

CMU 2010 FY09 Annual Report

Project Title: The CMU DNA Sequencing and Analysis Core Facility (DNA-SACF)
 Project Leader: Drs. Gregory Colores and Jennifer Schisa
 Project Number: 200725 Date of Report: June 30, 2009

Refer to your *Outcome Evaluation Worksheet* to complete the information below. Insert additional rows if needed. Rows will automatically expand as you type. You are welcome to attach additional documents to supplement – but **not** substitute for - the information provided below.

	Outcome/Milestone	Status (Complete, in Progress, or Not started)	Date Measured	What are the next steps to achieving this outcome?
1	Advertise and interview for facility supervisor position.	Complete	October 2006	Received 14 applications and interviewed 4 candidates, offer was made to top choice. Offer was accepted by Dr. Janet Miller.
2	Purchase major and supporting equipment.	Complete	December 2006	Bids were solicited and preferred providers were asked to demonstrate equipment on campus. After the demonstrations, the following equipment was deemed necessary and far superior to the competitors: Gel Logic 2200 imaging system (Kodak), GenePix 4000B (Molecular Devices),.
3	Technician begins work and is trained on equipment; facility accepts samples from limited investigators for training purposes.	Complete	November 2006	Dr. Miller began working in October, In November she started accepting samples from investigators.
4	Announce opening of facility to CMU researchers and local institutions.	Complete	November 17, 2006	An open house was scheduled and held on November 17, 2006. An informational pamphlet and invitation to visit the facilities was distributed via e-mail to over 60 colleges across Michigan.
5	Biotechnology course utilizes facility by analyzing Western blots and by learning DNA sequencing and analysis.	Complete	May 2007, 2008, 2009	Biotechnology sections continue to utilize facility.

6	Molecular Genetics course uses facility by doing microarray experiment.	In progress; to be completed Fall 2009	June 2009	After applying unsuccessfully for 2 years, Dr. Jennifer Schisa was accepted in May 2009 to the NSF-funded Genome Consortium for Active Teaching (GCAT) Summer Microarray Workshop at Morehouse University in July 2009. The workshop will facilitate implementation of microarray technology into courses and initiate the use of our microarray scanner. We have already implemented a paper-based exercise and wet lab simulation in Molecular Genetics to illustrate the concept of microarrays to students and will pilot test the scanner in Fall 2009. Dr. Schisa will be able to train others to use the microarray scanner for research and teaching purposes.
7	Evaluate effectiveness for 4 measures at 1-year mark to provide baseline data. These measures include: 1) Grant funding by facility users; 2) Alumni giving in support of molecular biology teaching and research; 3) student participation in molecular-based research, student presentations, and students as coauthors on publications; and 4) incorporation of cutting edge techniques in student coursework.	Complete	June 2008	We extended this effort to look at progress mid-way through year 2 and reported these data last year.
8	Consider purchasing additional equipment for DNA-SACF based on investigators' needs; write NSF MRI grant to fund additional equipment as needed.	Complete	June 2008	The original DNA sequencer was a single capillary ABI 310. With CST support we replaced this instrument with an ABI 3130 four capillary machine to allow greater quality of results and a higher throughput of samples. If our sequencing needs increase this instrument can be easily upgraded from 4 to 16 capillaries. We also purchased a Nanodrop instrument (7/07) through funds remaining on an NSF Major Research Instrumentation award.
9	Evaluate effectiveness for 4 measures described above at 3-year mark to evaluate impact of facility.	In Progress		We are in the process of acquiring data and the effectiveness will be evaluated in November 2009, the 3-year mark of the public opening of the DNA-SACF.

What are your plans for sustaining support for your project beyond the CMU 2010 funding period?

With the help of our previous Department Chair and Dean we were able to acquire additional funds to support our sequencing facility technician, Dr. Janet Miller. Through the combination of College funds and 2010 funds we anticipate that we will be able to keep Dr. Miller supported for an additional 1.5 years beyond the initial funding period. We are still looking into mechanisms that would support a core facility technician indefinitely, including a synergistic strategy with the medical school.

How can the ISPC assist you with those plans?

1) We are requesting a carry-forward of funds into FY10 of \$8,331.22 (see * below). We would like to use those funds to purchase equipment to accompany the microarray scanner. As noted in the Table above, line 6, Jennifer Schisa will attend a workshop on microarray technology in July 2009, and anticipates learning that some additional specialty equipment will be necessary to take full advantage of the microarray scanner. We would expect to purchase that equipment in August or September 2009, in order to make full use of the facility in the Fall 2009 Molecular Genetics course.

*One note on the balance for FY09; it does not include the purchase of a new thermal cycler to perform sequencing reactions (\$5087.25); the previous cycler stopped working a few months ago, and it is not cost-efficient to repair it. The order was placed on June 16, 2009. We realize this was past the deadline to charge items in FY09 and are requesting that we are allowed to carry-forward these funds as well.

2) It would be very helpful to develop a mechanism to provide ongoing technician salary support.