Executive Summary

UW System Economic Development Incentive Grant Program 2013-2015

UNIVERSITY OF WISCONSIN SYSTEM

Office of Economic Development

www.economicdevelopment.wisconsin.edu 608.262.3905

Winter 2014

To: **The Governor, the Legislature, and Citizens of Wisconsin**

From: **Tim Higgins, UW System Regent and Chair of the Research, Economic Development, and Innovation (REDI) Committee of the Board**

Subject: **UW System proposals to spur economic and workforce development**

University of Wisconsin System institutions are deploying $22.5 million over the next two years to support increased economic growth and a stronger Wisconsin workforce. This effort represents the Wisconsin Idea at its best.

We are investing university resources to address key state priorities with grants that will help drive regional economic development and advance new educational and research initiatives to support traditional and emerging Wisconsin industries.

We appreciate the support and direction we have received from the Governor and from our legislative leaders and their cooperation in launching this series of projects.

The UW Board of Regents approved the Economic Development Incentive Grant program last fall and reallocated existing university one-time funds to be used in fiscal years 2014 and 2015 for innovative and sustainable economic and workforce development projects.

Award recipients were chosen by a Selection Committee that was comprised largely of Wisconsin business and industry leaders. A total of 12 grants were selected to receive funding from a total of 56 entries from UW institutions across the state. Our Selection Committee members recognized that grant recipients have tapped a deep reservoir of campus talent, innovative thinking, and collaboration with the private sector to provide new approaches to economic and workforce development.

Looking ahead, the Economic Development Incentive Grant program represents an important strategic initiative to more effectively align UW campus collaborations with economic and workforce development initiatives wherever they occur. Collectively, these efforts will provide direct benefit to businesses and communities statewide and create new and expanded opportunities for our students and faculty.

Tim Higgins

KNOWLEDGE POWERS WISCONSIN

SELECTION COMMITTEE

UW System Incentive Grant Selection Committee members included business, industry, and university representatives from across the state:

***Dean Amhaus**, President & CEO of The Water Council, Milwaukee*

***Kris Andrews**, Assistant Vice President for Federal Relations, UW System, Madison*

***Mark Bugher**, Retired Director of the University Research Park, Madison*

***Rob Cramer**, Vice Chancellor for Administrative Services, UW-Platteville*

***Nick DeMarco**, President & Founder of Practichem, Burlington*

***David Eckmann**, Special Assistant to the Chancellor for Economic Development, UW-Stevens Point*

***Reed Hall**, CEO and Secretary of the Wisconsin Economic Development Corp., Madison*

***Charlie Goff**, Venture Capitalist and President of NEW Capital Management, Little Chute*

***Mark Lange**, Exec. Director of the Division of Entrepreneurship and Economic Development, UW-Extension*

***Alan Perlstein**, Executive Director, Wisconsin Energy Research Consortium, Milwaukee*

***Toni Sikes**, Chair of the Wisconsin Technology Council and co-founder of the Art Commission, Madison*

***Tom Still**, President of the Wisconsin Technology Council and its subsidiary, the Wisconsin Innovation Network, Madison*

***Mark Tyler**, President and founder of OEM Fabricators, Inc., UW System Regent Emeritus and public member/past president of the Wisconsin Technical College System Board*

***Julia Wallace**, Provost and Vice Chancellor for Academic Affairs, UW-Green Bay*

***Shannon Zimmerman**, Founder and CEO of Sajan, River Falls*

***Jeffrey Bartell,** Selection Committee Chair and UW System Regent Emeritus*

ECONOMIC DEVELOPMENT INCENTIVE GRANT RECIPIENTS: 2013 - 2015

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- Capital Catalyst Commercialization Seed Fund with WEDC Match ($1 million)

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- Collaborative Research Facility for Development and Commercialization of Biorefinery Technologies: Cellulose Pilot and Processing Lab ($2,837,596)
- Economic Development Through Innovation in Specialty Papers, Packaging, and Converting ($1,445,336)

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Responsible Mining Initiative: Building an Educated STEM Workforce for the Natural Resource Industry

UW-Eau Claire Grant: $451,317

PROGRAM DESCRIPTION

Mining is one of the historic economic growth engines of the state. Metallic and non-metallic resources are the foundation of a strong economy, and environmentally safe, responsible resource recovery is vital. Responsible mining demands professionals with backgrounds in geology, hydrogeology, restoration ecology, and regulatory policy. Dedicated programs that provide such training do not exist in the Upper Midwest.

