Philadelphia, and New York City. She spent the fall 2010 semester in Paris, studying violin at the Conservatoire national supérieur de musique and Conservatoire à rayonnement régional, and studying musicology at the Sorbonne. Amy studies violin with David Bowlin and viola with Karen Ritscher, and she plans next year to pursue a master's degree in viola performance at Northwestern University.*

**CLAIRE JENSON**  
**ART HISTORY**

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*Advisor and Mentor: Erik Inglis, Art History*

**Robert of Hangest's Beauvais Missal: Reconstructing a Medieval Illuminated Manuscript**

The surviving pages of the "Beauvais Missal," a late 13<sup>th</sup>-century illuminated manuscript owned by Beauvais priest Robert of Hangest, display some of the richest examples of Northern French manuscript ornamentation of the turn of the 14<sup>th</sup> century. Yet the book as a whole has been little studied. This paper considers the circumstances surrounding the creation and donation of the manuscript by examining the painted style of its illuminations and the meaningful iconography of its miniatures.

*Claire is a native of Lexington, Massachusetts, the birthplace of American liberty. When she is not reading at her carrel in the Art Library, she can be found baking muffins in the Fairchild Co-op kitchen. She also volunteers as a docent at the Allen Memorial Art Museum. Claire plans to pursue a PhD in art history next year, in order to continue studying French manuscripts.*

**HANNAH JOSEPH**  
**LATIN AMERICAN STUDIES**

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*Advisor: Steve Volk, History and Latin American Studies*

*Mentor: Meredith Raimondo, Comparative American Studies*

**Why Study Violence? Trauma and Survival After the Pinochet Dictatorship**

The violence of the Pinochet dictatorship directly affected more than 200,000 people, although their stories of survival are restricted by public silence around this historical period. Inspired by a qualitative, exploratory study of interviews with ex-political prisoners, independently conducted in May 2011, this study connects historical texts on policies of terror with a psychological theory of trauma recovery to empower the survivors of extreme political marginalization.

*Hannah, who hails from Virginia, works for the Spanish in the Elementary Schools (SITES) Program and teaches English as a second or other language. Hannah also served as a sexual offense policy advocate with OSCA. Other formative experiences include jobs at a public clinic in Peru; CASA de Maryland, an immigrant advocacy organization; and the National Latina Institute for Reproductive Health. Hannah began this research in 2011 in Chile, to where she hopes to return in 2013. She wants ultimately to work in public health with immigrant populations in the U.S.*

**RENE KAMM**  
**EAST ASIAN STUDIES**

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*Advisor: Sheila Jager, East Asian Studies • Mentor: Marc Blecher, East Asian Studies and Politics*

**The Sino-Tibetan Dialogue**

Since 2002, the Chinese government and representatives of the Dalai Lama have engaged in nine rounds of dialogue on the question of Tibet. The last round occurred in 2010, and the current standstill is the longest since the talks began. The dialogue has not yielded a single substantive agreement, yet both sides have remained open to resuming it. This account and analysis of the nine rounds explores how the dialogue functions in the ongoing China-Tibet dispute.

{ *Rene hails from San Francisco and currently serves as co-chair of the Oberlin Young Educators. In 2010, he wrote and co-directed RISE, an independent short film. He is also a poet and emcee, with an album to be released this spring. He begins work this fall as a Fulbright teaching fellow in Taiwan.*

**AARON KANTER**  
**COMPUTER SCIENCE and DOUBLE BASS PERFORMANCE**

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*Advisors: Bob Geitz, Computer Science, and Thomas Sperl, Double Bass*  
*Mentor: Benjamin Kuperman, Computer Science*

**Location Security in Android Smartphones**

If an Android smartphone user is concerned about the permissions requested by an application (e.g. contact list, GPS location), his only option is not to install the app. By researching the Android framework and modifying the Android operating system, we have demonstrated success in giving fake information to user-specified applications requesting GPS location data through an intuitive interface. This is the first step in a larger project to provide greater security for Android smartphones.

