

01/14/2015

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

- I.4. Research, Economic Development,
and Innovation Committee
- Thursday, February 4, 2016
9:00 a.m.– 10:30 a.m.
Union South, Varsity Hall II
UW-Madison
Madison, Wisconsin
- a. Approval of the Minutes of the December 10, 2015, Meeting of the Research, Economic Development, and Innovation Committee
 - b. 2016 Regent Scholar Grants: Honoring Award Recipients and Business Partners – Led by Regents Tim Higgins and Mark Tyler
 - c. UW System Talent Development Progress Report – Led by Ray Cross
 - d. UW-Madison Economic Development & Research Update – Led by Charles Hoslet, Interim Vice Chancellor for University Relations

REGENT SCHOLAR GRANT PRESENTATION

BACKGROUND

The REDI Committee introduced UW System Regent Scholar grants last year to recognize and reward individuals and campus programs that undertake innovative undergraduate research projects with the potential to lead to job creation and economic development. The program is designed to help fill needs identified through UW System discussions focused on making it easier for faculty to work outside the classroom and providing financial support to make it possible. The Regent Scholar program allocates one-time funding, primarily in the summer months, for faculty to engage in research and other scholarly activities while stimulating industry outreach and innovation across a wide spectrum of academic pursuits. The Regent Scholar program continues in 2016, with funding available for three grant recipients.

REQUESTED ACTION

For information only.

DISCUSSION

The initial call for 2016 Regent Scholar entries drew 34 applications from faculty and their business collaborators from UW System campuses across the state. Ultimately, a committee of UW System and outside evaluators selected three grant recipients to receive Regent Scholar grants this year. The 2016 Regent Scholars will be honored at today's meeting.

The 2016 Regent Scholar grant recipients include:

UW-Eau Claire, Associate Professor Joseph Hupy. (\$50,000 grant)

- ***Project title: Lowering Overhead Inventory Costs Within the Industrial Aggregate and Sand Mining Industry Using Unmanned Aerial System (UAS) Technology***
- ***Project description:*** The purpose of this student/faculty collaborative research is to stimulate innovative applications of Unmanned Aerial Systems (UAS) that are directly connected to growing demand in the geospatial workforce and to foster regional economic development. This proposal is specifically targeted towards lowering overhead costs for volumetric analysis within the industrial sand and aggregate mining industry using UAS technology.

UW-Platteville, Assistant Professor Mohammad Rabbani. (\$50,000 grant)

- ***Project title: Design and Synthesis of Nitrogen-Rich Porous Organic Polymers with Ultra-Small Pores and Their Uses in Construction of Porous Membranes for Gas Separation Application***
- ***Project description:*** Landfill gas, which is produced from municipal solid waste at landfills, has been long-touted as a promising energy source in Wisconsin and elsewhere.

However, landfill gas is approximately 50 percent carbon dioxide (CO₂), and CO₂ removal remains a big hurdle to make this a profitable energy source. This project outlines research that is designed to prepare porous membrane composites using nitrogen-rich and ultra-porous organic polymers to separate CO₂ from gas mixtures which could provide significant value to CO₂ gas separation technology. This project also serves as an opportunity for undergraduate students and faculty at UW-Platteville to work together in a cutting-edge technology, collaborating with industry partners across the region.

UW-Oshkosh, Professor Toivo Kallas. (\$50,000 grant)

- ***Project title: Rotation Barriers in Hydroxamic Acids: Optimization of Metal-Building Molecules for Medical and Industrial Applications***
- ***Project description:*** Mitigation of carbon emissions is a global economic and ecological imperative. Microalgae can help address this issue through its high photosynthetic efficiency. This project will enable talented undergraduate students to engineer and characterize an ultra-fast growing cyanobacterium (blue-green algae) for efficient carbon conversion to isoprene, a precursor for synthetic rubber, pharmaceuticals, and biofuels. Additionally, the project will jump-start an initiative to enable commercially viable industrial CO₂ capture through accelerated processes.

