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Chemistry Students Named Collegiate Scholars

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BLOOMINGTON, Ill.— Illinois Wesleyan senior chemistry majors Colleen Leonard and Thomas Sobyra have been selected as Collegiate Scholars by the Illinois Heartland Section of the American Chemical Society (ACS) in recognition for their achievements in collaborative research with faculty. The students will be honored at the section's awards banquet in Peoria on Tuesday, Feb. 25.

According to the Illinois Heartland ACS website, 240 chemists, chemical engineers and educators belong to the local chapter. The non-profit organization, which aims to build "a sustainable, high achievement organization of networked, caring professionals following a shared vision," offers the community a variety of opportunities in science education.

A resident of Glenview, Ill., Leonard has worked with Melinda Baur, assistant professor of chemistry, in biochemistry research since the spring of her junior year.

Their work, "Development and Characterization of Multi-Functional Probes for Use with Scanning Electrochemical Microscopy," is available on the **Digital Commons**. "For the study, we used Scanning Electrochemical Microscopy (SECM) with electrode probes that make simultaneous current and impedance measurements to analyze taste buds," said Leonard, who also holds a minor in Hispanic studies. Seniors Jiwon Lee and Jennifer Schreiber also collaborated on the study.

"In the future, I hope to obtain a dual-degree as a doctor of medicine and master of public health (MD-MPH)," she said. "I also hope to be a part of the movement to help improve both the quality and access to healthcare in developing countries."

A resident of Addison, Ill., Sobyra, who is also majoring in computer science, continues to do research with James House, adjunct professor of chemistry. One study was titled "Iodine as a Probe for Demonstrating Solvatochromism." "We studied solvatochromism, a property certain molecules possess which is illustrated by a shift in the position of an ultraviolet-visible absorption band that depends on solvent polarity," said Sobyra. The results of the work, which Sara Costello '10 also participated in, have been published in the journal *The Chemical Educator.*

"This semester, I finished working on developing a model process for demonstrating the receding sphere rate law for solid state reactions," said Sobyra. "The goal is to study these salts and determine if they demonstrate ionic liquid crystal behavior as is known to occur for similar compounds containing other metals."

In the summer of 2013, he studied the oxygen reduction reaction and developed a system to control the kinetics of the reaction under the direction of Andrew Gewirth, professor of chemistry at the University of Illinois at Urbana-Champaign. During the summer of 2012, Sobyra said that his internship with US Nano, LLC, a company based in South Bend, Ind. that specializes in nanotechnology (the manipulation of matter at molecular and atomic levels), helped him develop useful skills that he hopes to apply in his laboratory and research career.

Currently applying to a number of graduate programs, Sobyra said his interests include inorganic, materials and analytical chemistry. "In the future, I would like to be a professor of chemistry at a university similar to Illinois Wesleyan, where I can conduct research while also instructing students," he said.

To learn more about the society, visit the **ACS** website. For additional information about the awards, contact Sherry Wallace, director for news and media relations, at (309) 556-3792.

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