{ *Aaron hails from Seattle and is an active member of the Computer Science Majors Committee. After graduation, he plans to move to San Francisco to pursue a career as a software developer. He hopes eventually to start his own company.*

**ARIELLE KAPLAN**  
**ENGLISH**

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*Advisor and Mentor: William Patrick Day, English*

**“Trying to Say”: Memory, Overheard Mothers, and the Rhetoric of Modernity in Faulkner’s *The Sound and the Fury***

William Faulkner is a major figure of American modernist writing, and *The Sound and the Fury* is considered his most experimental work. Through a careful reading of the maternal figures in a novel narrated entirely by male voices, I explore Faulkner’s attempt to locate the emerging “structure of feeling” of the modern era. His struggle to comprehend characters removed from his own gender and racial position necessitates the creation of a rhetorical method that departs from tradition.

{ *Arielle is from Philadelphia, and she tutors in the Writing Center and with the Ninde Scholars Program. She is also the organizer of the Yellow House Writers’ Co-op. In 2011 she received the Battrick Poetry Fellowship. Next year, she plans to earn her teaching credentials and a master’s degree in middle school education via the Shady Hill School Teacher Training Course in Cambridge, Massachusetts.*

**ROGER KLIGERMAN**  
**HISTORY and SOCIOLOGY**

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*Advisors: Renee Romano, History, and Veljko Vujacic, Sociology*  
*Mentors: Marvin Krislov, Politics, President, and Daphne John, Sociology*

**The Funding of Education in Ohio and the Perpetuation of Inequality**

In *DeRolph v. State of Ohio* (1997), the Supreme Court of Ohio determined that Ohio's system of funding education was unconstitutional, due to the failure to create a "thorough and efficient education system." Today, this system remains in place. This project explores the way the DeRolph decision contributes to the larger inequalities that exist in our education system. Ultimately, this paper argues that the state's sanctioning of an inherently unequal funding system contributes to the systematic stratification of socioeconomic groups through school.

{ *Roger hails from Merion, Pennsylvania, and has spent much of his time at Oberlin as a tutor, and is presently a leader of Oberlin Young Educators. His key area of research is urban inequality. This summer, he begins a master's degree in urban education policy at Brown University, and he hopes eventually to work for the U.S. Department of Education.*

**J. MEADE KLINGENSMITH**  
**HISTORY**

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*Advisor: Renee Romano, History • Mentor: Leonard Smith, History*

**The Reinvention of Britain: British National Identity and the European Community, 1967-1975**

The focus of British political history on "great" leaders often relegates social history to a separate sphere. This study seeks to bridge that divide by combining an analysis of the letters-to-the-editor section of British newspapers during the debate over whether Britain should join the European Community—the predecessor to the European Union—and a political history of this era. My findings indicate that the public contest over British national identity and the actions of political leaders were intimately intertwined—and, in turn, indicate that social history and political history should not be separated.

{ *Meade hails from Pittsburgh and received a grant to spend January 2012 at the British Library in London. He is a member of Oberlin Steel and currently teaches the steel drum ExCo. Meade intends to pursue a career in either academia or international public policy, or perhaps both.*

**PHIL LEE**  
**HISTORY and POLITICS**

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*Advisor: Leonard Smith, History • Advisor and Mentor: Harlan Wilson, Politics*

**Evangelical Protestants and Political Trust**

In this project, I analyze levels of trust among evangelical Protestants. I suspect that while evangelicals in the U.S. have higher interpersonal trust, they distrust the government more than non-evangelicals for a variety of reasons. This study draws upon the data of the National Election Survey 2004, and explores the political function of religion.

{ *Phil (Fei-ran) hails from Cleveland. He is an Oberlin College Research Fellow, and is active in America Reads and the Oberlin Chinese Christian Fellowship. One of his more memorable Winter Term projects entailed analyzing the popularity of "cram schools" in Taiwan. Eventually, he wants to work in public relations for non-profit organizations.*

**JOE LEFFLER**  
**HISTORY and NEUROSCIENCE**

*Advisor: Shulamit Magnus, History and Jewish Studies, and Mark Braford, Biology and Neuroscience*  
*Mentor: Michael Fisher, History*

**A Biological-Historical Narrative of the Bengal Famine of 1943-44**

Scientists and historians have studied famine independently. My thesis synthesizes these perspectives through a case study of the Bengal Famine of 1943-44, which killed close to three million people. My analysis builds on historical and biological literature as well as my own laboratory model of the neurological effects of famine more generally. This synthetic narrative provides evidence for a temporal expansion of famine's boundaries in physical and political terms, and adds greater depth to existing famine narratives. We need a complete understanding of the breadth of famine's effects to alleviate such complex disasters.

