

## **The University of Minnesota**

The University of Minnesota is the key economic and research engine for the Twin Cities, for Minnesota, and indeed for the Nation.

The University has over 26,000 employees, on five different campuses around the state, and each year contributes over \$8.6 billion in economic impact to the State of Minnesota. Our 15,000 plus yearly graduates, of whom over 60% remain in Minnesota, add over \$189 million in annual payroll to the local economy each year. Our award winning faculty have driven up the quality of our incoming freshman class whose this year ACT scores averaged 28.4 across all our colleges.

Working with businesses across the State, whether in Agriculture, Technology, Healthcare, or a wide variety of scientific and business sectors, the University of Minnesota is the only R1 Research institution in the State partnering with businesses on their economic success.

The business community is a key partner with the University of Minnesota in collaborative research. In 2017 the University was awarded \$83.9 million dollars in sponsored research by our corporate partners, representing 1,578 specific research projects from 321 different businesses. This number has been growing yearly as the University continues to build our research engagement with the corporate community. In fact, in just the last five years the number of business and industry awards has grown from \$47.7M and 1,116 in 2013 to the \$83.9M and 1,578 noted above.

This engagement is indicative of the importance the University has placed on direct business collaboration. Businesses are typically interested in research that has direct applicability (versus theoretical) and our ability to grow this line of funding demonstrates that our corporate partners find our collaboration not only valuable from an academic perspective, but important to their economic vitality.

## **World-class Research Programs and Management**

The University has a comprehensive Research program headed by the Vice President of Research.

### **Message from the Vice President for Research Allen S. Levine**

Louis Pasteur said “chance favors only the prepared mind.” I think of genius as the ability to recognize the potential importance of a laboratory accident or other chance event. Regents Professor Emeritus Ron Phillips encourages fellow scientists, “[S]tart your experiments on an important question but be sure to follow serendipitous leads as an effective way to make new discoveries.” He can point to five important serendipitous discoveries that led to important advances in his research on maize breeding and genetics.

The pacemaker was discovered at the University of Minnesota by accident when the wrong resistor was placed into an electrical circuit built to record heart sounds and the device began

producing a rhythmic electrical pulse that could be used to regulate a heart instead. We saw serendipity at work, too, in the gene transfer system called the Sleeping Beauty Transposon, which was initially developed at the University of Minnesota to help counter genetic pressure toward slow growing fish in northern Minnesota lakes but now shows great promise as a gene therapy mechanism that can be used to reprogram the human immune system to find and attack cancer cells.

Stories like these demonstrate how investments in discovery, even when there seems to be no applicable purpose for a study, can and often do result in important practical uses. Curiosity driven research can strike the public as a luxury, especially when there are many other contemporary calls on the public purse, but, even as funders request more specific applicability for basic research, a researcher may not truly know what their work means until much later on.

As a major research university in the early twenty-first century, we tread a fine but important line between, on the one hand, selling the practical application of our research, both to public officials and, increasingly, the industry partners we have cultivated, and, on the other, highlighting the importance of basic, curiosity-driven research. Both solution- and curiosity-driven research are important components of a university's research portfolio.

We have seen the value of strategic research priority setting as investments by the Office of the Vice President for Research and other leaders at the University and they have begun to show up in our research statistics, most notably as a steady increase in business and industry partnerships and funding and a noticeable bump in the number of research clinical trials. The University of Minnesota also maintained its position among its peer institutions when measured by total research expenditures, an indicator tracked by the National Science Foundation.

While it is our University researchers who drive their individual projects and research questions and successfully attract resources, the role of our office is to facilitate partnership, discovery, and integrity across the research enterprise. FY2017 represents year three of the University's five-year research strategic plan, which has helped guide OVPR's work, focused on research excellence, transdisciplinary partnerships, knowledge transfer for the public good, and serendipity.

In FY2017, we can see great examples of how our people and our programs are helping the University of Minnesota forge these new strategic directions, which will no doubt lead to discoveries like the pacemaker and the Sleeping Beauty of the future.