

UNIVERSITY OF WISCONSIN – STOUT
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REQUEST FOR FUNDS:

Integrative Solutions Consortium: Providing Innovative Solutions to Research, Education and Building the Economy of Western Wisconsin.

A Proposal by The Integrated Solutions Consortium of UW-Stout, UW-River Falls, UW-Eau Claire, and Chippewa Valley Technical College

ORGANIZATION: The Integrative Solutions Consortium (ISC) is a unique faculty-initiated and administered collaborative organization that functions to foster intercampus scholarly interaction between and among the participating Western Wisconsin campuses of the University of Wisconsin and Chippewa Valley Technical College. The goal of this Consortium is to establish and sustain a highly integrative, multi-institutional academic community organized through real or virtual inter-campus research interactions. The Consortium has been formed to enhance the teaching and research capacity of the campuses through shared infrastructure resources and faculty expertise. The ISC will foster strong, collaborative research relationships in the region, more opportunities to attract research funding for the conduct of science, as well as enhance technology transfers and new job growth in the region. This is similar to approaches being followed across the country where interdisciplinary research initiatives are being facilitated and institutions are working more closely together.

DESCRIPTION: Since announcing the ISC in July of 2006, the executive committee of faculty campus coordinators have formulated an organizational framework, held regular meetings, fostered new research collaborations and held the first annual ISC Symposium at which the University of Wisconsin System President Kevin Reilly provided the keynote address.

The specific goals of the ISC include:

- To enhance the academic and scholarly climate of the region with the development of collective infrastructure and resources which support research among the faculty of the participant institutions;
- To improve professional development and opportunities in general for participating faculty to engage in scholarly activities;
- To broaden and enrich the educational experiences of students at the participant institutions particularly through engagement in the scholarly activities of faculty;
- To enhance access for potential business partners to consortium faculty and resources in order to facilitate initiatives that further the economic growth of the region and the state while enhancing the academic climate of the participating institutions.

The consortium will initially provide a virtual center to facilitate interdisciplinary, often larger scale, inter-campus collaborative interactions by increasing access to resources and by clustering faculty and students around basic and applied research questions without the traditional distinction of departments, programs, institutions, or disciplines.

Interested faculty from each of the UW institutions have already established a number of research focus groups. These have organized around specific research problems and questions or in connection with specific infrastructure core facilities. Among the interest groups formed to date are ones focused on Food Sciences, Material Sciences, Neurobiology, Genomics and Advanced Cell Biology. In some cases these groups have already begun collaborative work that in one case has impacted on teaching activities as well.

Already existing core facilities on the UW campuses such as the UW-Stout Genomics Technology Access Core (GTAC) facility, UW-River Falls Cellular Imaging and Analysis Center, and UW-Eau Claire Materials Sciences Center are being re-organized to address ISC aims and to facilitate faculty and student led cross-campus initiatives. The NanoRite Innovation Center (under construction on the CVTC campus and ready for occupancy in the summer of 2007) will provide internship sites to allow students from all institutions to work side by side with entrepreneurs. Current science faculty from each campus would also have access to the state of the art wet labs and equipment to work on collaborative research projects in the material sciences.

The recent success of the nanotechnology initiatives between ISC campuses provides an excellent model for other core areas of emerging technology that will continue to develop under the umbrella of the Consortium such as biotechnology, biomedical research, information technology and cognitive neuroscience, to name a few. Within the umbrella of the ISC, core facilities and working groups will provide for improved community outreach as well as partnerships with businesses for sustained economic development.

TIMELINE: The Integrative Solutions Consortium requests funding for Fiscal Year 2008. Funds will be used over a one-year period, during which time public and private funds will also be generated.

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PAST FUNDING: Significant funding has been provided to ISC faculty and associated research facilities establishing a track record for continued success in obtaining extramural funding. For example, the UW-Stout Genomics Technology Access Core initiative was started in 2005 and continues to grow through internal funding as well as support from WiSys Technology Foundation, Inc. The UW-River Falls Cellular Imaging and Analysis Center was established in 2002 and has recently obtained significant UWRF Foundation funding to support equipment purchases as well as external research funding for a major biomedical research project. The UW-Eau Claire Materials Sciences Center has a long history and has received significant funding both on campus and through various grants. The CVTC NanoRite Innovation Center is under construction and will be ready for occupancy in summer 2007. This facility resulted directly from a significant NSF collaborative grant with UW-Eau Claire. This 37,000 sq.ft. center will house 750 sq. ft. wet labs, a 970 sp.ft. Class 100 clean-rooms and access to a variety of specialized microscopy equipment.