{ *Joe grew up in Norwalk, Ohio, and is co-captain of the men's varsity tennis team. He worked in the labs of professors Paine and Braford over the past two years, studying drug addiction and neurogenesis, respectively. Joe hopes to continue lab work in the area of neurodegenerative diseases with the goal of entering a neuroscience PhD program in the near future. He is an avid long-distance runner and grill jockey.*

**SUZANNE LEVIN**  
**FRENCH and HISTORY**

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*Advisors: Matthew Senior, French, and Ellen Wurtzel, History • Mentor: Leonard Smith, History*

**Classical References in the *Révolutions de Paris* and the Rise of Republicanism, June-September 1791**

Historians have long assumed that French Revolutionaries invoked Antiquity as a model to imitate. Two major rival schools, the "Marxist" and the "Revisionist," base their interpretation of the revolution in part on this assumption, but few have investigated it. This study examines the significance of classical references made by one periodical, the *Révolutions de Paris*, in the aftermath of the king's flight and concludes that in this case, revolutionaries did not invoke Antiquity to imitate it, but to give legitimacy to the burgeoning republican movement.

{ *Suzanne was raised in Palo Alto, California. She has presented three times at the Translation Symposium and, during one winter term, worked on a translation of Victor Hugo's 93. Suzanne has sung with the Women's Chorale and in the Baroque Ensemble and is a member of Kosher-Halal Co-op. She studied last year in Paris, where she will return next year for graduate study in history. She hopes to live and work in France as a historian.*

**MAYA MATALON**  
**HISPANIC STUDIES and PSYCHOLOGY**

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*Advisors: Ana Cara, Hispanic Studies, and Nancy Darling, Psychology*  
*Mentor: Ana Cara, Hispanic Studies*

**Re-Transforming Identity: Testimonial Literature by Jewish-Argentine Survivors of Argentina's Dirty War**

This project explores how survivors of the Dirty War in Argentina attempt to reconcile their identities as Jews and Argentinians after being denied their identity. Based on the analysis of three testimonies by Argentinian Jews, including *Prisoner Without a Name, Cell without a Number*, by Jacobo Timerman; *A Single Numberless Death* by Nora Strejilevich; and *The Little School* by Alicia Partnoy, I suggest that the authors employ testimony literature as a means to reconstruct their identities.

**{** *Maya comes to Oberlin from New York City. She is a kindergarten Spanish teacher through the SITES Program and also serves as its grade level coordinator. She studied abroad in Córdoba, Spain, through Oberlin's PRESHCO Program. Next year she plans to work as an English teacher in Peru through the Fulbright English Teaching Assistant Program..*

**CLAIRE NELSON**  
**COMPUTER SCIENCE and CREATIVE WRITING**

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*Advisors: Bob Geitz, Computer Science, and Sylvia Watanabe, Creative Writing*  
*Mentor: John Donaldson, Computer Science*

**Automatic Generation of Shakespearean Sonnets**

Computers cannot inherently understand human language, so the task of generating coherent and meaningful language is a major topic of interest in the field of computer science. The task at hand is to build a system of computation that automatically generates Shakespearean sonnets, by extending the common statistical models of the English language to include constraints on syntax, semantics, and syllable counts.

**{** *Claire is from Green Bay, Wisconsin, and she has been a teaching assistant in computer science and creative writing. She has also served as a tutor, research assistant, and honors candidate in computer science. After graduation, she hopes to pursue a PhD in computer science and to conduct research in natural language processing.*

**REBECCA NIETO**  
**ENGLISH**

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*Advisor: T.S. McMillin, English • Mentor: Anuradha Needham, English*

**A Never-Changing Map: Cartographic Experiments and a Return to the Subject in *Cloud Atlas***

This project utilizes cartographic discourse to explore the nuances of subject-formation in the postmodern text. With David Mitchell's novel *Cloud Atlas* (2004) as my object of inquiry, I examine temporal and spatial aspects that play into the construction of the literary subject. By examining how time, space, and subjectivities are married or fragmented across the vignette-style form of Mitchell's novel, I strive to articulate how the literary subject can be at once whole, yet fragmented, complete yet partial, traceable yet obscured.

