

Summary of UW System Priorities for FY 2008

Academic Advanced Distributed Learning Co-Laboratory

This project will create a partnership among the Academic ADL Co-Lab, outstanding academic organizations, leading corporations and the United States military. Its purpose is to create collaborations with universities and private industry to co-develop and prove out advanced digital learning/training applications for the military. The leading academic partner will be Games Learning and Society, Inc. – a non-profit organization at the University of Wisconsin internationally respected as the leader in academic research for digital learning applications. This organization is expanding to allow membership of noted academics worldwide as well as professional and corporate members.

International Center for Enterprise Studies

The Center for Entrepreneurship at J.J. Strossmayer University in Osijek was established as the only such program in the Balkan region of Eastern Europe. The Center's graduate program in entrepreneurship has attracted over 250 students from all parts of the former Yugoslavia. The University of Wisconsin institutions enjoy a long and continuing history with the Center as its founding partner. Funds will be used to expand the program and provide teaching, technical, curriculum and research expertise, as well as an expanded faculty exchange and new student exchange.

WINTec: A Wisconsin Initiative for New Technologies

The UW System has a comprehensive strategy to nurture UW System campuses outside Madison to become centers of research excellence for next-generation technologies. Our request is to allocate a federal investment singularly focused on the development of new marketable technologies. In addition, the proposal will accomplish high-tech training of UW System students and faculty and near-term job creation. More importantly, the proposal provides a mechanism for long-term sustainability of research and development in the UW System and Marshfield Clinic through commercialization and revenue generation. WiSys Technology Foundation, the patenting and licensing organization of the UW System and Marshfield Clinic, has identified specific opportunities to develop cutting-edge technologies for new and existing technologies. Examples include new and unique polymers for the semiconductor industry, new and superior methods to produce vaccines and conduct tissue engineering, nanotechnology for sensors, nanomaterials for efficient lighting, high-tech prosthetics to assist amputees, superior bioimplants for cardiovascular patients and nanotechnology for cleaner air. This request will establish a funding mechanism to support the most innovative technology development programs for the next five years at UW System campuses and Marshfield Clinic.

UNIVERSITY OF WISCONSIN SYSTEM
Kevin P. Reilly, President
1220 Linden Drive, Madison, Wisconsin 53706
Phone: 608-262-2321 • Fax: 608-262-3985 • E-mail: kreilly@uwsa.edu

REQUEST FOR FUNDS:
ACADEMIC ADVANCED DISTRICT LEARNING CO-LABORATORY

ORGANIZATION: The Academic Advanced Distributed Learning (ADL) Co-Laboratory is a governmental organization established under a Wisconsin State cooperative Agreement between the University of Wisconsin System and the Wisconsin Technical College System and the U.S. Department of Defense. The Co-Lab's mission is to promote advanced distributed learning (ADL) technologies. These are digital and often online applications for teaching, learning and training. The Co-Lab is involved in the development and implementation of ADL applications and acts as a focal point to demonstrate and evaluate them.

DESCRIPTION: This project will create a partnership among the Academic ADL Co-Lab, outstanding academic organizations, leading corporations and the United States military. Its purpose is to create collaborations with universities and private industry to co-develop and prove out advanced digital learning/training applications for the military.

The leading academic partner will be **Games Learning and Society, Inc.** – a non-profit organization at the University of Wisconsin internationally respected as the leader in academic research for digital learning applications. This organization is expanding to allow membership of noted academics worldwide as well as professional and corporate members.

The project will design, develop and operate a web site for the cooperative development and demonstration of ADL applications. This web site will be a test bed to organize collaborations, provide a confederation of available development tools and applications, offer development standards, and demonstrate effective learning and training programs. The project will place special emphasis on learning/training games and simulations based on contemporary video gaming technologies.

TIMELINE: October 2008 to July 2008.

CONTACT: Ed Meachen, Associate Vice President, CIO, Academic Advanced ADL Co-Lab, 222 West Washington Avenue, Suite 470, Madison, WI 53703-2793, or 1552 Van Hise Hall, 1220 Linden Drive, Madison, WI 53706; Phone: 608-265-4622; Fax: 608-265-3175; or Email: emeachen@uwsa.edu.

