

**Summary report for DCC Summer Student Opportunities program.** The summer project was entitled "Diabetic Kidney and Nerve Disease with Hyperglycemia" and provided funds for two undergraduate students, San Li a University of California, San Diego 4<sup>th</sup> year student and Solani Desai a 2<sup>nd</sup> year student at University of Southern California. The two aims were to understand whether there were strain or sex differences with respect to the role of hyperglycemia on kidney and nerve disease. The data was to derive from the reprinted data stored in the AMDCC website.

The two students have made considerable progress. Both students worked on developing criteria to identify the specific strain of mice to be evaluated and the type of data that would be uploaded from the website. A major initial concern was that the blood glucose level was entered on a different date from the urine albumin/creatinine levels. It was decided that the blood glucose that was closest to the date of the urine albumin/creatinine level will be used. The students then downloaded the data and to date there are over 1000 entries in the excel spreadsheet. This covers data from C57Bl6 mice with Akita diabetes as well as STZ-induced diabetes. Other strains such as DBA and FVB, as well as others are also included.

At the time of the initial data upload, the students had not been able to schedule a time with Dr. Nigel Calcutt, the neuropathologist who had deposited the neuropathy data. Both students returned to school and have had difficulty coordinating a follow up meeting with Dr. Calcutt. Additionally, the students have been working to learn a software called Spotfire. This software allows for rapid correlation calculations across large datasets. One of the students, San Li, has recently learned this software and is in process of performing the analysis with the urine albumin/creatinine data and blood glucose values. We expect this data to be completed by end of January 2012, as the student has time off for winter break. It is expected that the two students will meet with Dr. Calcutt as well in the next few weeks to coordinate the neuropathy part of the analysis.

We plan to submit an updated report on the analysis by end of January for the urine albumin/creatinine studies and a further update by end of March for the neuropathy analysis. Due to college commitments, it has been difficult to arrange sufficient time for the analysis and teaching.

The experience has been very valuable for both students. San Li is planning to work in the lab for a year after college before deciding to go into Pharmacy school or medical school or pursue biomedical research. Solani Desai is also planning to do biomedical research following this experience.

Submitted December 11, 2011  
Kumar Sharma, PI  
Professor of Medicine, UCSD  
La Jolla, CA. [kusharma@ucsd.edu](mailto:kusharma@ucsd.edu)