**{** *Rebecca comes to Oberlin from Albuquerque, New Mexico. While at Oberlin, she published pieces in Wilder Voice and Bitch Magazine, interned at The Believer, volunteered for a cooperative 'zine library in Edinburgh, Scotland, and spent time poking around or employed at the Clarence Ward Art Library. Her interest in theory, design, and literature is likely to continue as she pursues archival, library science, or curatorial studies in the years after college.*

**NAILA PAUL**  
**COMPARATIVE LITERATURE and HISPANIC STUDIES**

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*Advisor and Mentor: Sebastiaan Faber, Hispanic Studies*

**Authorship, Ambiguity, and Authoritarianism in the Fictionalized Prison Writing of Sinan Antoon's *I'jaam* and Dulce Chacón's *La Voz Dormida***

For this project, I compare the novels *I'jaam* (2007), by Iraqi author Sinan Antoon, and *La Voz Dormida (The Sleeping Voice)* (2002) by Spanish author Dulce Chacón. I examine the multiple layers

of authorship inscribed in these fictionalized accounts of prison writing set under the repressive authoritarian regimes of Saddam Hussein and Francisco Franco. Responding to issues of deliberate ambiguity, censorship, trauma, and memory, these works reveal varied perspectives on the power of fiction as a means for the expression and transmission of suffering.

*Naila made her way from Houston to Oberlin and on to Spain and Morocco for study away. More recently, she has worked as an Arabic teaching assistant and for the Middlebury-Monterey Language Academy. She is a member of the Oberlin Friendship Initiative, the South Asian Student Association, and former co-chair of the Muslim Student Association. She will serve as an Oberlin Shansi Fellow in southern India for the next two years and plans to pursue graduate studies in linguistics.*

## **VIOLET PEÑA** **HISPANIC STUDIES**

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*Advisor: Ana Cara, Hispanic Studies • Mentor: Sebastiaan Faber, Hispanic Studies*

### **Living Greguerías**

Spanish is viewed as peripheral to modernism, even though many key figures of the movement worked and published in that very language. Ramón Gómez de la Serna, from Madrid, is one of those figures. For this project, I have translated some of his greguerías—brief, poem-like compositions comprised of metaphor and humor—into English for the first time. In addition, I have written an investigative profile of Ramón’s work, his role in the avant-garde, and the theory behind translating him and his greguerías.

*Violet hails from Buffalo, New York, and her areas of specialty include Spanish avant-garde poetry and Don Quijote. When she is not studying linguistics or other languages (most recently, Japanese), she can be found fencing or doing web development. She hopes to get a two-year Shansi fellowship teaching English in Indonesia, after which she plans to pursue graduate work in linguistics.*

## **RACHEL PLUMB** **BIOLOGY and HISTORY**

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*Advisors: Keith Tarvin, Biology, and Leonard Smith, History • Mentor: Michael Moore, Biology*

### **Phylogenetics and Phylogeography in a Gypsum Endemic Clade: Haploësthes and Sartwellia**

My research is part of a larger project studying plants only found on gypsum (CaSO<sub>4</sub>·2H<sub>2</sub>O) soils in the Chihuahuan Desert of the southwestern U.S. and northern Mexico. My part of the project focuses on gypsum endemism within the subtribe Flaveriinae (Asteraceae, or sunflower family), which forms a small group of three genera: Flaveria, Haploësthes, and Sartwellia. My work has revealed much geographic structure to genetic diversity within Flaveriinae and a single origin of gypsum endemism in Sartwellia and Haploësthes.

*Rachel comes to Oberlin from Whitinsville, Massachusetts. She enjoys participating in the Albino Squirrels club soccer team, weaving, and playing the violin in chamber music groups. In summer 2011, Rachel interned in the cell biology department at the University of Chicago, and she hopes to attend graduate school for cell biology.*

**JAKE PURCELL**  
**HISTORY and BASSOON PERFORMANCE**

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*Advisor and Mentor: Ellen Wurtzel, History • Advisor: George Sakakeeny, Bassoon*

**Canon, Code, and Cloister: A Legal History of the Nuns' Revolt at Sainte-Croix, 589-591**

Despite the significant amount of research done on the various legal systems, both civil and ecclesiastical, of early medieval Europe, little exists to explain how distinct codes functioned in practice. This project examines a complex legal case in which several nuns revolted against their abbes in sixth-century Gaul. The dispute reveals how discrete administrative structures could be applied simultaneously while remaining differentiated, and how this interplay served as a technical requirement to define the community as a legal unit.

