

Water of the West: Towards a Sustainable, Interdisciplinary Water Resources Program

The Water of the West Initiative proposal (WoW Initiative) will launch a Water Resources Graduate Program (WR Program) to be housed under the College of Graduate and Interdisciplinary Studies at the University of Idaho. The five elements proposed for funding through the WoW Initiative are: (1) development of an integrative problem-solving framework, including a pilot project focused on water resources sustainability in the Palouse basin to transform approaches to research, education and outreach; (2) broadening WR education through activities designed to expose students to other complex regional, national and international WR issues; (3) new faculty necessary to bring a concurrent J.D. degree into the WR Program and strengthen the Law, Policy, and Management track of the WR Program by expanding curriculum in the College of Law; (4) a director (with support staff,) who will coordinate the WoW Initiative implementation and WR Program, and a grant writer who will seek funding for future faculty and student interdisciplinary research; and (5) graduate student assistantships to attract diverse, highly qualified students during the initial period of the WR Program.

The WoW Initiative will provide the resources to launch the proposed WR Program in an innovative direction that will lead the region in the education and training of tomorrow's water resources professionals. The strengthening of the Law, Policy, and Management degree track and addition of a concurrent J.D. degree through the WoW Initiative places the WR Program in a unique position in the region. This program will facilitate research and education to influence both the scientific understanding of the resource and how it is managed and advance the decision-making processes that are the means to address competing societal values. The commitment of the College of Law to assume funding of the new faculty position and fellowship, and the use of initiative funding as seed money for interdisciplinary education and research, a director, and a grant writer, will lead to a sustainable WR Program within five years. The WoW Initiative has the support of six colleges at the UI: Agricultural & Life Sciences; Engineering; Law; Science; Letters, Arts & Social Sciences; and Natural Resources. It is a university-wide initiative strengthened by collaboration with the Idaho Water Resources Research Institute (IWRRI).

The WoW Initiative advances the University of Idaho's land grant mission to promote economic and social development in the state of Idaho. This will be accomplished through novel experiential interdisciplinary education; creation of interdisciplinary research efforts among water resources faculty in numerous Colleges and UI Centers, and focus on urgent regional water resource problems with an approach that will involve and provide information to local communities. The proposal contributes to the UI's academic themes by integrating science, social science, law, policy and engineering to solve problems associated with stewardship of our scarce water resources. The WoW Initiative promotes diversity by actively seeking students from underrepresented groups both by targeting students from historically underrepresented communities, and from communities that will benefit from the water-focused educational and training experiences provided by the program. Diversity will be enhanced further by actively seeking applications to the Law faculty position and Law teaching fellow from diverse candidates, including Native American graduates of J.D. programs. Through funding for the WoW Initiative, the UI has the opportunity to take the lead among public universities in the West in providing interdisciplinary education, research, and outreach on water resources by integrating knowledge of law, policy, management, science, and engineering into a coherent whole capable of supporting socially desirable decisions about water use and management.

Nanomaterials for Basic and Applied Cell Biology

This strategic initiative focuses on the establishment of an interdisciplinary program that integrates nanomaterials research with cell biology and bioscience research (i.e., bionanoscience) at the University of Idaho (UI). The program will initially draw researchers and students from the Colleges of Science, and Agricultural and Life Sciences, but will be expanded to the Colleges of Engineering, and Business as the program evolves. Preliminary collaborations have shown that the integration of the nanomaterials program and the biosciences programs can lead to successful training of students and productive research. Interdisciplinary programs of this type will require specialized cross training that is not currently available at the UI, and in fact exists at only a few universities in the nation. This initiative will establish focused research in the areas of infectious disease, gene therapy, and biosensors built upon the platform of nanomaterials. In addition, new interdisciplinary graduate courses will be developed that will allow the researchers to train graduate students in several science disciplines. The outcome will be a research-driven, interdisciplinary graduate degree program. Furthermore, the program will work to develop intellectual property and potential startup companies based on the three research foci. This initiative will facilitate the growth of the UI into research and education that will be in high demand over the next decade and beyond. In terms of outreach this program will be integrated with the new National Science Foundation (NSF) GK-12 grant that will put graduate fellows from this program into 4th-6th grade classrooms, and the Idaho EPSCoR outreach program, improving the links between UI and Native Americans in Idaho. Furthermore, this program will provide an excellent platform for motivating underrepresented groups to pursue careers in the sciences. The goals of this program are summarized as follows:

1. Develop interdisciplinary research teams that incorporate nanomaterials and cell biology into cohesive research teams.
2. Develop a multidisciplinary graduate education program that promotes diversity.
3. Provide training to a new generation of scientists with specialized skills that will be in demand.
4. Establish the UI as a major player in the emerging field of bionanoscience.
5. Provide outreach to the community to educate them about bionanoscience that will affect all of our lives in the not too distant future.
6. Establish a self-sustaining program that will grow to include all of the relevant researchers in the university.
7. Develop entrepreneurial spin-offs of the intellectual property developed by the research teams.

