



Updated Strategic Development Portfolio Initiatives

The CCMTR Strategic Development Plan was developed in the fall of 2006. A regularly updated action plan is used to maintain focus and ensure progress in achieving initiatives. The original initiatives have either been accomplished or are well underway. With consideration of the External Review Advisory Report, new initiatives have been developed. Nine new or updated initiatives have been finalized and are available for review: <http://www.cvm.ncsu.edu/ccmtr/News&Info.htm>. Any comments or suggestions regarding these or potential future initiatives are welcome. Please contact Gregg Dean.

NC Biotech's Centers of Innovation

Between 2008 and 2012, the North Carolina Biotechnology Center will work with university researchers, technology transfer offices, industrial partners, non-profit stakeholders as well as regional and state-wide community leaders to establish nine Centers of Innovation (COI). The COI program is bringing together North Carolina's best scientific and technical minds in the life sciences. This program is designed to focus the state's efforts in biotechnology research, development and commercialization in targeted industrial sectors important to economic development and job creation. Initial COIs will complement efforts already under way in the state to align academic and industrial resources.

Currently, there are four funded COIs in their Phase I planning stage: Advanced Medical Technology Center of Innovation, Marine Biotechnology Center of Innovation, Center of Innovation in the Nanobiosciences (COIN), and Drug Discovery Center of Innovation.

There may be opportunities for CCMTR members to link up with current COI efforts. For more information: http://www.ncbiotech.org/services_and_programs/COI/index.html.

Cellular Plasticity Symposium a Success

A fall symposium titled "Cellular Plasticity: Problem or Solution?" spearheaded by Dr. Phil Sannes was held October 23 at the CVM. The symposium was presented by the CCMTR's Mucosal Pathophysiology Research Core and SABiosciences. The keynote speaker was Professor Barry Stripp, Department of Cell Biology and Pulmonary and Critical Care Medicine, Duke University School of Medicine. The title of his talk was "Playing Cat and Mouse with Airway Progenitor Cells." Seven short presentations from Center members on related topics followed Dr. Stripp's talk.

GO Workshop held on October 29

"Using the Gene Ontology (GO) to Model High-throughput Data," a half-day workshop, was held at the CVM on Thursday, Oct. 29. Presenters included Dr. Fiona McCarthy from Mississippi State University. The workshop provided examples of how the GO can be used to do biologically significant modeling, and thus derive knowledge from large functional genomics datasets such as microarray and shotgun proteomics. The workshop also provided participants with background about how the GO works and GO-based tools that are available for modeling data. Thanks to Dr. Marlene Hauck and Dr. H. Sunny Liu for organizing this event.

Free Cell Sorting?!

The NC State Flow Cytometry and Cell Sorting Laboratory is currently offering one hour of free sorting to Center members who initiate a new flow project. The lab is located on the third floor of the main CVM building and provides instrumentation and assistance for multi-parameter flow cytometric analysis and sorting (web address). Please contact Janet Dow (jldow@ncsu.edu) to set up that new experiment you have been considering!

Take Advantage of CCMTR Grants

There are currently four grant programs available to Center members: Service Core Grants, Travel Grants, Workshop Grants and TraCS grants with matching Center funds.

Service Core Grants. The goal of this grant program is to subsidize member access to CCMTR services cores. Applications are continuously accepted and will be considered based on merit and availability of funds.

Travel Grants. The purpose of this grant is to encourage presentation at national and international scientific meetings of data derived from studies supported by the CCMTR. Applications are continuously accepted and will be considered based on merit and availability of funds. The maximum request cannot exceed \$1,500 and must be used as allowed by NC State guidelines for travel (including transportation, registration, accommodations, etc).

Workshop/Meeting Grants. These grants are to encourage interaction and education of Center members. Funds are available to offset the costs of workshops, meetings or special lectures and can be used for refreshments and speaker costs (travel, honoraria). Additionally, Liz Selisker can assist in organizing and advertising the event.

For details on these three programs: <http://www.cvm.ncsu.edu/ccmtr/PilotProjects.htm>

TraCS Matching Grants. The Center partnered with UNC-CH in a successful NIH Clinical and Translational Science Award. This is a very large grant that involves many research and clinical groups. There are three pilot grant options available: 1) TraC\$2K, \$2,000 maximum, monthly submission deadlines; 2) TraC\$10K, \$10,000 maximum, submission deadlines every 3-4 months; and 3) TraC\$50K, \$50,000 maximum, submission deadlines every 6 months. The Center will currently match TraCS grants up to \$10,000. For details: <http://www.tracs.unc.edu/pilots.htm>. For information on matching, contact Gregg Dean directly (Gregg_dean@ncsu.edu).

Research Highlight: Meet Dr. Daowen Zhang, Biostatistics Research Core

Dr. Zhang is a member of the Biostatistics Research Core and an associate professor in the Department of Statistics. Read on to learn about his research in developing statistical models and methods for analyzing complicated longitudinal data arising from a variety of biomedical studies, including clinical trials.



Longitudinal data consists of repeated measurements of variables of interest from study participants over time. In most studies, we are interested in making inference on some population characteristics, such as the average change of a primary variable over time, the association of the change of the primary variable and other variables (e.g. treatment indicator and covariates), etc. It is well-recognized that the repeated data from the same individuals are correlated and this correlation has to be taken into account for making valid statistical inference.

A popular approach to analyzing longitudinal data is to use mixed models where covariate effects such as treatment effect are modeled by fixed effects and unobserved subject-specific random effects are used to model the between-subject variation and hence the induced correlation.

Most mixed models assume parametric covariate effects on the primary response variable, which may not be appropriate in some applications. I developed, among others, semiparametric stochastic mixed models for continuous longitudinal data and generalized additive mixed models for discrete longitudinal data. These models can identify complicated covariate effects and account correlation appropriately using random effects and/or stochastic process. They have been widely used to analyze longitudinal data from biomedical research.

Currently, I am working on problems of identifying important parametric and nonparametric effects in mixed models for longitudinal data. In many applications, the number of collected covariates may be potentially large and some of them may not be predictive of the primary response. It is scientifically important to identify those important parametric and nonparametric effects in a model. Another research project in which I am currently involved is to develop statistical methods for assessing gene-gene and gene-environment interactions.

To contact Dr. Zhang regarding his research: dzhang2@stat.ncsu.edu .

Designate the CCMTR in PINS!

Designation of the CCMTR in PINS is an important means for us to track the impact of the Center. If your proposal meets any of the following criteria, please select the CCMTR on the pull-down menu for 'Center': 1) the proposal is the result of a collaboration initiated through CCMTR activities, 2) CCMTR funding or a CCMTR service core was used to generate preliminary data, 3) the proposal will utilize a CCMTR service core, or 4) a CCMTR-supported trainee will be involved in the research. If you have any questions, please contact Liz Selisker.

CCMTR Promotion Encouraged

Increasing external recognition of the Center remains essential. Faculty members are reminded to acknowledge the Center in posters, presentations, publications, abstracts and grants. The Center logo is available for your use. Please contact Liz at liz_selisker@ncsu.edu or 515-8113.