RESEARCH

Research is a primary function of the University of Idaho and is closely related to teaching for both students and faculty members, especially at the graduate level. Research and teaching are intimately associated and mutually complementary. Hence, most classroom teaching faculty members are also actively engaged in research.

Office of Research and Economic Development

The mission of the Office of Research and Economic Development is to provide academic and administrative leadership to:

1. foster, support and inspire scholarly activity;
2. oversee ethical, managerial and regulatory compliance of scholarly activities; and
3. ensure dissemination and application of scholarly activities. At the University of Idaho, scholarly and creative activity aspires to generate knowledge that strengthens the scientific, economic, cultural, social, and legal foundations of an open, diverse, and democratic society. Our goal is to achieve excellence in scholarship and creative activity through an institutional culture that values and promotes strong academic areas and interdisciplinary collaboration among them.

The Office of Research and Economic Development focuses on promoting research university-wide and on providing assistance in writing multidisciplinary proposals and in obtaining research funds. This is accomplished by organizing and promoting research activities such as special grant programs and research awards; providing to individuals and departments information on grant opportunities from federal agencies, state and private sector groups and foundations; and processing and recording all grant and contract proposals through the Office of Sponsored Programs to ensure that policies and procedures are recognized and followed. The Office strives to increase UI’s research competitiveness by offering assistance to faculty, staff, and students.

The Research Council, the faculty’s standing committee involved with the development and oversight of research policy, works closely with the vice president for research and economic development to resolve differences in interpretation and implementation of these policies. Additionally, the council acts as the peer review board in the university’s internal competitive grants programs.

Idaho Research Foundation

The Idaho Research Foundation, Inc. (IRF) is a private nonprofit corporation organized for the purpose of supporting research at the university. Its principal activity is licensing technologies resulting from academic research to the private sector. The IRF identifies and protects the intellectual property developed at the University of Idaho and transfers it to the private sector through licensing agreements in order to secure support for and further develop the university’s academic, research, and service responsibilities. The IRF also disseminates scientific knowledge and technical information and encourages and assists researchers and inventors by providing the means by which their scientific discoveries may be patented, copyrighted, developed, and applied. The transfer of technology generated through UI research turns society’s investment into new products and industrial processes, thus increasing Idaho’s competitiveness as well as the nations.

Research Units

Research activities are many and varied, and are unique for each department and college. Certain administrative units provide an additional research function and emphasis that are, in many cases, related to the research program of the departments. Some of these units are:

Aquaculture Research Institute

The Aquaculture Research Institute (ARI), University Research Office, conducts, facilitates, supports, directs, and coordinates aquaculture research activities at the University of Idaho, at the Hagerman Fish Culture Experiment Station, and throughout the state. Through the institute, UI scientists from various disciplines conduct research in both commercial and conservation aquaculture sciences and technologies such as fish culture and production efficiency, fish breeding and genetics, fish nutrition and growth physiology, fish diseases and pathology, fish waste management and water quality assessment, aquaculture marketing and economics, and recovery efforts for endangered fish species. The ARI does not offer degrees. Rather, the ARI assists academic departments in the training of graduate-level students by providing resources and opportunities for research.

Caine Veterinary Teaching Center

The Caine Veterinary Teaching Center facility, Department of Animal and Veterinary Science, College of Agricultural and Life Sciences, is located at Caldwell, Idaho, and is staffed with scientists involved with research, extension, service, and instruction in the animal and veterinary science graduate program. It provides clinical training for WI students in veterinary medicine and is also a satellite clinical laboratory specializing in the identification, study, and control of diseases of animals used for human food.

Center for ETHICS

The Center for ETHICS, Department of Movement Sciences, College of Education, believes in “teaching the tradition of competitive integrity to inspire leaders of character.” The goal of the center is to improve moral development and character education through intervention, consultation, and leadership in advancing moral education.

Center for Educational Research and Public Service

The Center for Educational Research and Public Service was established to conduct and support research and evaluation, to facilitate research by College of Education faculty members and graduate students, and to be of assistance to local school districts and to other educational institutions. The center publishes a monthly newsletter providing information on grant opportunities.

Center for Forest Nursery and Seedling Research

The Center for Forest Nursery and Seedling Research develops and demonstrates cost and environmentally effective processes for propagation, growth, and subsequent survival of forest seedlings. Processes are tested and demonstrated in a production scale nursery operation, with subsequent transfer of technology to the forest nursery industry of the region.

