

MICHIGAN STATE UNIVERSITY

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To: Campus Community
From: J. Ian Gray, Vice President for Research and Graduate Studies
Subject: Providing and maintaining research infrastructure efficiently

To be successful in recruiting and retaining top scientists capable of exploring big issues, MSU needs to provide and maintain the equipment researchers need to compete for funding and solve those global challenges. This kind of infrastructure is too expensive for individual faculty labs or even single departments or colleges to support.

Fortunately, major equipment items can be shared—and they are. Sharing the purchase and maintenance costs for such infrastructure helps eliminate duplication and conserve resources. Excess capacity can be marketed to external users, whose fees for the services help support maintenance and operating costs.

Research funding often provides much of the cost of purchasing and maintaining the biggest items. The U.S. Department of Energy is supporting design and fabrication of the Facility for Rare Isotope Beams (FRIB), for example.

The Research Technology Support Facility (RTSF), established in 1999 to support genomics research in plants, animals, and microorganisms, is a major core analytical facility with shared equipment. Over the years RTSF has added core laboratories to strengthen research in proteomics, mass spectrometry, bioinformatics, and macromolecular analysis. The newest component is the Genomic Sequencing Center.

Having this advanced equipment and knowledgeable operators helps faculty write competitive proposals. Their grants then include funds for conducting research using that equipment. RTSF supports almost \$10 million in faculty research beyond that supported through the Great Lakes Bioenergy Research Center.

Facilities for high-level computational research are also typically shared. The High-Performance Computing Center, established in 2005 with Research Excellence Funds, is heavily used by numerous researchers. Some of their external grants have helped add capability to the center, which is now part of the broader Institute for Cyber-Enabled Research, supporting researchers in the life and social sciences, communication arts, and humanities as well as the physical sciences and engineering.

The Center for Statistical Training and Consulting (CSTAT) (<http://www.cstat.msu.edu/>) is an infrastructure unit offering expertise rather than equipment. CSTAT staff provide training and consulting in statistics for faculty, staff, and graduate students. They support research through grant development help, including consulting on research design, selection of statistical methods, and statistical analysis. They also collaborate on research projects. As a central university service in my office, CSTAT helps avoid duplication of services in individual units.

These are just a few of the infrastructure units MSU researchers use. Establishing and maintaining this research infrastructure is one of the primary functions of my office. Over the next several weeks I'll tell you more about how our focus on infrastructure encourages efficiencies while advancing the MSU research enterprise.



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