

Elon announces Lumen Scholar recipients

After months of preparing projects and applications, 13 Elon University students found out April 22 they would each receive \$15,000 to complete their proposals. The students made up the third group to be awarded the Lumen Prize, a program started in 2007 that seeks to support students in their "attainment of serious and intellectual goals during their junior and senior years," according to the Elon University's Web site.

Mary Bedard

Majors: Biochemistry and Spanish

Project: Binding analysis study of estrogenic compounds and humic substances using STDD-NMR with a water suppression method.

Quote: "This study characterizes binding between estrogens, known endocrine disruptors and humic substances using NMR. Current estrogen analytical techniques use humic substances that bind with estrogens, but these interfere with estrogen concentration estimates, especially in compounds present in water effluents. To accurately survey estrogen concentrations, the long-term interaction between estrogens and humic substances must be determined. If estrogens only weakly bind to humic substances, these can later dissociate in the environment or after consumption, thus resulting in higher effective concentrations of estrogens than established, which poses a significant health risk. This research first analyzes estrogen binding using STDD-NMR in D₂O. Next, a water suppression method is used to analyze estrogen binding in the natural matrix of water to assess occurrences of dissociation. Completing this study answers questions surrounding the validity of current estrogen analytical techniques at various concentration levels and persistence of these levels post consumption."

Bryan Strelow

Major: Biology

Project: Exploring species boundaries: A genetic study of interactions between North American cricket frogs, *Acris crepitans* and *A. gryllus*.

Quote: "As the sciences continue to make exponential progress in fields such as genetics, the age-old philosophical questions that preoccupied the greatest minds of history still demand consideration. My project will do just that as it explores the complex the definitions with classify organisms as species. Using advanced genetic techniques such as DNA sequencing and PCR DNA amplification, I will investigate interactions across the species boundaries between two closely related species of North American cricket frogs. My study will contribute to the larger field of conservation politics with various applications to issues such as the protection of endangered species."

Kelly Giffear

Majors: Biology and Chemistry

Project: Estrogenic activity of wastewater effluent in the Piedmont Triad area using a four-hour yeast bioassay.

Quote: "I will be testing the chemiluminescence of estrogens in waste water with humic substances, which is considered "sludge" in a bioassay. The bioassay will use recombinant plasmids in yeast cells and activity will be determined from the expression of galactosidase. Through this project I hope to learn the effect that humic substances have on common (natural and synthetic) estrogens in waste water."

Ruth Robbins

Major: Psychology

Project: Memory improvement in older adults through cognitive training

Quote: "My project is looking to help memory improvement in older adults through cognitive training. I propose to explore how cognitive training can improve elderly adults' memory retention, particularly elderly that are minorities or have lower socioeconomic status. If successful, I will ultimately have a chance to improve the satisfaction and quality of life of elderly adults and perhaps even change our western culture's views on aging."

Daniel Koehler

Major: Communications

Project: Colonists and refugees: Examining the conflicting pasts of white Zimbabwean farmers in Zambia.

Quote: "In 2000, Zimbabwean President Robert Mugabe initiated a violent land reform program that forced 4,000 white farmers to flee the country. Approximately 200 of these Zimbabwean, or Zim, farmers emigrated to Zambia. My project will document these farmers' struggles to secure livelihood and homes while reconciling their pasts, including Mugabe's land reform and colonial rule. In the Zim farmers' ability to reconcile these pasts lies an issue pertinent to the narrative of modern Africa: the role of whites. Bearing in mind this issue, my research, which will incorporate perspectives held by the Zim farmers and Zambian workers, neighbors and government officials, will explore and analyze race relations, the challenges of starting anew, and the development of a new breadbasket in Zambia. My research will culminate in a documentary film and ethnographic article."

Kelly Little

Major: Psychology

Project: The effect of body image on interpersonal relationships among college males and females.

Quote: "I am working with Dr. Levesque in the field of social psychology to study how body image influences social relationships in college students. Past research focuses on women's body dissatisfaction and its role in clinical issues such as eating disorders and depression, yet the effects of body dissatisfaction extend beyond these phenomena. Men, for example, appear to experience negative effects from body dissatisfaction. Additionally, body dissatisfaction likely influences the ability to develop and maintain different social relationships, but this possibility has been largely unexplored. I hope to investigate these underdeveloped aspects and apply my findings by working with the SPARKS Peer Education Team develop new approaches to 'Love Your Body Month' at Elon. I am honored to be a Lumen Scholar and hope that my research will help improve body image programs on Elon's campus."