Center for International Training and Outreach

The Center for International Training and Outreach (CITO) functions as the College of Natural Resource’s international outreach center. Its
central long-term goal is the development of a self-sufficient program of worldwide training, technical assistance and research activities focused on three related substantive areas:

1. nature-based tourism,
2. environmental interpretation, and
3. protected area management and sustainable development.

Key within CITO's functions is the cultivation of strategic linkages within organizations that can help facilitate a greater role for the UI and the College of Natural Resources in international training and outreach. Paramount in this vision is the establishment of strategic linkages and institutional partnerships with government, private firms, and international institutions of higher education.

**Center for Research on Invasive Species and Small Populations**

The Center for Research on Invasive Species and Small Populations (CRISPP) combines advanced techniques in molecular biology with traditional approaches to biological and ecological management, in order to maintain and enhance the integrity of our nation's native plant and animal populations. The goal of the center is to address the challenges and inform policy on invasive species and small or threatened populations. This will be accomplished by taking an integrated approach that coordinates resources and expertise for scientific research on these problems. The Center's mission also incorporates public education and outreach on invasive species and conservation biology issues. The Center contains state-of-the-art instrumentation for molecular biology and a dedicated computer laboratory, to facilitate data acquisition and analysis. Stipends for graduate study and undergraduate internships are available through the Center to students with an interest in invasive species and/or conservation biology issues.

**Center for Secure and Dependable Systems**

The Center for Secure and Dependable Systems (CSDS) operates as a center in the Microelectronics Research and Communications Institute (MRCI), University Research Office. This board-approved center concentrates on computer-related security education and research. The National Security Agency designated the University of Idaho in 1999 as one of the initial seven Centers of Excellence in Information Assurance Education, partly in recognition of CSDS's efforts in promoting information security education and research. This status was reapproved in 2005. The CSDS faculty conducts research in the areas of system defense, intrusion detection, critical infrastructure protection, secure protocols, network security, evolutionary algorithms, computer forensics, reliability, and fault tolerance.

**Electron Microscopy Center**

A campus-wide facility, including scanning and transmission electron microscopes and energy-dispersive x-ray microanalysis, is available for use in teaching, research, and service. Located in McClure Hall, this facility is available to students and faculty members. Information concerning use of the EM Center may be secured directly from the facility or through the University Research Office.

**Forest, Wildlife and Range Experiment Station**

The Forest, Wildlife and Range (FWR) Experiment Station is the research arm of the College of Natural Resources. Its staff includes all members of the college faculty, full-time research associates and technicians, and graduate students. The station staff conducts research on a wide variety of natural resource management problems in the areas of forestry, forest products, range, wildland recreation, wildlife, and fisheries. Because many of the graduate students enrolled in the college are on assistantships associated with station projects, the programs of the experiment station are closely connected with the college's graduate education mission.

**Hagerman Fish Culture Experiment Station**

The Hagerman Fish Culture Experiment Station is located in the heart of Idaho's aquaculture industry in the Magic Valley and its focus is on rainbow trout. Most of Idaho's large commercial aquaculture operations are located nearby and the close proximity of the research facility provides opportunities for industry partnerships in aquaculture research.

The Hagerman Station is a field laboratory of the College of Agricultural and Life Sciences, and is a part of the Aquaculture Research Institute. UI scientists from various disciplines conduct research at the station in both commercial and conservation aquaculture sciences and technologies. The Hagerman Station has both exceptional water resources supporting its wet laboratories and outdoor fish culture systems and leading edge analytical resources supporting functional genomics in association with nutrition, immune function, growth, reproduction, and marker-based breeding programs for rainbow trout. The Hagerman Station also hosts USDA Agriculture Research Service scientists who contribute to UI research, educational and extension programs. Idaho Springs, a nearby commercial-scale trout farm, is operated by the Hagerman Station as a research farm where large-scale trials and long-term broodstock holding can be conducted. Scientists at the station are deeply involved in recovery efforts for Idaho's endangered fish species, and in assessment of threatened stocks and species. These efforts are often done in partnership with state and federal agencies, and with the Columbia River Inter-Tribal Fish Commission, and other tribal entities.