In the long term we will establish a self-sustaining program built upon obtaining external funding. The old adage is true, money begets money. The funds supplied by this initiative will provide the leverage to pursue funding through highly competitive federal programs. The principal investigators are dedicated to obtaining NSF funding for a Nanomaterials-based Biosciences Center of Excellence, which this initiative would help facilitate.

Building Sustainable Communities: A New University and Community Partnership

The *Building Sustainable Communities Initiative: A New University and Community Partnership* has three interdependent components: 1) an *academic program* in bioregional planning and community design, including an interdisciplinary graduate degree, graduate certificate, and courses for other majors; 2) a *Learning and Practice Collaborative* that engages UI faculty and students to assist communities with sustainable community planning and development; and 3) a *Collaborative for Effective Planning and Governance* that delivers noncredit training to improve the competencies of local elected leaders and professionals to plan and manage community resources for sustainable futures.

The initiative is critical to Idaho for two reasons. First, Idaho was the nation's third fastest growing state between 2004 and 2005. From 1990 to 2005, Idaho's population increased by 41% to over 1.4 million residents, making it the fourth fastest growing state in the U.S. By 2050, urban and suburban development in Idaho is expected to double and quadruple, respectively, resulting in a loss of 4.5 million acres of ranch, farm, and open space land. Community leaders and professionals will need the skills and knowledge to guide this growth in a sustainable manner that preserves and enhances Idaho's rich cultural and natural resources. Second, while neighboring states offer planning degree programs, Idaho does not. Building upon the unique strengths of UI programs and faculty, and drawing on state-of-the art practice from around the world, the initiative coordinates existing UI and statewide assets to create and implement internationally recognized programs in planning education, service learning and community engagement. The entire initiative is linked together by a "bioregional" approach to planning and community development that drawing on resources from eight UI academic departments in seven colleges, UI Extension, and eight units/organizations both in and outside of the institution. The approach considers the ecological functions and human settlement patterns of a region, builds more inclusive civic constituency, and emphasizes regional resources and energy sources in an effort to inform community and economic development policy and design.

The Bioregional Planning and Community Design Academic Program. The interdisciplinary graduate degree program involves faculty from Conservation Social Sciences, Geography, Architecture, Landscape Architecture, Political Science, Environmental Science, Civil Engineering and Agricultural Economics and Rural Sociology, and UI Extension. Innovative mechanisms are employed to fully engage departments and colleges, such as the shared management of degree and certificate programs with the student's home college and department. In addition to preparing students, the program will advance the state-of-knowledge in the field of bioregional planning by engaging faculty and students in planning-related research.

The Learning and Practice Collaborative (LPC). The community engagement component of the initiative, the LPC builds partnerships with communities, agencies, NGOs, UI centers and academic programs to partner faculty, students, and communities in service learning and research. Central to this collaborative is the dynamic role of the UI Extension network and its community development program that will utilize extension infrastructure to foster community driven planning projects.

Collaborative for Effective Planning and Governance (CEPG). A self-sustaining partnership between UI and local government associations, the CEPG is a professional development program that extends planning and governance education to local and elected government officials.

SUSTAINABLE IDAHO: LEARNING TOGETHER, LEADING THE WAY

The Sustainable Idaho Initiative: Learning Together, Leading the Way will catalyze institutional transformation by creating a vibrant, visible, interdisciplinary learning community of students, faculty, staff, and community members to institutionalize sustainability at every level of the University of Idaho and in communities throughout the state. An important component of this transformation involves projects that provide experiential learning opportunities and that strengthen our connections to our campuses, communities, and world.

The goals of our Initiative are to:

- transform the academic environment and educate students, faculty, staff and community members to understand, practice and teach sustainable behaviors in their lives and careers.
- stimulate research to create knowledge about sustainability that positively impacts society.
- strengthen outreach by building strong university-community relationships that improve the environmental, social and economic well-being of all residents of our communities.
- model sustainability to make the UI a leading sustainable institution of higher education.