Kris Andrews, Assistant Vice President for Federal Relations, UW System, 1220 Linden Drive, Madison, WI 53706; Phone: 608-263-3362; Fax: 608-262-3985; or Email: kandrews@uwsa.edu.

PAST FUNDING: In Fiscal Year 2003, the Academic ADL Co-lab received an allocation from the Federal Defense Budget of \$1 million. The funding was used over FY03 and FY04 to build SCORM content and tools, training materials and services for the Department of Defense, as well as for the Academic ADL Co-Lab's higher

education partners. One highly successful project underwritten by these funds, still widely used today by DOD, is the TIP (Trafficking in Persons) project, a set of on-line training modules required of all service personnel and contractors employed overseas by DOD.

BUDGET: The amount of federal funding requested in FY2008 will be \$1 million. The UW System seeks \$1 million in the FY2008 Department of Defense Appropriations Bill, Research, Development, Test and Evaluation Program, PE#0603769SE. The breakdown is as follows:

Faculty, Students, Post-Docs, Services and Travel	\$500,000
Software and Development tools	\$100,000
Outside Contractors; Software Development	\$300,000
Overhead	\$100,000

Note: The Co-Lab will expend funds from other sources in its budget in support of this project. This is estimated to be \$100,000.

Additionally, it is expected that private corporations and academic organizations involved will expend resources in the amount of \$300,000 in support of the project.

The Academic ADL Co-Lab receives funding from the Department of Education (Star School Program, 2005-2008, \$1.6 million over three years). However, none of this funding will be allocated to this project. No other sources of funding are being sought for this project.

SIGNIFICANCE: The military has many and disparate efforts related to learning and training applications. At times, these efforts are at odds with each other, not based on the best technologies available, and are expensive. By organizing a collaboration of government and private resources, we expect that the military will be able to provide more effective and less expensive training applications.

A key part of this initiative is to bring to the military state-of-the-art information technologies as they pertain to learning and training. By eliciting the participation of leading corporations and academics, we hope to bring the benefits of their practices and experience to the military.

The result of this effort will be better learning and training applications developed faster and at lower cost to the military. Specifically, the goals of the project are:

Validation of Best Practices: This project will bring together top academics and private industry experts to work with the military to demonstrate, prove out and document the best practices in digital learning applications used for training by the military;

Cooperative Development of Software tools for the military: Based on an understanding of the best practices, the project will co-develop with the military software development tools and applications for providing effective and efficient digital learning and training programs;

Software reuse: The project will create a repository of software tools and services available to the military for cost effective and timely development and deployment of digital learning and training applications;

Productivity increases: The project, by drawing together software tools, services and applications proven effective, will allow the military to produce better training and applications at lower costs in less time. Military programmers' productivity will be greatly enhanced; and

Increased agility: Because of the tools made available by the project, military developers will be able to modify learning and training applications more easily, more quickly and less expensively.

CONTACTS WITH
CONGRESS:

The Wisconsin Congressional Delegation has been regularly briefed regarding the Academic Advanced Distributed Learning Co-Laboratory.

UNIVERSITY OF WISCONSIN
SPECIAL INDUSTRY PROGRAMS
Joan Gillman, Director
975 University Avenue • Madison, WI 53706
Phone: 608.262.9982 • Fax: 608.263.0818 • E-mail: jgillman@wisc.edu

REQUEST FOR FUNDS:
INTERNATIONAL CENTER FOR ENTREPRENEURIAL STUDIES
A PARTNERSHIP WITH
J.J. STROSSMAYER UNIVERSITY, OSIJEK, CROATIA

ORGANIZATION: The Center for Entrepreneurship at J.J. Strossmayer University in Osijek was established in 2000 as the only such program in the Balkan region of Eastern Europe. Since that time, the Center's graduate program in entrepreneurship has attracted over 250 students from all parts of the former Yugoslavia. The University of Wisconsin enjoys a long and continuing history with the Center as its founding partner.