The Hagerman Station works closely with Idaho's aquaculture extension educator, who is nearby in Idaho's Magic Valley. Through this collaboration and that with other UI faculty and staff throughout the state, a variety of outreach activities designed to educate the public and support and promote aquaculture are pursued.

**Idaho Agricultural Experiment Station**

The Idaho Agricultural Experiment Station is the research arm of the College of Agricultural and Life Sciences. Applied and fundamental research programs provide a technological base to assist the agricultural industries and rural development in the state and region. Graduate education at the M.S. and Ph.D. levels is an integral part of most research projects. Research Centers located at Aberdeen, Boise, Caldwell, Dubois, Kimberly, Moscow, Parma, Sandpoint, Salmon/Carmen, Tetonia, Post Falls, and Twin Falls provide opportunities to conduct locally-relevant applied and basic research. Off-campus research centers represent a significant component of the college's and university's research capacity in terms of personnel, facilities and experimental land resources. Over 40 of the college's research faculty and over 100 research support staff are stationed at these centers. Facilities have an experiment land resource exceeding 4,000 acres. Cooperative research programs involving a number of USDA Agricultural Research Service scientists and Federal laboratory facilities exist at Aberdeen, Dubois, Kimberly, Moscow, and Parma.

**Idaho Cooperative Fish and Wildlife Research Unit**

The cooperative program involving UI, College of Natural Resources, the U.S. Geological Survey, and the Wildlife Management Institute in Washington, D.C., conducts research to find answers to a broad spectrum of questions relating to the management and viability of fish and wildlife resources. Issues addressed are of local, national, and international
interest. Graduate students are trained at both the master’s and doctoral levels. The unit provides in-service training for new and established conservation agency employees and provides technical assistance and information to the public and to federal and state organizations.

Idaho Cooperative Park Studies Unit
The UI Cooperative Park Studies Unit in the College of Natural Resources applies the results of sociological and biological research to the management of parks, preserves, and recreation areas. Because major funding comes from the National Park Service, the unit has a primary responsibility to conduct research related to the mission of the NPS and the management of the national park system. An important responsibility of the unit is technical assistance to park staffs, working directly with resource managers to help solve management problems.

Idaho Forest, Wildlife and Range Policy Analysis Group
The Idaho Forest, Wildlife and Range Policy Analysis Group is a research program of the Idaho Forest, Wildlife and Range Experiment Station, College of Natural Resources, created by the Idaho legislature to provide timely and objective analyses of natural resource issues of importance to the citizens of Idaho. Graduate students are involved in specific short-term tasks to support policy analysis projects.

Idaho Geological Survey
Established in 1919, the Idaho Geological Survey is the state’s lead agency for collecting, interpreting, and disseminating all scientific information on the geology and mineral resources of Idaho. As a research unit of the University of Idaho, the Idaho Geological Survey’s main office is at the Moscow campus. The Survey also has branch offices in Pocatello at Idaho State University and in Boise at Boise State University and the Idaho Water Center. A staff of geologists conducts applied research with a strong emphasis on producing geologic maps and providing technical and general information to the public.

Cooperative projects between the Survey, state universities, and other academic, state, and federal institutions, including the U.S. Geological Survey, enhance research productivity and educational outreach. The Survey addresses public inquiries through an expert staff, reference collections, comprehensive Web site (www.idahogeology.org), and sales of its books and maps. The Survey directs its activities at the broad interests of the state’s citizens, teachers and students of earth science, the mineral industry, land developers, land-use planners, scientific researchers, and city, county, state, and federal agencies.

Idaho Water Resources Research Institute
The Idaho Water Resources Research Institute, University Research Office, was established at UI by the regents on October 24, 1963. The national institute program is administered by the United States Geological Survey of the U.S. Department of the Interior to stimulate, sponsor, coordinate, and supplement research, education, and outreach programs in the field of water resources. The institute serves the state by developing and coordinating water research programs intended to assure the state, region, and nation adequate supplies of high-quality water.

The area of water resources planning, development, and management is a composite of many disciplines. Consequently, the Idaho Water Resources Research Institute believes that professional needs in these areas are best achieved by individuals with strong basic education in a traditional academic department enhanced by programs of study in water resources problems and professional practice. The university has developed procedures that encourage existing schools and departments to strengthen their programs in light of the special needs for water resources. The Idaho Water Resources Research Institute has coordinated masters and doctoral programs in several disciplines and specializations through various participating divisional programs.

