

## **INBRE**

Montana State University has received a \$16.5 million grant to support biomedical research in Montana from the National Institutes of Health IDeA Networks of Biomedical Research (INBRE) program. The five-year grant supports a consortium of Montana universities, colleges, and tribal colleges. It builds on the previous success of a \$6 million BRIN (Biomedical Research Infrastructure Network) grant and will increase the biomedical research capacity of the state of Montana by building research infrastructure, supporting faculty and student research, and fostering a state-wide collaborative network. Together, BRIN and INBRE position Montana as a leader in biomedical research, and significantly increase education, research, and ultimately, employment opportunities in the state.

The multi-faceted INBRE program will have significant impacts on college campuses across Montana. Among the many things that INBRE will fund are: new science faculty positions at Montana's four-year colleges and universities; mentoring and partnering opportunities that link researchers at four-year colleges with their peers at higher-level institutions; training in state-of-the-art research methodology for Montana researchers and laboratories; hands-on research opportunities for undergraduate students; graduate study fellowships; and new science faculty and infrastructure for Montana's six tribal colleges.

INBRE's research focuses on the pathogenesis of infectious disease and health issues related to the environment, two areas in which Montana—with its abundance of livestock and wildlife, and its history of mineral and energy exploration—is strategically positioned to excel. INBRE positions Montana to be a national leader in these research areas.

INBRE also funds programs that enhance science education and career development at Montana's Tribal Colleges. Specifically, INBRE will fund new science faculty positions at all six tribal colleges, mini-grants for faculty and student travel to research labs, mini-grants for laboratory and teaching equipment, and research collaboration opportunities with Montana State University.

### **HOW INBRE SUPPORTS MSU'S BRAND IDENTITY:**

1. Nationally and internationally recognized scholars
  - a. INBRE provides funding to increase the number of science researchers at Montana's four-year colleges and universities. (3 new tenure track, 1 non-tenure track)
  - b. Through the establishment of mentoring programs and improved research facilities and infrastructure, INBRE creates an attractive research environment for nationally recognized investigators.
  - c. Through matching funds, INBRE is supporting an epidemiologist position at MSU Bozeman. This critical appointment will provide much need expertise in both infectious disease and environmental epidemiology.

2. Leading research
  - a. INBRE will elevate the research of Montana faculty researchers to cutting-edge science.
    - a. INBRE provides funding for an extensive mentoring and research collaboration program for faculty at Montana's four-year colleges. This access to expertise and experience will strengthen and elevate research at these four-year colleges, making them more competitive for grant funding.
    - b. INBRE provides funding for facilities, technologies, and equipment needed to carry out cutting-edge research experiments.
    - c. INBRE provides funding for Bioinformatics expertise, training, mentoring and support to researchers at Montana's four-year colleges. New techniques in data collection, management and analysis facilitate collaboration between research groups and allow INBRE Investigators to benefit and build upon others' work.
3. Student centered campus
  - a. Undergraduates and graduate students will be involved in all research projects supported by INBRE, providing extended research experiences and mentoring, and ultimately improving both their educational opportunities and their prospects for biomedical careers in Montana.
    - a. To date, over 800 Montana undergraduate and graduate students have participated in BRIN-sponsored training, mentoring and research.
  - b. INBRE funds additional student positions in the USP (Undergraduate Scholars Program) and the AIRO (American Indian Research Opportunities) program. INBRE also funds professional research internships for advanced undergraduates.
  - c. INBRE funds graduate fellowships, allowing MSU to compete with other institutions for first-year graduate students interested in pursuing doctoral degrees.
4. Opportunities for hands-on, active learning
  - a. As stated above, undergraduates and graduate students will be involved in all research projects supported by INBRE.
  - b. INBRE's research projects take advantage of Montana's location.
    - a. INBRE specifically supports research in Infectious Disease. With large populations of livestock and wildlife, Montana State University is strategically placed to study important diseases that affect the nation's long-term security (bioterrorism).
    - b. INBRE specifically supports research in Environmental Health. Montana's history of mineral and energy exploration provides unique research opportunities on the fate of environmental contaminants, the multiple exposure pathways and the consequent risks to human health.
  - c. INBRE supports undergraduate research at six tribal colleges, expanding student research opportunities and helping prepare Native American students for transfer to 4-year colleges and universities and for participation in health professions in Montana.