*When not reading about the Middle Ages or slaving away in a practice room, Jake can be found rehearsing student compositions, repairing books in Mudd's Preservation Lab, or teaching his ExCo, "Rat Trials and Nun Wars: Demystifying the Middle Ages." Jake, who is from Seattle, was awarded a 2011 Beinecke Scholarship to fund graduate work in the humanities. He plans to study medieval history after Oberlin.*

**CHAD PUTKA**  
**MUSICAL STUDIES**

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*Advisor: Charles McGuire, Musicology • Mentor: Paul Cox, Musicology and Percussion*

**Egalitarianism, Musical Excellence, and Style Preservation in the Barbershop Vocal Contest**

Since the American barbershop revival movement of the 1930s, the growth of the "barbershop contest" has significantly shaped the movement's social and artistic development. My research explores the history of the Barbershop Harmony Society and the effect of its embrace of a culture of competition on group identities and musical repertory. Through historical contextualization and interviews with contemporary experts, this research illuminates how competition engages with a complex matrix of institutional ideals, including egalitarianism, the drive for musical excellence, and style preservation.

*Chad sings Western art music and performs with the Alliance of Greater Central Ohio, a barbershop chorus ranked eighth in the world. He co-founded (and sings in) Three Dudes and a Guy and performs with the Oberlin Obertones. Chad designed and taught a course last fall on barbershop history and practices, and he plans to pursue a PhD in musicology.*

**NETTA RAPPAPORT**  
**ANTHROPOLOGY**

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*Advisor and Mentor: Baron Pineda, Anthropology*

**The Mozart Effect: Music, Success, and Socioeconomic Status in an American Classroom**

Though music is considered by many to be important for students' success, music is often one of the first programs to be cut in public schools during hard economic times. My fieldwork in the eighth-grade band class at Oberlin Middle School examines how students think about music, and suggests that music education can positively affect their academic and social lives. These effects are tempered, however, by the fact that these programs are more accessible to those of higher socioeconomic class.

*Netta comes from central Massachusetts and is the student representative for the anthropology department. Since freshman year, she has volunteered for the Music Mentors Program, an education outreach group that she leads. She is also active in Oberlin Young Educators and is an academic ambassador. Netta took a semester off to work at the Glenhaven Institute for children with post-traumatic stress disorder. After college, she hopes to further pursue education outreach in underserved communities.*

**GALEN ROGERS**  
**MUSICAL STUDIES**

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*Advisor: Jennifer Fraser, Ethnomusicology • Mentor: Paul Cox, Musicology and Percussion*

**Taiko Drumming in the Northeastern United States: Transmission, Innovation, and Power**

Most scholarship on American taiko, or Japanese ensemble drumming, concerns itself with the original performing groups, which were founded within Japanese-American communities. This study explores how taiko is changing as it spreads across the U.S. Through literary research, interviews with the founders of the first taiko groups in the Northeast, and my own taiko experience in San Francisco and Oberlin, I seek to frame Northeastern taiko as an integral and evolving part of the American taiko community.

*Galen grew up in San Francisco, where he developed a passion for Japanese-American taiko drumming, which he studied for 10 years before coming to Oberlin. He is a co-founder of Oberlin College Taiko, an active member of Oberlin Steel, and a member of OSCA. He spent a winter term at the Taiko Center of the Pacific in Honolulu.*

**MIRIAM ROTHENBERG**  
**ANTHROPOLOGY and ARCHEOLOGICAL STUDIES**

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*Advisor and Mentor: Jason Haugen, Anthropology • Advisor: Susan Kane, Art History*

**Nonactive Verb Morphology in Classical Nahuatl**

In Classical Nahuatl, nonactive verbs (verbs for which the subject has become the object) take a particular set of endings. Nahuatl distinguishes between passive verbs (nonactive transitive verbs) and impersonal verbs (nonactive intransitive verbs). Within these classes, the nonactive verbs have generally been thought to be fairly regular, with deviations from the expected endings occurring only due to phonological restrictions. This study examines the morphology of these nonactive verbs to see whether irregularities in the nonactive endings could be due in part to morphological differences between the verbs.

