



Invest in Montana research, continue to reap long-term benefits

The real bottom line is that research and discovery, which go hand-in-hand with education, are the very lifelines of innovation that drive job growth and enhance our quality of life. Just as it is important to realize that the rewards of scientific research are many, we must be equally aware that Montana has become a player and directly benefits from the national investment in research.

Speaking as someone who has spent most of my life in a lab, I can safely say we, as scientists, have not done a stellar job of informing people about what we do or how we do it. Unfortunately, this may prove to be a significant omission, as research funding for the National Institutes of Health and the National Science Foundation are now on the chopping block despite strong public support for research.

Though we see the tremendous advancements made in medical care on a daily basis, we tend to forget that the seeds of these discoveries may have been planted a decade earlier in basic biomedical research labs like those in Missoula, Hamilton, Great Falls, Butte, Billings or Bozeman.

Indeed, a 2011 study in *The New England Journal of Medicine* found that drugs discovered in public-sector research institutions are "expected to have a disproportionately large therapeutic effect." This means university research labs have become a primary pipeline in development of high-demand medicines and treatments, like those in the University of Montana's Skaggs School of Pharmacy aimed at new drugs for stroke and traumatic brain injury. The federal investment in research also has a proven track record of return. Few cancer survivors or their families would argue that developing life-saving therapies is not worth the expense, given that the NIH budget for cancer research works out to about \$2 per American per month.

While many Montanans benefit from and appreciate the research discoveries, they may not be aware that these discoveries are made right in their own state. As the number and competitiveness of scientists in our universities, hospitals and research institutes have grown dramatically in the past several years, so too has our success in attracting NIH grants. Considering that about 60 to 70 percent of this funding typically supports salaries, it translates directly into jobs: skilled technical jobs, sustainable jobs and well-paying jobs. Indeed, a study by the Families USA Foundation revealed that in 2008, the \$38 million awarded to Montana by NIH led to the creation of about 700 jobs. Further analysis by Research!America revealed these health research jobs in Montana had an average annual salary around \$55,000. Excitingly, this

successful trend is continuing, as 2010 saw further increases in both NIH and NSF awards made to Montana.

These dollars support not only faculty and technical staff, but also undergraduate and graduate students. In this manner, jobs created in research labs provide a way for students to pay for their education while gaining valuable hands-on experience, as well as open up the types of employment opportunities that can keep them in the state after graduation. Active research on campus not only brings students into the labs, it also brings current ideas, problem solving and the concept of discovery right into the classroom. This is exactly the type of training and "hands-on" experience that will keep Montana's work force globally competitive.

Recent entrepreneurial developments around both UM and Montana State University also demonstrate that these research successes can extend off campus and lead to creation of private-sector spin-off companies with all the associated economic benefits, the foremost being more jobs. Lastly, this growth in biomedical science provides a welcome opportunity for Montana researchers to specifically address challenges relevant to our state and its residents. Who better to help solve problems related to rural health disparities, asbestosis, addiction, traumatic brain injury, mad cow disease, Lyme disease, brucellosis and chronic wasting disease than the faculty researchers and students on our own campuses and in our own communities?

Our current times require that not just scientists speak up, but that all of us who see the long-term value of science voice a call to continue making our national investment in research a priority. Research is the key to Montana's future.

Richard Bridges is the chair of the Department of Biomedical and Pharmaceutical Sciences within the College of Health Professions and Biomedical Sciences at the University of Montana. April 21, 2011

missoulian.com. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.