The objectives of the institute are to:
1. promote water resources research and coordinate the efforts of the various university divisions and departments involved in water resources research;
2. strengthen and coordinate water-related undergraduate and graduate programs and course offerings so that the university can supply well-trained professionals and leaders;
3. develop, gather, and disseminate research findings within the state universities and to various federal, state, local, and civic organizations interested in water resources;
4. promote water education for both the youth and adult community within Idaho.

Inland Empire Tree Improvement Cooperative
The Inland Empire Tree Improvement Cooperative in the College of Natural Resources includes all of the major commercial timber holding agencies in the Inland Northwest. The cooperative’s main function is genetic improvement of five forest tree species. Substantial research opportunities are available in the delineation of genetic patterns and prediction of genetic gains in the five programs. Results of such research have the potential for immediate application in operation programs.

Institute for Bioinformatics and Evolutionary Studies (IBEST)
The Institute for Bioinformatics and Evolutionary Studies (IBEST) is an interdisciplinary research group at the University of Idaho focused on understanding the patterns and processes of evolution that occur over comparatively short periods of time. The hallmarks of IBEST research are the coupling of empirical and theoretical research, and a strong orientation toward rigorous testing of hypotheses. They place a high value on interdisciplinary collaborations that blend the expertise of biologists, biochemists, ecologists, evolutionary biologists, mathematicians, statisticians, and computer scientists to examine the underpinnings of evolutionary biology.

Intermountain Forest Tree Nutrition Cooperative
The Intermountain Forest Tree Nutrition Cooperative in the College of Natural Resources includes the major state, federal, and private forest management organizations throughout the Inland Northwest. The cooperative’s main function is the support of research dealing with the nutritional management of forests. Results of such research have the potential for application in forest management programs.

James A. and Louise McClure Center for Public Policy Research
The Bureau of Public Affairs Research has been renamed the James A and Louise McClure Center for Public Policy Research. Building on almost fifty years of public policy research and outreach, the McClure Center is dedicated to enhancing public policy development and decision-making through research and analysis, public programming, and leadership training.

Laboratory Animal Research Facility
A centrally located facility for housing and maintaining small animals for use in teaching and research is available to faculty members and
students. Information concerning space availability, use, and services provided is available through the facility itself.

Laboratory of Anthropology
The Alfred W. Bowers Laboratory of Anthropology serves as a research unit within the Department of Sociology & Anthropology, College of Letters, Arts, and Social Sciences. The three primary objectives are research, cultural resource management, and public outreach and education. Research facilities include the Pacific Northwest Anthropological Archives, the Asian American Comparative Collection, and the Crabtree Lithic Collection. As the Archaeological Survey of Idaho, Northern Repository, the Laboratory of Anthropology houses site forms and archaeological collections for the ten northern counties of Idaho. Public education projects include interactive presentations at area schools.

Martin Institute
The Martin Institute is an interdisciplinary teaching, outreach, and research center at the University of Idaho that considers the causes of war, the conditions for peace, and the international system. The Institute's strategic plan for 2011-2015 centers on providing transformational educational experiences for UI undergraduates, both within "traditional" global studies fields and across the curriculum, through administration of the undergraduate major in international studies and partnerships with the Honors Program. Funded research support on projects related to the Institute's mission is awarded annually to teams of undergraduate students and faculty selected to participate in the Martin Scholar program and to students in the Martin Academy. The Institute also publishes The Journal of the Martin Institute | International Studies annually, which focuses on excellent undergraduate research related to international problem solving. Funding for faculty and students involved in graduate-level research on themes related to the Institute's mission will roll out in time for the 2016-17 academic year.

National Institute for Advanced Transportation Technology
The mission of the National Institute for Advanced Transportation Technology (NIATT), University Research Office, is to develop engineering solutions (knowledge and technology) to transportation problems for the state of Idaho, the Pacific Northwest, and the United States, and to prepare our students to be leaders in the design, deployment and operation of our nation's complex transportation systems. NIATT is a university-based center of excellence established by US Department of Transportation to advance technology and expertise in the many disciplines comprising transportation through education, research and technology transfer. Three centers currently operate as part of NIATT, each with a unique mission related to transportation. The Center for Clean Vehicle Technology focuses on research to protect the natural and built environment by improving the quality and economic viability of alternative fuels and reducing the environmental impacts and improving the fuel economy and safety of motorized vehicles (including passenger cars, transit vehicles and recreational vehicles). The Center for Traffic Operations and Control conducts research concerning traffic detection, control, surveillance, simulation and optimization with the goal of reducing energy consumption, reducing congestion, and improving safety. Erosion control, bridge construction, and pavement design, as well as planning methods, design practices, and software development fall under the auspices of the Center for Transportation Infrastructure. NIATT provides opportunities for graduate and undergraduate students to participate in research supported by the University Transportation Centers program, the Idaho Transportation Department, the Federal Highway Administration, and others.