*Miriam hails from Ithaca, New York, performs with OCircus!, and is one of the founding members of the Oberlin College Aerialists. Her two greatest allegiances on campus are to Harkness Co-op and Sci-Fi Hall. Her current post-graduation plan is to explore the world and become an archaeologist. To this end, she has done research in a number of departments on campus and has participated in digs in Colorado, New York, Alaska, England, and Italy.*

**SONIA ROUBINI**  
**POLITICS**

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*Advisor: Ben Schiff, Politics • Mentor: Eve Sandberg, Politics*

**Education, Citizenship, and Participation: Defining Variables for Post-Conflict Reconstruction in Bosnia-Herzegovina**

This presentation argues that the involvement of external actors in Bosnia-Herzegovina during the conflict mediation and post-conflict reconstruction processes was flawed and diminished the prospect for the growth of Bosnia's political institutions. Second, I suggest that lessons learned from this case study can inform a better model for international intervention in conflict mediation and post-conflict reconstruction. Finally, I review new variables for future consideration in post-conflict models that depend upon the involvement of external actors.

{ *Sonia is from Brooklyn, New York, and has minors in history and Middle Eastern studies. She is a founding member of Tanwir, the Middle East Studies Association; is a card-carrying member of OSCA; and recently joined the staff of Wilder Voice. Sonia is moving to Kosovo next year to pursue her interest in post-conflict reconstruction. She wishes her main academic interest sounded less grim, but so it goes.*

**NADIA SAFA**  
**BIOLOGY**

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*Advisor and Mentor: Yolanda Cruz, Biology*

**Role of pYap1 in Trophoblast Formation in the Laboratory Opossum**

An embryo consists of initially unspecialized cells. As development progresses, cell groups differentiate and eventually acquire specific functions. In the marsupial embryo, the trophoblast is the first tissue to form. Using confocal microscopy and immunohistochemistry, I am investigating the sequence of gene interactions that drive trophoblast formation in the model marsupial, *Monodelphis domestica*. The results will lead to a better understanding of the evolutionary relatedness between marsupial and non-marsupial mammals.

{ *Nadia comes to Oberlin from Lebanon. She is co-chair of the International Student Organization and an active member of Colleges Against Cancer and Tanwir, Oberlin's Middle Eastern Studies Association. Nadia hopes to pursue a career in medicine, specifically in the field of maternal health and infertility. She plans to attend McGill University in the fall to pursue her MD.*

**DANIELLA SANCHEZ**  
**MUSICAL STUDIES**

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*Advisor: Matt Senior, French • Mentor: Paul Cox, Musicology and Percussion*

**(Inter)active Listening: A Study of Video Game Music**

Video games are fast becoming a new contender in contemporary media studies. In part because it is such a young discipline, there is little analysis of video games as an art form, particularly within the realm of music. Music plays a key signifying role within games and enhances the interactive experience for the gamer. Using modes of analysis developed for film music and opera, this project analyzes different music styles within video games and their connections to gameplay and artistic expression.

*Daniella is a regular writer for Spiral magazine, musical director for OCircus!, and a lead voice actress and writer for “The Dead Hear Footsteps,” a noir-radio comedy on WOBC. She received a grant in 2011 to work as a translator in Italy. Future plans include working as a translator for an opera company.*

**LYDIA STOUT**  
**MUSICAL STUDIES**

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*Advisor: Andrea Kalyn, Musicology and Conservatory Associate Dean*  
*Mentor: Brian Alegant, Music Theory*

**French Choral Music from the Renaissance to the 20<sup>th</sup> Century**

For my senior honors project I have recruited and directed a choral ensemble comprising musicians from the conservatory, college, and community. We are preparing a concert of French music from the 15<sup>th</sup> through the 20<sup>th</sup> centuries, for which the historical research closely informed the development of my stylistic interpretations, the rehearsal process, and my program notes. The project culminates in a performance on April 29 in Finney Chapel, which includes Fauré’s Requiem with choir, orchestra, soloist, organ, and harp.