The University of Wisconsin draws from the breadth of its resources – including the Wisconsin Innovation Service Center (WISC) at UW-Whitewater and faculty members from various departments – in support of the Center for Entrepreneurship.

DESCRIPTION: Supported by its advisory board consisting of representatives from several American universities – led by the University of Wisconsin – the Center seeks support to grow into an autonomous International Center for Entrepreneurial Studies (ICES). The University will provide teaching, technical, curriculum and research expertise, as well as an expanded faculty exchange and new student exchange.

The newly-expanded ICES will provide convenient and affordable distance-learning courses to students throughout the Balkans, as well as condensed programs for existing entrepreneurs. Outside the classroom, the Center will mentor nascent business in its Business Incubator. It will sponsor youth Business Plan competitions, Entrepreneurship Clubs in schools, and the development of an alumni association.

The Wisconsin Innovation Service Center at the University of Wisconsin-Whitewater will use its significant expertise in innovation assessment and new product development to support a focus on the creation of high impact, economic growth businesses. WISC's mission is to help aspiring entrepreneurs, innovative manufacturers and independent inventors make profitable new product and market decisions. WISC has conducted over 6500 research projects, including exploratory new product assessments, licensing partner searches, competitor intelligence reports, distributor assessments, and customer satisfaction analyses, for both new ventures and established companies. Manufacturers continue to be an important part of WISC's client base, representing over half of the existing businesses clients served. WISC staff has provided training on early-stage assessments to a national audience.

In the short term, the Center hopes to see increased student enrollment, especially among disadvantaged students, and greater visibility of ICES's graduates as entrepreneurial leaders throughout the region. In the long term, the ICES hopes to

grow into a premiere European Small and Medium Enterprise education resource, having measurable effects on regional unemployment and social reconciliation.

TIMELINE: ICES is requesting funding for Fiscal Year 2008. Startup Phase: January – March. Implementation Phase: April – November. Outcomes: December 2008 – January 2009.

CONTACT: Joan Gillman, Director, Special Industry Programs
975 University Avenue, Madison, WI 53706
Phone: 608.262.9982 E-mail: jgillman@wisc.edu

Debra Malewicki, State Director, Small Business Development Center
432 N Lake Street, Rm 423
University of Wisconsin-Extension, Madison, WI 53706
Phone: 608-263-7794 E-mail: debra.malewicki@uwex.edu

PAST FUNDING: The Center for Entrepreneurship has received the majority of its funding from private foundations.

BUDGET: Costs in FY 2008:

Operational Costs:	\$ 500,000
Development Costs:	\$1,350,000
<i>(undergraduate program, executive program, doctoral program, entrepreneurship resource library, technology, and entrepreneurship clubs)</i>	

<u>Total Costs in FY 2008</u>	<u>\$1,850,000</u>
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Funds from Other Sources in FY 2008:

Fees:	\$150,000
Government of Croatia:	\$350,000
EU – Tempus	\$500,000
Private Support:	\$100,000

<u>Total from Other Sources:</u>	<u>\$1,100,000</u>
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<u>Federal Funding Requested in FY 2008</u>	<u>\$750,000</u>
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SIGNIFICANCE: The Western Balkan region continues to face enormous socio-economic and political challenges as a result of the 1991-1995 war that destroyed the regional business infrastructure. Unemployment is rampant, the small and medium enterprise (SME) sector is slow to recover and the process of national reconciliation has stalled. International surveys, such as those by the World Economic Forum and the Global Entrepreneurship Monitor, identify low competitiveness, lack of innovation and the absence of an entrepreneurial culture as the most significant obstacles to regional growth. The University of Wisconsin has been at the forefront of the Center for Entrepreneurship's efforts to help alleviate these problems, providing a model for the Center to follow in the development of its graduate entrepreneurship program and its small business outreach program. As noted

earlier, this initiative will also integrate the unique strengths of the WISC at UW-Whitewater, recognized as a national model for innovation assessment programs. This relationship has benefited the University of Wisconsin as well, allowing greater cultural understanding through faculty exchange, as well as new and more varied curriculum development and research tools. The University of Wisconsin seeks to expand this relationship for the benefit of both institutions.