Potato Center of Distinction
The Center encompasses research programs on development of new cultivars in concert with USDA-ARS potato germplasm program; development and refinement of production methods; development on insect, disease, and weed germplasm program; development and refinement of storage methods; and utilization of potato products. The Center’s education program includes extension programming focusing on variety choice, crop production, pest management, storage, and processing. The Center also includes utilization and pesticide residue testing, research on genetic manipulation of the potato, and economic research.

Rangelands Center
The Rangelands Center strives to create insight and foster understanding for the stewardship of rangelands. Rangelands cover half of Idaho, half the West, and half the earth's land surface. Therefore, rangelands affect the ecological health and economic livelihood of our state and region. The innovative design of the Rangeland Center promotes active partnerships with individuals, organizations and communities who work and live on the vast landscapes known as rangelands. The Rangeland Center is a group of 23 researchers and outreach specialists with expertise in disciplines that affect rangeland management and conservation including grazing, rangeland ecology, entomology, soil science, economics, rural sociology, fish and wildlife resources, invasive plants, forage production, animal science, wildland fire, restoration and the use of spatial technologies to understand rangelands. Center research and outreach efforts are aimed at creating science and solutions for the range.

Reveley Geospatial Learning Center
The Reveley Geospatial Learning Center, College of Natural Resources, was formed to encourage, facilitate, and coordinate, on an interdisciplinary basis, remote sensing and geographic information system (GIS) research at UI. The unit maintains "state of the art" computing hardware, software, and field equipment for project support. Research funding comes from a variety of sources including NASA, USFS, and commercial forest industries, among others. Most research projects utilize graduate students as essential elements in both data acquisition and interpretation. These projects often form the basis of either a thesis or dissertation.

Rocky Mountain Cooperative Ecosystem Studies Unit
The Rocky Mountain Cooperative Ecosystem Studies Unit, College of Natural Resources, is a university-federal agency partnership involving the University of Idaho, University of Montana, Montana State University, Salish Kootenai College, Utah State University, Washington State University, and federal land management agencies. The mission of this unit is to improve the scientific base for managing ecosystems in the rapidly changing social, cultural, and environmental landscape of the Rocky Mountain Region. The unit provides research, technical assistance, and training programs for federal partners and provides support for faculty and graduate student ecosystem studies programs.

Rocky Mountain Forest Experiment Station
The Rocky Mountain Forest Experiment Station, College of Natural Resources, with facilities on the UI campus, is a research branch of the USDA Forest Service. It conducts research in silviculture, forest health, forest genetics, and watershed management. The station provides
funding to UI faculty and graduate students to pursue forestry and watershed management sciences.

**Snake River Conservation Research Center**
The Snake River Conservation Research Center at Kimberly, Idaho, has been developed as a cooperative facility between UI and the U.S. Department of Agriculture. USDA scientists specialize in research to improve soil and water management practices and to contribute to a better understanding of basic soil processes. Programs are focused on systems and practices that improve irrigation uniformity, efficiency, and crop yields; decrease costs and energy; and reduce soil erosion. Collaborative research projects between the USDA and UI specialists provide graduate students the opportunity to work closely with experts in both agencies and to utilize expanded facilities. USDA scientists hold affiliate faculty rank and may assist in directing student research projects and serve on graduate committees.

**Statistics Consulting Center**
The Statistics Consulting Center, College of Science, provides assistance in the design of experiments and sample surveys, advice on statistical analyses, and expertise on recent developments in statistical research. Proper statistical design and analysis play a key role in producing quality research within the university. The optimal time to seek statistical consulting is during the earliest stages of the research project, and certainly before any data collection stage. Faculty members and graduate students from any discipline are welcome. The center is located on the fourth floor of Brink Hall and operates a free walk-in clinic. Faculty are also available by appointment.