*Lydia, who hails from the sweet cornfields of Galesburg, Illinois, directs the Oberlin ExCo Choir, an auditioned ensemble of college, conservatory, and community singers that performs in Fairchild and Finney. She also manages the Oberlin College Choir and serves as student representative on the Musical Studies Committee. Her favorite winter-term project was yoga on the beach. In pursuit of a conducting performance career, Lydia plans to attend graduate school in choral conducting.*

**ANNIKA SULLIVAN**  
**BIOCHEMISTRY**

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*Mentor: Carl McDaniel, Environmental Studies*

**Community Based Stormwater Management Action: OSWAMP**

This project explores the growth of alternative stormwater management through community involvement. The Oberlin Stormwater Management Project (OSWAMP) is a grassroots organization committed to restoring Plum Creek through community outreach and education, low-impact design, and water harvesting projects. Low-impact design is the main focus of OSWAMP’s efforts, extending from rain gardens at Oberlin Public Schools to the college. OSWAMP encourages the improvement of stormwater management practices for the benefit of everyone in the community..

*Annika is the director of OSWAMP, which she founded in 2011. She has extensive experience in stormwater management projects and surveyed streams for two summers for the Forest Service and Oregon Department of Fish and Wildlife. As the director of OSWAMP, she received both a grant from Oberlin’s Creativity and Leadership Project to incorporate OSWAMP as a non-profit and a grant from the Green Edge Fund to build rain gardens on campus.*

**INYANG UDO-INYANG**  
**BIOCHEMISTRY**

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*Advisor: William H Fuchsman, Chemistry and Biochemistry*  
*Mentor: Timothy Henrich, Brigham and Women’s Hospital, Harvard Medical School*

**HIV Cell Entry and Genetic Host Factors**

The HIV-1 virus has shown the ability to use two co-receptors to gain entry into the host cell: either

the CCR5 or the CXCR4 chemokine co-receptors (or both). It remains unclear what determines the preference of some HIV-1 viruses for the CCR5 co-receptor and what causes the progression to use CXCR4 over the course of infection. This research project aims to examine the role of genetic host factors in virus tropism.

*Inyang is from Lagos, Nigeria, and he is a Bonner Scholar and mediator/facilitator for the Oberlin College Dialogue Center. He is also a member of the Oberlin College track and field team, and his research was sponsored by the Oberlin College Research Fellowship Program. Inyang's main interests lie in medicine, and he plans to attend medical school in the fall to pursue a joint degree in medicine (MD) and a master's in public health.*

## **ROSE WESCHE PSYCHOLOGY**

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*Advisor: Stephan Mayer, Psychology • Mentor: Nancy Darling, Psychology*

### **Sexual Relationships at the Transition to College**

Research on adolescent sexual relationships has flourished in recent years, yet much work remains to be done to define and understand different relational contexts of sexual activity, including romantic relationships, friends with benefits, and hook-ups. This research project hopes to help close gaps in the literature by comparing multiple contexts of sexual activity at once. This longitudinal study predicted context of sexual involvement over the course of the first semester of college and found differences between hooking up, friends with benefits, and romantic relationships.

*Rose began work on adolescent sexuality as an Oberlin College Research Fellow. At this time, she works for the Oberlin Sexual Information Center, the Office of the President, and the Ninde Scholars Program. Next fall, Rose plans to attend graduate school, where she hopes to continue to study sexual and romantic relationships.*

## **SAMANTHA WILLIAMS HISPANIC STUDIES and LATIN AMERICAN STUDIES**

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*Advisor: William H Fuchsman, Chemistry and Biochemistry*

*Mentor: Timothy Henrich, Brigham and Women's Hospital, Harvard Medical School*

### **The Legacy of Quetzalcoatl and Huitzilopochtli: Indigenous Imagery in the Murals of Mexico City and Los Angeles**

Social movements in Mexico City and Los Angeles inspired muralists to employ indigenous imagery to politicize and celebrate an identity oppressed by the state and neglected in popular media. The Mexican Mural Movement in the 1920s, and the Chicano Movement in Los Angeles in the 1970s, produced murals that often depicted the Aztec gods Quetzalcoatl and Huitzilopochtli. In this project, I explore the importance of the use of indigenous imagery, and explain the significance of these two gods for the painters and their audiences, then and now.

*Samantha hails from Washington, DC. She has done ceramics for 11 years and is currently treasurer of the Oberlin Pottery Co-op. She has taught both the Pottery ExCo and swim lessons. Samantha interned with the Detention Watch Network and the Florence Immigrant and Refugee Rights Project and hopes to continue working in this field after graduation.*

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