

INBRE-Communication

ISU MRCF

If you had walked down the 4th floor hallway of the Idaho State University (ISU) Gale Life Sciences building in 1995, you could have easily overlooked the Molecular Research Core Facility (MRCF). The MRCF was established in 1994 through a National Institutes of Health/EPSCoR Institutional Development Award (NIH EPSCoR IDeA) that was shared by ISU and the University of Idaho (UI). In 1995 the MRCF occupied 173 square feet and housed six instruments, including an oligonucleotide synthesizer and a 24 well thermal cycler.

Move ahead to 2007, and you will find a dramatically different facility that comprises 1,171 square feet, not including satellite laboratories for imaging and microscopy. Today's MRCF houses at least 37 instruments and 18 computers. Its capabilities and services have expanded to include capillary DNA sequencing, microarray analysis, and quantitative PCR, among others.

The MRCF is an invaluable resource for ISU and other researchers. "The Molecular Research Core Facility offers an exceptionally broad range of cutting-edge technology to support research and education in our region," said Dr. Marjorie Matocq, MRCF faculty director and ISU assistant professor of biology. Dr. Curt Anderson, ISU associate professor of biological sciences and MRCF associate director stated, "Three-quarters of our faculty in biological sciences use this facility on a regular basis. For new faculty it is one of the prime reasons they come to Idaho State University."

Funding from the NIH and IDeA Network of Biomedical Research Excellence (INBRE) grants has contributed greatly to the success of the MRCF. The initial NIH/EPSCoR IDeA provided \$200,000 to ISU over a two-year period, including matching funds from the State Board of Education (SBOE). Continued support was provided by a second NIH/EPSCoR IDeA grant that was awarded in September 1996 for a period of three years and a total of \$300,000, including SBOE matching funds.

The NIH awarded a Biomedical Research Infrastructure Network (BRIN) grant to ISU and UI in September 2001 that covered the period October 2001-June 2004. The BRIN grant paved the way for the first expansion of the MRCF (from 173 to 706 square feet) and provided for a full-time sequencing technician, along with a capillary DNA sequencer and other molecular instrumentation.

The IDeA Network of Biomedical Research Excellence (INBRE) followed directly on the heels of the BRIN and has been providing annual service contract support for the MRCF's indispensable capillary DNA sequencer. The INBRE also provided for the MRCF manager's participation in the State of Idaho's Certified Public Manager program, a three-year program that was completed in December 2006.

The MRCF is under the ISU Office of Research and receives significant support from that office, including staff salaries. The MRCF has received additional funding from the National Science Foundation (NSF), Department of Defense (DOD), State of Idaho, and many ISU colleges and departments.

The second major expansion of the MRCF took place in spring 2006, bringing the total laboratory space to its current 1,171 square feet. MRCF faculty director, Dr. Marjorie Matocq, set the stage for the expansion with an NSF Major Research Instrumentation (MRI) Grant that she and co-Principal Investigator Dr. Michael Thomas were awarded in November 2005. Researchers now have improved access to common use instrumentation as well as sufficient space to set up experiments. MRCF staff are able to generate data more efficiently and assist and train large numbers of students more effectively. 2006 was a record year with 55% more samples processed than the previous record year, and it appears that trend is continuing with the first quarter of 2007 showing record numbers of samples processed.

Significantly augmenting the effectiveness of the state-of-the-art equipment available in the MRCF is the dedicated and knowledgeable facility staff. Laboratory manager and director of daily activities, Erin O'Leary-Jepsen, and laboratory technician, Michelle Andrews, are committed to working closely with MRCF users to develop project-specific protocols and meet research and training needs. O'Leary-Jepsen and Andrews regularly coordinate and participate in workshops designed to provide unique training experiences for faculty and students ranging from web-based seminars to hands-on, wet-lab experiences with new technology such as running microarrays. MRCF staff are members of the Association of Biomolecular Resource Facilities (ABRF), an international society dedicated to advancing core and research biotechnology laboratories through research, communication, and education. ABRF is a sustaining associate member of the Federation of American Societies for Experimental Biology (FASEB). O'Leary-Jepsen and Andrews attend annual ABRF meetings and are respected members of the society often being recruited to have MRCF be a beta-test site for new technology. Most recently, they traveled to Tampa, Florida for the 2007 meeting, titled "Creating the Biological Roadmap."

If you have a topic or idea for a future INBRE-Communication, please contact Kjelda Berg by calling 208-885-5373, or e-mail kjeldab@uidaho.edu



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