Successful thesis projects are typically the result of the contributions of many people; but none are more important than those of the thesis advisor. The following professors contributed time, energy, and expertise in the oversight of Honors Thesis projects during the 2016-2017 academic year.

Professor Garrett Dancik, Department of Computer Science
Professor Peter Drzewiecki, Department of Environmental Earth Science
Professor Carlos Escoto, Department of Psychology
Professor Madeleine Fugere, Department of Psychology
Professor Ross Koning, Department of Biology
Professor Barbara Murdoch, Department of Biology
Professor William Salka, Department of Political Science
Professor Jenna Scisco, Department of Psychology
Professor Elena Tapia, Department of English
Professor Jordan Youngblood, Department of English

Appreciation is also due the following members of the University Honors Council who contributed their time, energy, and expertise as Second Readers of honors theses.

Professor Amy Bataille, Department of Kinesiology & Physical Education
Professor Miriam Chirico, Department of English
Professor Maryanne Clifford, Department of Economics
Professor Timothy Cochran, Department of Performing Arts
Professor Mizan Khan, Department of Mathematical Sciences
Professor William Salka, Department of Political Science
Professor Patricia Szczys, Department of Biology

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INTRODUCTION

The students featured on the following pages are to be congratulated for their outstanding academic achievements. These students have responded exceptionally well to the challenges and opportunities afforded them through their participation in the University Honors Program, with their efforts culminating in the production of an original work of scholarship. The quality of the thesis projects described in this booklet is impressive and reflects well on the individual students, their respective thesis mentors, and the overall quality of the educational experience offered by the University. The outstanding scholastic achievements of these students has set a high standard for future Honors graduates.
Cancer is a disease characterized by changes in gene expression. Since gene expression can be altered through various genetic and epigenetic mechanisms, the discovery of differentially methylated genes can lead to insight about a gene’s role in regulating tumor formation. In this work, we describe the incorporation of methylation data into the Bladder Cancer Biomarker Evaluation Tool (BC-BET). Methylation data from 4 publicly available datasets were downloaded, and the methylation data was processed and evaluated using R. A user can now evaluate differential gene expression and methylation between tumor and normal samples for a selected gene.

Glucosinolates are an anti-feeding compound against herbivores, and are found in a variety of cruciferous vegetables of the Brassicaceae. While some vegetables are bred towards low glucosinolate levels to reduce bitter flavor, others are prized for their spicy taste. A variety of Brassicaceae species were utilized to analyze any bacteriostatic effects their glucosinolate extracts may have on Salmonella enterica. The Kirby-Bauer disk method was utilized for measuring zones of inhibition, and was compared to spectrophotometer absorption measurements of broth cultures to directly measure bacterial growth. The study showed crude glucosinolate extracts from the four vegetables chosen did not have a bacteriostatic effect on S. enterica.
**Kayla Giordano**  
Majors: Political Science & Economics  
Minor: Geography  
Pursue a Master’s Degree in Public Policy  
**Thesis Title:** Going Negative: The Effects of Direct Mail Programs on Political Campaigns  
Every year, Americans make choices about who they want to represent them in the local, state, and national governments. As such, Political Scientists have long grappled with the question, “How do voters decide?” This study investigates one facet of the modern political campaign which may affect election outcomes: direct mail programs. This research is a case study of a 2016 Connecticut State Senate Race in which voters who received negative direct mail were sent a mail survey that explored how the content of the mail influenced their perceptions of both candidates in the race and their vote. Despite the fact that this advertising is intended to influence Unaffiliated voters the most, results indicate that negative advertising led Unaffiliated voters to oppose the candidate who was responsible for the ad, and favor his opponent.

**Kelly Huhtanen**  
Majors: Elementary Education & English  
Plans to teach in Spain for one year before returning to the U.S. to pursue a Master’s Degree in Education  
**Thesis Title:** Transgressing the Gap Between Text and Bodies: A Critical Review and Creative Expression Concerning Digital Textual Spaces in Regards to the Ownership of a Woman’s Body  
Recently, there has been a growing legacy of female writers utilizing digital textual spaces to critique normative gender roles and claim ownership over their bodies. The textual performance renderable within this digital realm allows for an increased ability to interactively employ metaphorical devices, particularly in dealing with themes of objectification and patriarchal authority. In my thesis, I examine three contemporary female authors—Jennifer Egan, Juliet Davis, and Shelley Jackson—and their use of digital texts to perform feminist critiques of society, which I then implement into my own creative expression regarding the evolution of femininity from adolescence to adulthood.