BUDGET: Federal funding of \$240,000 is being requested for one-year start-up funds. The request is for funds to support base operation start-up of the ISC as follows:

\$100,000	Subgrants for ISC participating faculty to develop preliminary data directly supporting future extramural grant applications. Grants will be awarded to faculty on a competitive basis and be reviewed by ISC faculty peers at participating institutions.
\$50,000	ISC campus coordinator faculty release time. An initial investment could be instrumental in spurring ISC activity between campuses through the lead of the campus coordinators. The proposed budget will provide approximately one course buyout for faculty to further efforts in three key areas; <ul style="list-style-type: none"> • development and enhancement of ISC recognition and participation across campuses and with potential business partners, particularly through affiliations with organization such as the Wisconsin Entrepreneurs' Network, Other examples include implementing the proposed monthly videoconference seminar series and business meeting, website development, etc. • administration and operation of the respective campus ISC-related resources for use by students, faculty, and business partners. • development of additional multi-institutional applications for external funding to support ISC goals, student and faculty research initiatives.
\$35,000	Student Stipends. This budget will provide approximately three stipends per campus for student-authored proposals to develop or participate in multi-institutional research project/s with ISC faculty or business partners and thus leverage the strengths from all campuses for education and training.
\$15,000	Staff support. Buyout of research administrators' time at participating campuses to support identification of grant opportunities and support grant writing, coordination for multi-institutional events, assistance with communications (listserv, email, website), and other support for the ISC executive committee of campus coordinators.
\$20,000	Indirect Costs. To be split evenly between the campuses in order to defray costs associated with support of ISC activities
\$10,000	Travel
\$10,000	Supplies
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\$240,000	Total FY08 Funding Request

SIGNIFICANCE: Across the globe, major scientific businesses and institutions are adopting an integrated approach to accelerate the discovery of basic science, human health, and industrial applications through interdisciplinary research teams. As scientists and educators, the faculty of the ISC also recognize integrated approaches as essential for successful competitive research and to provide the diverse opportunities necessary to train and educate a deeply collaborative workforce able to meet the challenges of the 21st Century. In order to meet those challenges, the ISC is dedicated to the development of an enhanced academic scholarly environment which will serve the future with innovative solutions to major research questions, as well as train the next generation of scientists, medical professionals, and technologists to a highly competitive level. Our goal is make these students capable of meeting future challenges and driving the economy of Wisconsin and the nation with their skills and training. To accomplish this, the ISC is dedicated to enhancing the scholarly climate

at all of the participating institutions and enhancing the connectivity of those campuses with local, state, regional and national business interests as well.

The proposed initiative offers a unique combination of strengths which reflect the founding principles of the ISC and will foster its continued growth and development at all of the participating campuses through:

- 1) Building the basic and advanced research capacity and academic climate of the participating institutions that, in turn, will attract further state, federal (NIH, NSF and DOE) and private grant funding;
- 2) Educating more students in advanced STEM disciplines, including biotechnology, biomedical research, food sciences, cognitive neurosciences, nanotechnology, polymer engineering as well as computer and electrical engineering;
- 3) Provides access to state-of-the-art science and engineering facilities and expertise for both students and regional businesses/industry as more public-private partnerships are promoted and sustained in the Northwest region;
- 4) Makes vital contributions to the economy of the region by:
 - a. enhancing the general academic environment on the respective campuses, which, in turn, provides students with a more competitive skill set to continue their education in graduate school, enter the workforce and become future business entrepreneurs within advanced fields of STEM; and
 - b. developing new technologies and the jobs that support them both directly on the campuses and outside the campuses as institutional expenditures ripple through local and state economies. According to the U.S. Department of Commerce, Bureau of Economic Analysis, 36 jobs are created for every \$1 million in research and development spending.)

CONTACTS WITH
CONGRESS:

None to date.