Jessica McDonald

Majors: History and Sociology

Project: A turbulent evolution: The history of lesbian, gay, bisexual and transgender student groups on U.S. college campuses.

Quote: "I'm really grateful for the opportunity and funding to research LGBT student groups on college campuses and the changes that they have undergone throughout history. Student groups within other social movements — such as black civil rights, women's rights and antiwar movements — have received much more attention from scholars than have LGBT student groups, and I'm excited to shed light on this largely forgotten history. I hope that learning from the past will serve to close the gap between LGBT groups of the past, present and future, perhaps suggesting how to most effectively engage LGBT student organizations within the wider struggle for LGBT equality."

Lauren Deaver

Major: Psychology

Project: Telling stories together: Co-construction of narratives in European-American and African-American families.

Quote: "I will be studying the language and thematic content of stories told jointly by parents and children in working-class European-American and African-American families. I will use my research to help build connections between the family and community literacy culture, and school-based literacy culture, which can help children work toward higher levels of academic achievement."

Katherine MacDonald

Majors: Anthropology and History

Project: Ancient Maya ritual performance as reflected in the monumental architecture of Dos Hombres, Belize.

Quote: "Through the use of architecture and archaeological remains, my research seeks to explore ancient Maya ritual performance and performance spaces as reflected in the religious architecture at the site of Dos Hombres, located in northwestern Belize. Data will be collected from the stratigraphy of three ceremonial buildings at Dos Hombres in order to determine the construction sequence, architectural form, the chronology of each and the building materials for each. Analysis of looters trenches on these monumental structures will reveal the form and chronology of the ritual performance space represented by the architectural sequence."

Lauren Stranahan

Major: Biology

Project: The effects of antidepressants on zebrafish motor development and behavior: ramifications of pharmaceutical drugs in the environment.

Quote: "My Lumen project involves examining the effects of antidepressants on developing zebrafish, specifically SSRIs, which increase the levels of serotonin in the brain. Specifically I want to look at the three most prescribed SSRIs (Prozac, Zoloft and Paxil) as well as a mixture of the three to provide further insight into the effects these drugs may have on aquatic life when they are released into the environment. The use of antidepressants is on the rise and further research is needed to explore the consequences of increasingly larger amounts of pharmaceutical drugs accumulating in the water."

Meagan Harrison

Majors: Health and Human Services and Communications

Project: The picture of beauty: Understanding relationships between skin tone and self-esteem using documentary photography to promote global women's empowerment.

Quote: "I am extremely excited, but also incredibly humbled by the opportunity to have been chosen as a Lumen recipient. A synthesis of my interests in human services and communications, my project will be conducted in an international context under the broad theme of women's empowerment. My research will explore the relationship between skin tone and the self-esteem of adolescent girls in the Philippines, a country where a skin-whitening phenomenon propels sentiments that only fair skin is beautiful. I will also use PhotoVoice methodology to allow the girls to express their own concepts of beauty through photography. Additionally I will be using my own passion for photography to document my experiences and to share stories of people and issues I encounter."

Jensen Suther

Major: English

Project: Joyce, Pound and Beckett: High modernism and the intersection at Dante.

Quote: "My project concerns the literary agon among the high modernists James Joyce, Samuel Beckett, Ezra Pound, and whom I believe to be there literary forefather and precursor, Dante. Using the critical language employed by Harold Bloom in his *Anxiety of Influence*, I hope to establish the relationship between these authors and Dante as integral to the formation of both Anglo and continental modernism. Additionally, the critical texts of Walter Benjamin, Jacques Derrida and Gayatri Spivak will help to structure my work and create a theoretical context in which I will operate."

Brittany White

Major: Biology

Project: The effect of manipulating cytoskeletal proteins, talin 1 and talin 2, on the phosphorylation of focal adhesion kinase in mammalian cells.

Quote: "The research I am conducting pertains to previously identified proteins involved in the formation of cancer and how these proteins affect each other's expression. My goal is to 'knockdown' the cytoskeletal proteins, talin 1 and talin 2, and to use a variety of biochemical and molecular biology techniques to determine the dose-relationship between both talin 1 and focal adhesion kinase (FAK) and talin 2 and FAK."