**Sydney Batchelder**  
Major: Psychology  
Minor: Anthropology  
Pursue Ph.D. in Clinical Psychology at the University of North Carolina  
**Thesis Title:** Effects of Familiarity and Praise on Learning in the Presence of Others  
My thesis aimed to investigate the role of reinforcement and familiarity on changing the impact of social facilitation effects on performance. Social facilitation is a process in which the presence of others causes a physiological arousal state that results in better performance on easy tasks and worse performance on difficult tasks. A sample of 108 undergraduates completed two word-list learning tasks (an easy and difficult list) and two surveys measuring motivation and state-anxiety following the completion of each list. Participants were randomly assigned to a familiar or unfamiliar condition and a praise or no praise condition. There was a main effect of familiarity on word list performance, and of difficulty level on word list performance. No interaction effects were found. This knowledge could be used to offer strategies to decrease anxiety in situations where it would normally affect performance.

**Abigail Caselli**  
Major: Psychology  
Minor: Digital Art & Design  
Pursue Doctorate in Social Psychology at Syracuse University  
**Thesis Title:** Gender, Gender Role Beliefs, and Attitudes about Casual Sex in Relation to Condom Advocacy  
Two hierarchical linear regression models were evaluated to examine whether gender moderates relationships between gender role beliefs (GRBs), condom advocacy and attitudes towards casual sex. The first model was found to be significant, indicating that gender does moderate the relationship between female GRBs and condom advocacy. Those with more traditional gender roles advocated for condom use less than people with modern gender role beliefs. In the second model, gender significantly moderated the relationship between female GRBs and attitudes towards casual sex, indicating that men have more positive attitudes towards casual sex. Also, those with traditional GRBs had more accepting attitudes towards casual sex.
Brittany Chabot  
Major: Psychology  
Minor: Biology  
Will attend NOVA Southeastern University's MS Family Therapy Program  
**Thesis Title:** Technology Use, Attachment Styles and Relationship Satisfaction among Dating Couples

Relationship satisfaction is a key contributor toward the prosperity and enjoyment of close romantic bonds. Technology use and attachment styles are also related to relationship satisfaction. Internet use has been associated with lower life satisfaction and those insecurely attached tend to perceive a larger amount of negative emotions in relationships. Fifty-six couples from Eastern Connecticut State University completed the Relationship Assessment Scale (RAS) for relationship satisfaction, the Experiences in Close Relationships-Revised (ECR-R) Questionnaire for attachment style, and a technology use scale. Pearson r correlation coefficients found no significant associations between technology use (perceived and actual) and attachment styles with relationship satisfaction. However, a main effect was established where those with secure attachments experienced higher relationship satisfaction. This information can be applied in therapy clinics that introduce attachment style as a factor to assess relationship success. Future repetition would involve a larger sample with more in-depth questionnaires.

Ashley Cholewa  
Major: English  
Concentration: Secondary Education  
Plans to teach High School English  
**Thesis Title:** The Mean Reds Ain't the Blues: Conceptual Metaphor and Color in Capote's Breakfast at Tiffany’s

The author uses conceptual metaphor theory to analyze Truman Capote's novella Breakfast at Tiffany’s, paying particular attention to the novel's original usage of the term 'the mean reds' to describe a negative emotion. A full conceptual metaphor analysis of the phrase the mean reds and its connected conceptual metaphorical structures shows that the characters of Breakfast at Tiffany’s, and Holly in particular, separate themselves from their own emotions, a phenomenon which is indicative of the emotionally stultifying time period in which the novel was written—the 1950s.

Kevin Connolly  
Major: Biology  
Minor: Spanish  
Pursue Master's Degree in Biomedical Sciences  
**Thesis Title:** Enhancement of Collagen Production in Dermal Cells via Transforming Growth Factor-β (TGF-β) Signaling and Other Communication Pathways

A novel method to combat wrinkling due to aging would be to stimulate collagen production in a patient's skin cells. It is known that collagen production is stimulated by the transforming growth factor-beta (TGF-β) pathway. However, which other proteins may enhance collagen production is unclear. I test the hypothesis that collagen production will be enhanced by the activation of TGF-β signaling when combined with an additional pathway. In mouse fibroblast cells I altered pathways to test the activation and blockade of TGF-β signaling with and without the activation of the p38 kinase cascade and assessed effects on collagen production. Results indicate that combined pathways mildly enhance collagen stimulation compared to controls; however, collagen levels were greatest with independent TGF-β activation.

Martha Deniskey  
Major: Environmental Earth Science  
Obtain a Master's Degree in Elementary Education and a Certification to teach Elementary and Secondary Earth Science  
**Thesis Title:** Paleoecology of Mesozoic Strata in the Hartford and Deerfield Basins, Connecticut and Massachusetts

Throughout time, Connecticut’s ecosystems have evolved. During the Mesozoic Era, the Hartford and Deerfield Basins formed in Connecticut and Massachusetts. Research into the sedimentology, paleontology, and geochemistry of four sedimentary formations is essential to understand the basins’ changing paleoecology. The sedimentology indicates many environments including a time of alternating playa and lake environments. The lakes in particular contain trace elements which identify a range of lake types. Fossils of fish, reptiles, dinosaurs, invertebrates, and plants have also been identified. The changing fossil specimens both spatially and temporally reveal the variations in Mesozoic ecology with respect to environmental factors and climate.