

Senior Thesis

There is no honors program at Haverford – because every student performs honors work.

The senior thesis is the capstone to a Haverford student's academic career. It is an opportunity to do original research at levels usually reserved for graduate students, in partnership with faculty mentors. Haverford is one of only a few institutions in the country to include a senior thesis project as part of every student's academic program.

The process of producing the senior thesis gives Fords the opportunity to demonstrate their analytic skills and creatively apply what they've learned during their four years at the College. Students become true scholars, and come to understand at a deep and practical level what it takes to create knowledge and to seek answers to challenging questions. In turn, they become more effective and influential agents for change in whatever field they choose and in communities they serve.



Cristian Espinoza,
Religion

"A Slippery Matter: Reproduction and a Radical Hierarchy of Gender in the *Apocryphon of John*"

The family of Gnostic texts have been fascinating to me since high school, so I was thrilled to discover a professor who specializes in them in our religion department. *Apocryphon of John* is unique even among its fellow Gnostic texts and its high valuation of androgyny at the top of this hierarchy is an unexpected extension of the *via eminentiae* method of describing an ineffable God. By analyzing the series of reproductions within its narrative, I argue that the shifts in the gender of its characters is a manifestation of the ontological slippage involved in the very process of reproduction.



Amelia Keyser-Gibson,
Biology

"The Phyllosphere of *Phragmites australis*: Insights Into Biocontrol for an Invasive Species"

Invasive species are the fingerprint of the Anthropocene. Human populations have accelerated the invasion of many exotic species into natural ecosystems, altering them in unpredictable ways. Recently, microbial communities which colonize the above-ground surfaces of all plants, known as the phyllosphere, have been a focus of possible control methods for invasive species. This study contributes support to the claim that distinct microbes colonize the leaves of invasive phragmites when compared to the native strain, laying the groundwork for studying host-microbe interactions.



Adam Adorney,
Comparative Literature

"Equivalence, Paratext, and Elephants' Feet: The Translation of Humor in 'Die Harzreise'"

I examine the treatment of humor in the English translations of "Die Harzreise" from Heinrich Heine's *Reisebilder*. The issue of interpretation is central to Heine's text; Heine aims his cruelest jokes at the philistine professors and intellectuals whom he believes interpret the world incorrectly. With the help of German scholar Erich Eckertz, I lay out the elements of Heine's humor and look at which aspects the translators strive to maintain and which they leave out. Through examination of key jokes in the original and the translations, I show how translations create different versions of the text while still ensuring it remains "Heine."



Oluwatosin Alliyu,
Computer Science

"Android Social Media Permissions: User Interfaces to Bridge Expectation and Reality"

As Android phones have grown in popularity, so has the demand for Android applications: not only are more and more people downloading Android apps, more and more people are developing them as well. Unlike the Apple iOS system, which has a regulated process for app development and deployment, the Android system is very open and liberal, permitting anyone to create and market their own app. Without regulations that check for the safety and security of an app, users are highly susceptible to malicious third-party Android apps. My thesis explores the failure points in Android permissions requests and argues for improvements to user experience, privacy, and security.



Saumya Varma,
Sociology

“Limits of Freedom: Exploring the Interplay between Agency and Stigma in Prostitution in India”

Current discourse on sex work and prostitution debates the question of choice and agency available to women while engaging in the sex industry. These debates inform countries' laws and policies on regulating and criminalizing the sex industry. Through an ethnography in Songachi, a red-light district in Kolkata, India, in my thesis, I attempt to answer the question: “Why do women stay in prostitution even after they are no longer trafficked?” During the summer of my sophomore and junior years, I interned with two NGOs that work with women who have been trafficked into prostitution in Kolkata, India. My first summer was extremely impactful, and I wanted to bring the experience that I had in India into my education at Haverford. When I had the opportunity to intern with the organization the following summer, I decided to use my time there to interview some of the women I had met the previous year and do ethnographic research.



Ryan Kopelowicz,
Psychology

“Culturally-Competent Schizophrenia Treatment: A Multimodal Synthesis of Developing a Culturally-competent Treatment for Schizophrenia in Urban Settings”

Schizophrenia is a mental disorder that is comprised of multiple types of symptoms and is recognized as one of the ten most affecting mental disorders, affecting nearly 0.7% of the world population. Due to forces of globalization and mass migration of persons from the Global South to North American and Western-European countries, there must be a reconsideration of treatment for this prevalent disorder to attain a culturally competent treatment guideline accepted by the international psychiatric community. My thesis examines the cultural views of schizophrenia and argues for potential guidelines that would promote optimal culturally competent treatment.



Tyler Fong,
Physics

“Granular Density of Vibrational Modes Under Static and Dynamic Compression”

Granular solids are present in our everyday lives, and this project allowed us to study them both visually and acoustically. For my thesis, we developed and tested an experimental apparatus to measure the density of vibrational modes of a 2D granular system. We did so using a piezoelectric grain that, itself, was surrounded by hundreds of other photoelastic grains. With compression from the bottom of the chamber via a solenoid, we were able to confirm the viability of a piezoelectric device in accurately measuring frequencies between 10 Hz and 10 kHz. Despite this, we were unable to recover the expected excess low-frequency vibrational modes. We concluded that the driving amplitude is a significant factor limiting our ability to measure the density of vibrational modes.



Jessica Blitz,
Political Science

“Why Can't We Be Friends? Explaining Core-Branch Relations Within Transnational Terror Organizations”

Why do some jihadi branches have closer relationships with their parent organization than others? Acknowledging relationship variance between branches is important as these relationships can be indicative of the group's larger capabilities, as well as whether commonly used counterterrorism techniques, like leadership decapitation, would be effective in combating the group or the branch in question. By merging business literature on franchising and relationship formation with terrorism scholarship on organization techniques, I developed a unique framework to help to explain this variance in core-branch relations. These were then tested through case studies, with a focus on Al Qaeda branches in Iraq and Yemen. This helped to illustrate the importance of ideological similarities and personal relationships in the development of positive core-branch relations.

Students come to Haverford for a richly intellectual and engaging academic experience based around close student-faculty collaboration and direct engagement with ideas, issues, and questions. The senior thesis represents the culmination of a Haverford student's academic experience, and is one of the most important and rewarding ways that Haverford realizes its educational mission.

These are just a few examples of projects by members of the Class of 2018. They represent the depth of intellectual engagement and diversity of interests that define the liberal arts at Haverford.



For more Class of 2018 senior thesis stories, check out the Haverblog series, “What They Learned,” at hav.to/wtl