This grant will lay the foundation for an innovative Responsible Mining Initiative based in the UW-Eau Claire Department of Geology. This initiative will increase STEM participation and contribute to the development of an educated and skilled workforce in Wisconsin. Development of paid internship opportunities in industry will be stressed.

PROJECTED OUTCOMES

- Development of a skilled and educated workforce through the creation of a high-quality internship program.
- Development of a skilled and educated workforce through increasing the number of highly skilled STEM graduates knowledgeable in mining-related disciplines.

University of Wisconsin Eau Claire

Nurses for Wisconsin
Addressing the Nursing Shortage

UW-Eau Claire, UW-Madison,
UW-Milwaukee, and UW-Oshkosh Grant: $3,218,703

PROGRAM DESCRIPTION

The health of Wisconsin's economy is directly related to the health of its workforce and the vitality of the health care industry itself. This initiative encompasses a statewide initiative to increase nursing program faculty by expanding student enrollment and enhancing workforce development in health care. The project comes in response to projections that Wisconsin could see a shortage of 20,000 nurses by 2035.

In a time when the demographics of an aging Baby Boomer population place increasing demands on healthcare, this funding will help alleviate the nursing shortage. It will also help position Wisconsin to be more competitive with other funding providers, both locally and nationally, going forward.

The current shortage of nurse educators greatly limits the number of students who can be accepted into nursing programs across the state. The project provides significant immediate investment in UW System nursing education programs in order to: 1) increase the number of nursing faculty available across the UW System, 2) support and expand nursing enrollments, and 3) mitigate projections for unprecedented shortages of registered nurses in the state. Enrollment information for the Nurses for Wisconsin initiative can be found online at www.nursesforwisconsin.org.

PROJECTED OUTCOMES

- Designed to create 30 pre-doctoral fellowships and 7 post-doctoral fellowships.
- Designed to provide loan forgiveness opportunities for 30 nursing faculty members.

WEDC Capital Catalyst Match: Promoting Business Development and Product Commercialization

UW-Extension, WEDC Grant: $1,000,000

PROGRAM DESCRIPTION

This program is a 1:1 match of UW System and Wisconsin Economic Development Corporation (WEDC) funds to support new business development, product commercialization, and job growth statewide. The program will leverage $500,000 per year from the UW System Incentive Grant program with an additional $500,000 per year of WEDC Capital Catalyst matching funds to initiate new business and workforce development.

The program is administered by UW-Extension's Division of Entrepreneurship and Economic Development (DEED). It is designed to provide Wisconsin businesses with seed- and early-stage funding to accelerate the commercialization of technology emanating from Wisconsin entrepreneurs, including faculty, staff, and students affiliated with UW System four-year campuses and the UW Colleges two-year campuses. This program reflects an innovative application of the Wisconsin Idea by offering broad university support to communities and businesses statewide in an effort to foster a strong economy.

PROJECTED OUTCOMES

- Economic development growth by providing early stage funding to start-up business ventures statewide.
- Development of a skilled and educated workforce through the creation of paid internship and cooperative work experiences.

Expansion of Statistical Consulting Center (SCC) to Serve Business Needs

UW-La Crosse Grant: $126,248

PROGRAM DESCRIPTION

Math and statistics experts at UW-La Crosse have identified a need for business support services. This grant builds capacity to serve those needs. The Statistical Consulting Center (SCC) at UW-La Crosse will expand its statistical consulting services to support local businesses and other organizations. The expansion advances two of the three incentive grant priorities, economic development and the development of an educated and skilled workforce. Based on prior experiences in providing consulting services to external organizations, the faculty statisticians at UW-L have observed a substantial and growing need for accessible statistical consulting and will now be better equipped to provide solutions to businesses across the region.

PROJECTED OUTCOMES

- Economic development will be directly addressed by providing professional statistical consulting services to Wisconsin businesses, industries, and organizations, as well as indirectly through business growth that may result from these services.
- Development of an educated and skilled workforce will be enhanced through supporting the growth of the statistics program at UW-La Crosse. This will provide an increased number of cooperative work experiences for students studying statistics at UW-La Crosse as well as supporting an increase in the number of bachelor's and master's degrees awarded in statistics.
- The funds will serve to develop and expand a client base from which sustainable revenues could be generated beyond the grant period through an economical, fee-for-service model.

"Igniter" – An Engine for Technology Transfer and Product Commercialization

UW-Madison Grant: $2,400,000

PROGRAM DESCRIPTION

The "Igniter" program serves as a primary resource to support the "Discovery-to-Product" (D2P) initiative at UW-Madison. The UW System grant will help to advance the commercialization of technologies created at UW-Madison and will accelerate university efforts that directly support business incubation and product development.

