

Graduate research focuses on innovative envelope retrofits for existing buildings

EUGENE, Ore. - (April 15, 2011) - A graduate architecture fellowship is helping a University of Oregon student research energy-efficient building facade design with a focus on applying it to classrooms.

Caitlin Gilman, a third-year student in the School of Architecture and Allied Arts, is the 2010-2011 Activated Facade Research Fund Graduate Research Fellow. The fellowship is funded by Glumac, a mechanical, engineering and plumbing firm with offices throughout the West.

An "activated facade" is a dynamic building element that can redirect light, generate energy and provide shade, among other features, transforming an otherwise static facade into a high-performance building component.

The fellowship is part of a two-year partnership between Glumac and the School of Architecture and Allied Arts that includes four design studios, research/prototyping and implementation.

Supervised by Associate Professor Ihab Elzeyadi, Gilman's activities in the UO's High Performance Environments (HiPE) Lab include assisting with the lab's efforts to convert Onyx Hall's skybridge into the Facade Innovation Technology Testing Facility (FIT). FIT - funded by the Oregon Built Environment & Sustainable Technologies Center - will serve as a testing ground for materials that improve building performance and reduce consumption.

Gilman's support from Glumac assisted with other projects in the HiPE Lab, such as the Green Classroom Toolbox™, Elzeyadi said. For example, Gilman has analyzed the benefits of facade retrofits for classroom prototypes applicable to Oregon schools, in addition to her work on FIT.

Her Glumac fellowship "helps advance our institutional goal to create a signature testing facility for high-performance facades," Elzeyadi said.

The UO Department of Architecture will debut a Ph.D. in sustainability in fall 2011 that, with help from the Glumac fellowship, will enhance the department's research capabilities.

"Typically our graduate students are very intellectually advanced but at best we have just one to one-and-a-half years to work with them," Elzeyadi said. "With Ph.D. students, we'll have four years to work with that caliber of student. It builds the pipeline better."

Gilman acknowledged that a sponsored research fellowship like Glumac's is a unique opportunity.

"Working in the HiPE lab has fostered my growth as both a student and professional," she said. "It has been valuable to see concepts and strategies learned in the classroom applied to actual projects - projects that are helping to advance the field of architecture and environmental design."

For Elzeyadi, support such as Glumac's illustrates the industry's dedication to research and development. "That's what you want to see - an investment in talents, in incubators of research. The (graduate research fellowships) are the best investments the firms are making in training the next generation of building designers in applied research and the process of evidence-based design."

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LINKS: <http://oregonbest.org/research/shared-user-facilities>