The Initiative will transform the academic environment at UI to integrate sustainability and experiential learning through facilitating changes in existing courses by delivering a series of faculty workshops and supporting the design and delivery of new courses. It will promote dialogue through a speaker series, a discussion forum and an annual sustainability week. It will stimulate research to create knowledge by providing seed grants for student and faculty research and travel. It will strengthen outreach by supporting student projects that promote sustainability in our communities, by engaging the ideas and talents of outreach and extension faculty, by creating an off-campus Sustainability Experience, and by building and nurturing sustainability networks both on- and off-campus. Finally, it will position UI to model sustainability in operations by developing indicators of campus sustainability; setting measurable improvement goals; performing biennial university sustainability assessments; developing a website; and, making these efforts a focus of internal and external communications so that sustainability becomes a signature of the university and part of our brand. In crafting the vision, objectives and strategies described in this Initiative, we have been guided by the experiences of a handful of visionary universities that have led the way in integrating sustainability into higher education and will adapt their experiences to the University of Idaho (Barlett and Chase, 2004). Creating a sustainable future requires transcending the view that sustainability relates only to the environment. Sustainability includes ecological integrity, economic viability, and strong social systems. The Sustainable Idaho Initiative will create the critical infrastructure elements that will enable our vision to become reality. It will work at multiple levels and include a Collaborative Leadership Team, a shared vision of the future, measurable outcomes, clear goals and objectives, numerous strategies for meeting the goals and objectives, an assessment plan, and multiple projects at various scales on campus and in our communities. Integral to this effort will be using savings from sustainability projects for future investment in new activities and collaboration with the research and the development offices to engage new contributors – both granting agencies and individual and corporate donors – that will make Sustainable Idaho a financially sound endeavor. We will make changes, measure and assess our success, learn from our experience, and adjust our strategies. We will become a true learning community.

Idaho Professional Ethics Initiative

The *Idaho Professional Ethics Initiative* aims to create a campus-wide interdisciplinary program strengthening and expanding the University of Idaho's teaching and learning, research and scholarship, and outreach related to professional ethics, diversity, and social justice. The program – the Idaho Program in Professional Ethics & Social Responsibility – will coordinate the delivery of coursework across the university leading to a variety of ethics and diversity-focused Certificates of Completion. It will also promote research and awareness of issues in professional and social ethics as well as in diversity and intercultural relations by sponsoring a lecture series and initiating opportunities for scholarly publication. The program will further stimulate outreach in professional ethics and diversity training through distance-delivered courses and workshops. The Idaho Program in Professional Ethics & Social Responsibility arises from a singular belief: Ethics, diversity, and justice matter. They matter in the practice of every profession toward which we train our students; they matter in our interactions with others, professional and otherwise, from the most local to a global scale; they matter in the practice of our lives. Acting on this belief in a manner that impacts in a significant and practical way the education we provide presents a significant challenge to our university. At the University of Idaho, as at most universities, coursework in ethics, diversity, and justice has historically been kept separate from the professional colleges and disciplines. Such normative and abstract matters have remained the province of the humanities and social sciences, treated by the professional disciplines as introductory material to be studied early in a student's college career in "core" courses, then left behind as the student moves to the advanced technical material of the 'hard' discipline of his or her professional ambition. To the extent ethics, diversity, and justice enter the curricula of professional programs it usually does so as a small component within select courses or as a less-than-standard-measure course, e.g., a course deemed worthy only of 1 or 2 credits. But the University of Idaho is ready to be transformed. And the *Idaho Professional Ethics Initiative* promises to do just that. The Program in Professional Ethics & Social Responsibility will transform the university by creating a robust multi-disciplinary framework that infuses training in ethics, diversity, and social justice throughout the curriculum, from the humanities to the 'hard' sciences, engineering to education, agriculture to art. Housed within the Department of Philosophy, the Program in Professional Ethics & Social Responsibility draws support from a project team of roughly four dozen faculty, staff, and students from every college at the university. Addressing professional ethics, diversity, and social justice in all areas of our academic mission – teaching, scholarship, and outreach – it contains three principal components: (1) Professional Ethics Curriculum and Certificates; (2) Diversity Curriculum and Certificates; and (3) Social Justice Curriculum and Certificates, complemented by a Publications and Lecture Series, and Distance- Delivered Courses and Workshops.