Importantly, the UW System grant will help create and build a sustainable technology transfer engine at UW-Madison. Additionally, it will increase the viability and scope of the D2P effort and provide additional support to actively foster new companies and new jobs, and help to create a better-prepared workforce.

PROJECTED OUTCOMES

- Economic development growth through launching new startups and creating new private sector professional jobs.
- Additional economic development growth by attracting external investors and through support for technologies not otherwise patented at the Wisconsin Alumni Research Foundation (WARF).

Center for the Commercialization of Intensive Aquaculture and Aquaponics

UWM, UW-Whitewater, UW-Parkside Grant: $2.4 million

PROGRAM DESCRIPTION

"Intensive Aquaculture" is a newly expanding industry born from research and technology developed at the UW-Milwaukee (UWM) School of Freshwater Sciences (SFS). As unique intellectual property (IP) and skills are transferred from the laboratory to commercial operations, sustainable, private intensive aquaculture production is projected to become a $1 billion industry in the U.S., with Wisconsin at its heart. To facilitate this growth, UWM, in collaboration with UW-Whitewater, UW-Parkside, and the technical colleges in southeastern Wisconsin, are launching a Research and Training Center for Commercialization of Intensive Aquaculture and Aquaponics.

The goals of the Center are to:

- Establish workforce training to prepare a skilled workforce for the intensive aquaculture industry.
- Advance new technology and intellectual property through aquaculture research to support commercial operations.
- Promote marketing and commercialization programs to create awareness, develop business plans, and identify markets for the fledgling industry.

PROJECTED OUTCOMES

- Support companies directly linked to UW-Milwaukee's intellectual property.
- As these companies develop, they will add significant capital investment and require a highly skilled workforce (many of whom will be trained at UW-Milwaukee in partnership with its collaborators).

Southeast Wisconsin Applied Chemistry Center of Excellence

UW-Milwaukee, UW-Parkside Grant: $2,998,800

PROGRAM DESCRIPTION

The program funding will launch the SE Wisconsin Applied Chemistry Center of Excellence. This center represents a partnership between UW-Milwaukee and UW-Parkside. The grant funding will support an integrated strategy to stimulate excellence in applied chemistry in three ways: 1) equipping a state-of-the-art analytical chemistry laboratory in UWM's Kenwood-Interdisciplinary Research Complex, including office and lab spaces for faculty and industry collaborations, 2) awarding translational research grants, based on the scientific needs of industry, faculty expertise, and economic impact, and, 3) establishing industrial chemistry internships to include salary cost-sharing and student tuition scholarships.

This highly collaborative university/industry effort includes many partners, including Shimadzu Corporation, which has provided a $1.13 million matching grant to support instrumentation acquisition and ongoing program support.

PROJECTED OUTCOMES

- Economic development through translational grants to support key industry-identified projects.
- Economic development by creating new jobs through successful translational research that results in new products and processes, and ultimately, job retention and job creation.
- Development of a skilled and educated workforce through providing new programs and scholarships at the undergraduate, master's, and PhD levels.
- Development of a skilled and educated workforce by creating paid internship opportunities.

Water Technology Accelerator
Supporting Wisconsin's Water Industry

UW-Milwaukee, UW-Whitewater Grant: $3 million

PROGRAM DESCRIPTION

Global water technology represents one of the world's fastest growing markets, currently estimated to be worth $483 billion. Experts predict this market could double by 2035. Southeast Wisconsin entities already own five percent of this market and are poised to capture significant additional share. Through the collaborative efforts of the UWM School of Freshwater Sciences, The Water Council, and the Global Water Center, Wisconsin is quickly becoming an international hub for water technology development.

To ensure Wisconsin can continue to capitalize on a growing range of opportunities in this sector, UW-Milwaukee, UW-Whitewater, and industry partners in the Water Council are launching the Water Technology Accelerator. This effort will develop new intellectual property and technologies with direct commercial application and will attract additional companies to the state from around the world.

The program will offer catalyst grants in water technology and world class labs and equipment to support the accelerator program, UWM's water technology research, and the Global Water Center.

PROJECTED OUTCOMES

- Economic development growth through the creation of novel technologies and intellectual properties.
- Economic and workforce development through the creation of new, Wisconsin-based startups in the water sector.
- Development of an educated workforce through new, skilled graduates entering the water industry.