CONTACTS WITH
CONGRESS:

This request is a resubmission of a Fiscal Year 2007 request. The following offices were contacted in support of this request during 2007:

Office of Representative Tammy Baldwin (D-WI)

Office of Representative David Obey (D-WI)

Office of Senator Herb Kohl (D-WI)

Office of Senator Russ Feingold (D-WI)

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Kevin P. Reilly, President
1220 Linden Drive, Madison, WI 53706
Phone: 608.262-2321 Fax: 608.262.3985 Email: kreilly@uwsa.edu

REQUEST FOR FUNDS:
WINTEC: A WISCONSIN INITIATIVE FOR NEW TECHNOLOGIES

ORGANIZATION: The University of Wisconsin System is one of the largest systems of public higher education in the country, serving more than 160,000 students each year, and employing more than 32,000 faculty and staff statewide. The UW System is made up of 13 four-year campuses, 13 two-year campuses, and a statewide UW-Extension. Together, these institutions are a tremendous academic, cultural, research, and economic resource for Wisconsin, the nation, and the world.

Studies by WiSys Technology Foundation, Inc., the patenting and licensing organization of the UW System, show there are more than 600 faculty members from 12 UW System campuses with technical expertise or research experience that can be accelerated for the benefit of Wisconsin and the UW System itself. WiSys studies also show that Marshfield Clinic has 120 research scientists and clinicians who can contribute to the technology-based growth of our state. WiSys recently signed an agreement to provide patenting and licensing services to Marshfield Clinic. This is an unprecedented opportunity to bring the research expertise of the two systems together for the common good.

DESCRIPTION: The UW System has a comprehensive strategy to nurture UW System campuses outside Madison to become centers of research excellence for next-generation technologies. Our request is to allocate a federal investment singularly focused on the development of new marketable technologies. In addition, the proposal will accomplish high-tech training of UW System students and faculty and near-term job creation. More importantly, this proposal provides a mechanism for long-term sustainability of research and development in the UW System and Marshfield Clinic through commercialization and revenue generation. WiSys and the UW System have identified specific opportunities to develop cutting-edge technologies for new and existing technologies. Examples include new and unique polymers for the semiconductor industry, new and superior methods to produce vaccines and conduct tissue engineering, nanotechnology for sensors, nanomaterials for efficient lighting, high-tech prosthetics to assist amputees, superior bioimplants for cardiovascular patients and nanotechnology for cleaner air. Yet, these opportunities are not exploited in a timely fashion due to lack of long-term research funds. This is not only an economic loss for the state, but also an intellectual loss due to fewer opportunities for faculty innovation and student training in technology development.

Proposal: Establish a \$10 million funding mechanism to support the most innovative technology development programs for the next five years at UW System campuses and Marshfield Clinic. The initiative will identify and support applied research for up to five years in cell biology, tissue engineering, stem cell technologies, human therapeutics, bio-implantable medical devices, nanotechnology, advanced nanocomposites, polymer chemistry, and new bioenergy technologies. The program will place special emphasis on collaborative development among campuses to reduce capital expenditures and improve intellectual input. Intellectual property will be protected and commercialized to sustain further research and development.

It is anticipated that a competitive program would be established to award grants. Each proposal would be required to include a commitment for fiscal support from a private-sector partner or partners; have appropriate and significant student participation; and demonstrate sustainability or potential of funding for further development.

Salient features:

- Singularly focused on the creation of new technologies targeted for industries;
- Cost-effective, modest investment to revolutionize technology growth throughout Wisconsin;
- Near-term job growth and long-term revenue returns; and
- Boon to education and student training in high-tech fields.