Regent Scholar grant evaluators included:

- Regent Mark Tyler (President/CEO of OEM Fabricators and Chair of the Governor's Council on Workforce Investment)
- Frank Cannella (Founder of Cannella Response Television. Nominated to the Regent Scholar committee by Wisconsin Assembly Speaker Robin Vos)
- John Russell (CEO/President of Columbus Community Hospital. Nominated to the Regent Scholar committee by Sen. Scott Fitzgerald)
- Aaron Hagar (Vice President of Division of Entrepreneurship and Innovation for Wisconsin Economic Development Corporation)
- Mark Pioli, Ph.D. (Policy and Planning Analyst in the Office of Policy Analysis and Research at UW System)
- Bob Jokisch, (Special Assistant to the Vice President for Academic & Student Affairs at UW System)

RELATED REGENT POLICIES

Not applicable.

UW-SYSTEM TALENT DEVELOPMENT PROGRESS REPORT

BACKGROUND

The UW System represents a significant talent pipeline to support the expanding workforce needs of Wisconsin's 21st Century economy. By further expanding the university's alignment with business and community partners, Wisconsin will benefit from increased attraction, retention, and development of highly skilled workers, managers, and business leaders capable of competing effectively in global markets. Students who have opportunities to connect as undergraduates with Wisconsin businesses and industries are more likely to choose to live and to work in Wisconsin as they begin their careers.

REQUESTED ACTION

For information only.

DISCUSSION

UW System campuses are already highly active in business outreach efforts that encompass internships, mentorships, and job-placement programs for students. President Ray Cross will provide an update on plans to augment the current scope and effectiveness of campus/business outreach efforts and discuss efforts to expand these activities for faculty and students within the traditional Science, Technology, Engineering, and Math (STEM) disciplines and across all other disciplines. Such experiences may include collaborations, internships, research projects, and mentoring experiences, among others, with the duration being as brief as a one-day program or as long as an entire semester or more. The end goal is for the UW System to become the leading higher educational enterprise in making workforce readiness a reality for all students.

RELATED REGENT POLICIES

Not applicable.

CONNECTING STUDENTS WITH CAREERS: PROGRAMS AND RESOURCES FOR JOB PLACEMENT

BACKGROUND

UW-Madison has more than 43,000 students, all of whom are focused on joining the workforce at some point. Of the students that graduated in 2013-14 and responded to a survey given to all seniors, 72% planned to work and 23% planned to attend graduate or professional school to further their education before joining the workforce. In addition, an increasing number of students are seeking internship and similar opportunities that give them practical experience and often help identify opportunities for full time employment after graduation – in the 2014 National Survey of Student Engagement 63% of UW-Madison seniors reporting having at least one internship experience during their undergraduate career.

There is also growing interest by students in creating their own jobs through the creation of startups. Demand for courses and programs that teach entrepreneurship and innovation has grown steadily, as has demand for campus resources that help students and others develop and hone their ideas for a startup or spinoff company. While the increase in demand has occurred over the last several years, UW-Madison students and graduates have long had an interest in becoming entrepreneurs. A survey done by the Wisconsin Alumni Association in 2015 showed that 2,963 UW-Madison alumni founded or co-founded a company, including 600 reporting more than one company. Information on more than 2,500 unique companies was provided, including 808 companies located in Wisconsin.

More broadly, UW-Madison, UW Hospital and Clinics, and the university's affiliated organizations and startup companies support 193,310 Wisconsin jobs and generate more than \$847.5 million in state and local tax revenue. UW-Madison research has fostered the formation of at least 362 startup companies in Wisconsin. The startup companies support more than 24,972 jobs and contribute approximately \$2.3 billion to the Wisconsin economy. Collectively, these efforts contribute significantly to UW-Madison's status as a talent pipeline and a primary generator of economic and business development for the state of Wisconsin.

REQUESTED ACTION

Information only.

DISCUSSION

Preparing students for careers and participation in the work force is a critical role of any university. It is equally important to provide programs and resources that will help students connect with potential employers, and to help employers navigate the university to more easily find students with the skill sets they need. Interim Vice Chancellor for University Relations Charles Hoslet will lead a panel of presenters to include Susan LaBelle, Managing Director of the UW-Madison Office of Corporate Relations; Jamie Marsh-Finco, Director of Career Services at the Wisconsin School of Business; and Professor Jon Eckhardt, Executive Director of the

Weinert Center for Entrepreneurship. The panel will highlight various efforts at UW-Madison designed to help students identify and connect with companies and organizations that have job openings, as well as efforts that help Wisconsin employers connect with UW-Madison students.

RELATED REGENT POLICIES

Not applicable.