Implementation of the Collaborative Engineering Technology Program

UW-Oshkosh, UW-Green Bay Grant: $1,892,000

PROGRAM DESCRIPTION

This innovative and collaborative program delivers new degree opportunities in high demand fields for students and builds broad partnerships with more than a dozen industries and the higher education institutions within the Northeast Wisconsin Educational Resouce Alliance (NEW ERA). The program will allow multiple pathways for students to begin and attain Bachelor of Science in Engineering Technology degrees.

Through the Collaborative Engineering Technology Program, UW-Green Bay and UW-Oshkosh will offer three engineering technology majors: mechanical engineering technology, electrical engineering technology, and environmental engineering technology. Graduates of these programs will fill high demand job openings in these fields and help expand the regional and state economy.

PROJECTED OUTCOMES

- Development of a skilled and educated workforce through hiring program faculty and finalizing curriculum.
- Development of a skilled and educated workforce through the creation of paid and unpaid cooperative work experience opportunities.
- Improving the affordability of higher education by allowing students to begin the program at either a UW campus location or at a Wisconsin Technical College, a UW College, or the College of Menominee Nation before completing the major sequence at UW-Green Bay or UW-Oshkosh.

Cellulose Pilot & Processing Laboratory

UW-Stevens Point/Wisconsin Institute for Sustainable Technology (WIST) Grant: $2,837,596

PROGRAM DESCRIPTION

By helping traditional industries serve new markets, universities can boost economic development and job growth. The new Cellulose Pilot and Processing Lab at UW-Stevens Point will accelerate the development of the renewable materials, green chemicals, and biofuels industries through collaborative research and piloting facilities. These capabilities will support major manufacturers as well as small startups, biotechnology entrepreneurs, and academics for the purpose of converting cellulose, the most abundant natural material on earth, into the sustainable and renewable products of the future.

PROJECTED OUTCOMES

- Economic development growth through contract research supporting Wisconsin business needs.
- Economic development through the creation and retention of post-doctoral fellows and scientists at UW-Stevens Point.

Wisconsin Institute for Sustainable Technology
University of Wisconsin-Stevens Point

Innovation in Specialty Paper, Packaging, and Converting

UW-Stevens Point Grant: $1,445,336

PROGRAM DESCRIPTION

Revitalizing traditional industries, such as paper and packaging, can spur economic growth. This project will help Wisconsin's specialty paper, packaging, and converting sectors as they add new revenue streams to their operations, increase hiring, and grow the state's economy.

Specifically, the project includes:

- Upgrades to the UW-Stevens Point pilot paper machine to enable improved education and training, and trial-run production of laminated and coated papers for packaging and other applications.
- Additions of equipment to the university's laboratories to allow testing and evaluation of products for manufacturers.
- A new, fine-art paper developed at UW-Stevens Point will receive trademark protection, new grades of the paper will be developed, and arrangements will be made to market and distribute these specialty products.
- A compostability testing service recently developed at UW-Stevens Point will be improved by automation in order to better serve industry needs for new product development.
- New and advanced courses for paper industry employees will be created, and existing courses will be improved.

PROJECTED OUTCOMES

- Economic development growth through assisting area businesses and the paper industry.
- Development of a skilled and educated workforce through the creation of advanced courses for paper industry employees.
- Development of an educated and skilled workforce through the creation of paid internship opportunities for students in UW-Stevens Point laboratories.

University of Wisconsin Stevens Point

Aquaculture Business Incubator and Aquaponic Innovation Center for Emerging Agricultural Industries

UW-Stevens Point, UW-Extension Grant: $677,500

PROGRAM DESCRIPTION

Aquaculture is one of the fast growing industries identified by the Wisconsin Economic Development Corporation (WEDC) as an opportunity for economic development in Wisconsin. This grant will support an Aquaculture Business Incubator (ABI). The incubator will utilize existing knowledge and resources found at UW-Extension, the UW-Stevens Point Northern Aquaculture Demonstration Facility (UWSP-NADF), and the Wisconsin Aquaculture Association. This initiative provides educational opportunities and resources to improve near-term training for immediate job creation and for longer-term employment opportunities in this rapidly developing industry.

The incubator will provide a diverse array of educational options that include on-farm training, distance education, and experiential learning. Over time, streamlining the process for product and process commercialization will promote industry growth while preserving ecologically sustainable initiatives.

PROJECTED OUTCOMES

- Economic development growth through product and process innovation, technology transfer, and continuing education to help create jobs.
- Development of a skilled and educated workforce through the creation of internship and cooperative work experience opportunities at UW-Stevens Point and at local businesses.
- Development of a skilled and educated workforce and improving the affordability of higher education by establishing a professional certificate in Aquaponics that can be transferred to other institutions and by expanding participation in Aquaculture and Aquaponics courses on campus.