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Undergraduate Research

01.07.2013 | Research, Students

Three University of Dayton students will present research at Harvard in January as part of a prestigious national conference.

The students investigated topics in cryopreservation, disease inflammation and self-esteem. Only 212 were accepted out of nearly 400 applicants to the annual National Collegiate Research Conference sponsored by the Harvard College Undergraduate Research Association.

The students will attend the three-day conference Jan. 24-26 with panels on graduate school, public speaking, fellowships and more. They will present their research and enter a competition judged by Harvard faculty with a prize pool of \$3,000.

"Undergraduate research opportunities are one of the best ways to prepare students for graduate or professional school and for life in general," said University of Dayton biology professor Eric Benbow, honors thesis advisor to Alex Ulintz, a senior selected to the conference. "The University of Dayton offers tremendous opportunities for undergraduates to do this, which is reflected in the prestigious invitation to three of our students to the National Collegiate Research Conference."

The association strongly believes student researchers can make meaningful and significant contributions in all fields of study and to the greater body of world research knowledge. The conference promotes the growth of a national undergraduate research community by facilitating communication, collaboration and identity for undergraduate students in global research, according to the association website.

University of Dayton students who will attend the conference are:

Nicholette Smith, senior, psychology

Title: "The Influence of Self-Esteem Level on the Interpretation of Ambiguous Stimuli after a Rejection Experience"

Description: Smith examined how past experiences of rejection influence how we interpret messages. She had participants in the study take personality profile tests, write about past experiences of acceptance or rejection and then read emails with positive, negative and ambiguous messages. The participants evaluated whether the text was emotionally positive or negative and also developed a perception of the anonymous sender. Forming connections between various concepts like self-esteem, rejection, and judgment can help us to have a better overall understanding of why we behave the way that we do, Smith said.

Alex Ulintz, senior, premedicine and German

Title: "The role of mycolactone in innate immune response in RAW264.7 macrophages —implications for a novel disease pathway for Buruli ulcer disease"

Description: Ulintz studied the bacterium that causes Buruli ulcer, a tropical skin disease that primarily affects children in poor, rural communities of West Africa. The bacterium causes large ulcers but without pain or inflammation. Ulintz investigated the role of mycolactone, a toxin secreted by the bacterium, in preventing inflammation and what proteins in immune cells are most affected by it. Understanding this unique property may hold the key not only to future treatment of Buruli ulcer but also to new treatments for diseases of chronic inflammation such as arthritis.

(Ulintz will also present his research at the American Medical Student Association's annual conference March 14-17 in Washington, D.C.)

Elizabeth Wetzel, senior, biology

Title: "Membrane trafficking of aquaglyceroporin HC-3 in erythrocytes from the freeze tolerant anuran, Cope's gray treefrog, *Hyla chrysoscelis*"

Description: Wetzel studied Cope's gray treefrog, a cold-blooded animal that is able to survive freezing temperatures by transferring glycerol in and out of its cells through aquaglyceroporins. Her study sought to determine the signal that moves a

specific aquaglyceroporin around the cell membrane. Understanding the role and regulation of this aquaglyceroporin in the frog's ability to preserve its cells in freezing temperatures may ultimately lead to viable methods for cryopreservation of human tissues and organs for transplant.

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