

To: Stan Vitton, Sabbatical Leave Committee

From : Huann-Sheng Chen, Department of Mathematical Sciences

Subject: Report of Sabbatical Leave Activities (Spring 2009)

Date: July, 2009

CC: Mark Gockenbach , Chair (Math)

My sabbatical leave of Spring 2009 was approved based on my plan to conduct research in the area of statistical genetics and build connection with other research institutes.

I spent part of my time staying in MTU to continue work on NIH sponsored research projects with other members in the department of Mathematical Sciences. One paper has been accepted during this period, and the other two papers are in the final stage of writing. All the three papers are in the field of statistical genetics. In addition, three articles that I worked together with Xiaoqi Cui, a Ph D. student under my supervision, were submitted to conference and got accepted. They will be presented in the annual meetings of American Statistical Association, American Society of Human Genetics and International Genetic Epidemiology Society. Xiaoqi Cui is expected to defend her thesis in the end of 2009 Fall semester. I also continue to supervise and answer questions from Sapna Kumari, another PhD. Student in the Department of Mathematical Sciences.

I also took part of my sabbatical leave time visiting various places both in Taiwan and in the United States. I spent one month in a trip to Taiwan. I also visited National Institutes of Health (NIH) and National Cancer Institute in U.S. during my leave. I met with some of their scientists and statistician, and I found opportunities to start collaboration with them.

Reference

1. Cui X, Sha Q, Zhang S, Chen HS (2009) *A combinatorial approach for detecting gene-gene interaction using multiple traits of GAW16 rheumatoid arthritis data*. To appear. BMC genetics.
2. Ye Z, Sha Q, Zhang S, Chen HS (2009) *Selective genotyping under population stratification*. In preparation.
3. Chen HS, Sha Q, Zhang S (2009) *A multi-marker score test in genome-wide association study while control for population stratification*. In preparation.

4. Cui X, Chen HS (2009) *A likelihood based approach to detecting gene-gene interactions for nuclear families*. Accepted. American Society of Human Genetics 2009 Annual meeting. Honolulu, Hawaii.
5. Cui X, Chen HS (2009) *A combinatorial approach for detecting gene-gene interaction using multiple traits*. Accepted. International Genetic Epidemiology Society. Oahu, Hawaii.
6. Cui, Chen HS (2009) *A Score-Based Combinatorial Approach to Detecting Gene-Gene Interactions in Nuclear Families*. Joint Statistical Meeting 2009. Washington DC