4-5-2011

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Student Research on Display

04.05.2011 | Campus and Community, Research, Students

The University of Dayton's annual Stander Symposium features a public display of hundreds of student research projects. Below is a small sample of the many research topics to be showcased at the University throughout the day Wednesday, April 13:

- How singing might improve the nutrition of Alzheimer's patients
- Optimizing the use of algae to reduce carbon emissions and create alternative fuels
- How soon children might return to school and sports after a concussion
- How to reach Generation Y with mobile marketing

The Stander Symposium is free and open to the public. Guest parking permits will be available at the gates for lots A, B, C, P, and open parking in S1. Click here to download a map.

To arrange an interview, contact Cameron Fullam at 937-229-3256 or fullam@udayton.edu. Visit the related articles and related link for more information on the Stander Symposium.

Singing and Nutritional Intake of People with Alzheimer's and Related Dementias
Megan Brewer, Senior, Music Therapy
9-10:30 a.m., Kennedy Union ballroom

Knowing the many physical, cognitive and social health benefits of singing, University of Dayton senior Megan Brewer investigated whether engaging elderly residents with Alzheimer's disease and related dementias (ADRD) in singing just before a meal would improve mealtime consumption and combat malnutrition often associated with mid- to late-stage dementia.

"Music has a balancing effect," Brewer said. "It can raise people's energy levels, or it can help them relax if they're feeling agitated."

In a pilot study, she engaged eight patients with ADRD in singing just prior to lunch. The results did not show significant improvements in consumption, but Brewer suggests limitations in the size of the treatment group and in data collection may have skewed the results.

"Six of the eight did show improvements, and I believe the singing did have an effect," Brewer said. "I would like to follow up with a larger group and control some of the other variables we discovered."

The research — done in collaboration with University of Dayton music therapy professors Susan Gardstrom, James Hiller and University graduate Larisa McHugh — has been submitted to The Journal of Music Therapy for publication consideration. The research team will present the research this summer at the World Congress of Music Therapy in Seoul, Korea.

Algae as an Alternative Fuel
Julia Faeth, Senior, Chemical Engineering
11 a.m. to 12:30 p.m., Kennedy Union ballroom

As the threat of global warming looms, the capture of carbon dioxide becomes increasingly important. Algae require carbon dioxide to grow and already remove vast quantities of the gas from the atmosphere, storing it as proteins, carbohydrates and lipids, which can be converted into nutritional supplements, fertilizer, biofuels and other valuable products.

Senior Julia Faeth studied one particular algae species — Chlorella vulgaris — to develop a profile of its growth and carbon allocation.

"This profile includes information that can be used to determine the most appropriate harvest time for the development of a specific end product, such as biofuel," Faeth said. "The procedures selected for this research may also be applied to additional species of algae, yielding valuable information for both carbon sequestration and the production of valuable products."

Faeth plans to present her research at the University Clean Energy Alliance of Ohio's Building and Sustaining Partnerships meeting in Columbus April 26-27.
In 2010, she received a national Barry M. Goldwater Scholarship for her academic and research experiences.

**Returning to School and Sports after Traumatic Brain Injury**  
Alexandria Harris, Senior, Pre-Physical Therapy  
11 a.m. to 12:30 p.m., Kennedy Union ballroom

While research abounds on guidelines for adults and adolescents returning to school, work and sports following a traumatic brain injury such as a concussion, similar research for children is sparse. Children experiencing traumatic brain injuries (TBI) often experience multiple behavioral, emotional and cognitive challenges.

Senior Alexandria Harris investigated if the absence of symptoms in young children following a TBI is sufficient criteria for returning to school and sports.

"Children experiencing traumatic brain injuries can return to school while still experiencing symptoms to avoid missing the window of recovery," Harris said. "On the other hand, a child should never return to sports and play while still experiencing symptoms."

Harris received $100 from the University's Honors Program to conduct the research.

**Gen Y and Mobile Marketing**  
Catherine Glynn, Senior, Marketing and International Business  
11 a.m. to 12:30 p.m., Kennedy Union ballroom.

According to Forrester Research, 52 percent of companies identify their top priority for mobile marketing strategy as increasing customer engagement. This is not a surprise, considering nearly 50 million people in the U.S. own a smartphone.

Expanding on a previous study, University of Dayton senior Catherine Glynn analyzed differences in attitudes and behavioral intentions of Generation Y mobile phone users in the U.S., France and China toward the adoption of mobile marketing.

"Of the three cultures I analyzed, Chinese students have the most positive attitudes and behavioral intentions toward mobile marketing," Glynn said. "And American students were the most receptive to receiving coupons on their mobile devices, particularly from applications such as Groupon, ShopKick and Foursquare. This research has very important implications for marketers who seek receptive audiences and strong exposure to their brands."

Glynn plans to submit the research to a marketing academic journal such as the *International Journal of Mobile Marketing*.

*For more information, contact Cameron Fullam, assistant director of media relations, at 937-229-3256 or fullam@udayton.edu.*