What it will accomplish:

- Support for 30 high-tech, product-oriented research and development projects per year for up to five years;
- Two or more high-quality programs per UW System campus and Marshfield Clinic;
- Fifteen or more of the projects will have industry or university collaborations to bring together the best intellectual power;
- Strict accountability and high-caliber monitoring of the projects;
- Fifteen or more applications for extramural funding with potential to attract \$500,000 or more to the state per year;
- Retain and invigorate the best and brightest UW System campus faculty; and
- Provide students with increased educational opportunities.

TIMETABLE: Immediately, a grant program would be established by the WiSys Technology Foundation, Inc., and the UW System Office of Federal Relations to award an average of 30 grants per year over five years.

CONTACT: Kris Andrews, Assistant Vice President for Federal Relations, University of Wisconsin System, 1220 Linden Drive, Madison, WI 53706. Phone 608-263-3362. Email kandrews@uwsa.edu.

Maliyakal John, Managing Director, WiSys Technology Foundation, Inc., WARF Building, 614 Walnut Street, 13th Floor, Madison, WI 53726. Phone: 608-265-2135. Email maliyakal@wisys.org.

: During the 1987-89 Wisconsin Biennial Budget, a UW System applied Research Program was established. This program is annually funded at approximately \$425,000. Recently, the UW System was offered a grant of \$250,000 per year for four years if matching funds can be provided. As a result, the UW System is requesting an additional state investment of \$250,000 per year in the 2007-08 Wisconsin biennial budget.

BUDGET: The UW System requests an investment of \$10 million to be allocated over five years (FY08 through FY12) to fund the WINTec initiative to support the research and development of new technologies. This total investment of \$10 million would be used to make grants to researchers at UW System and the Marshfield Clinic. It is anticipated that 30 grants will be awarded during each year of the program, with a maximum project grant term of five years. Due to the nature of the research, no initial

limit will be placed on grant amounts. However, similar grants administered by WiSys limit grants to a maximum of \$50,000 per year. WINTec will be administered through WiSys Technology Foundation (WiSys). WiSys currently administers the state-funded Applied Research Grant program for UW System faculty and has established eligibility and application criteria which can be used in the administration of the WinTec Program.

Due to the technical nature of the research, decisions regarding salary, equipment and supply expenditures will be reviewed and approved by WiSys as part of the initial grant review and approval process. The criteria used by WiSys will be developed and publicly disseminated before any grant applications are considered. Priority will be given, however, to those projects that develop new technologies, provide training opportunities for faculty members and students, stimulate job creation and generate long-term, sustainable revenue. Enhanced consideration will also be granted to projects that include a commitment for fiscal support from a private or public sector partner with appropriate protections for intellectual property and demonstrate sustainability or the potential for extramural funding for future development and project continuance.

SIGNIFICANCE: Wisconsin's Governor has focused on high-growth strategies with an emphasis on education, research and technology. Wisconsin is emerging as a leader in the areas of biotechnology and stem cell research, mostly led by the UW-Madison campus. Support for research in these fields is also critical at the federal level as the United States faces increased global competition in its efforts to maintain its place as the leader in high-tech research and innovation. There is also tremendous untapped potential for technology creation at other UW System campuses and Marshfield Clinic to assist in fulfilling this vision. UW System faculty are exemplary teachers, and also demonstrate that they can invent - examples include the latest human therapeutics to treat central nervous system disorders and medical devices to detect cancer and next-generation nanocomposites.

Marshfield Clinic (www.marshfieldclinic.org) is the largest private group medical practice in Wisconsin and one of the largest in the United States, with 736 physicians representing 86 medical specialties in 41 sites in Wisconsin. The Marshfield Clinic Research Foundation has 30 Ph.D. and M.D. scientists and 180 other staff who provide support for approximately 200 physicians throughout the Marshfield Clinic system. They are engaged in research in areas such as clinical research, human genetics, agricultural health and safety, bioinformatics and epidemiology.

Despite this talent, there is very little long-term investment for focused research and development, especially at UW System campuses. With an investment in faculty and infrastructure, combined with a strategic plan for the next five years, this untapped potential can be turned into a major force in technology-based business growth for Wisconsin and the nation.

CONTACTS WITH
CONGRESS: None