Report on my trip to the University of Missouri, Columbia MO, USA

The purpose of the visit was to observe and participate in on-going research activities at the Centre for Translational Neurosciences (CTN) and explore ways of establishing long-term collaboration with researchers in that Centre. I had identified Prof. Zezong Gu as a possible host and my experience in the Gu Lab at the CTN was enriching. I recently set up an Experimental Neurosciences Laboratory and needed to observe the operations and research activities in a well-established laboratory doing similar research.

Arrival
I arrived Columbia, Missouri on the 19th of May 2014 and visited the President’s office (Brenda Dennis), the International Office as well as my Host (Prof. Zezong Gu) on Day 2. Prof. Zezong Gu and the Lab Manager (Prof. Jiankun Cui) introduced me to the Lab members as well as other persons whom I later worked with, both at the Centre for Translational Neurosciences as well as the Department of Pathology and Anatomical Sciences. The Lab manager discussed a timetable for scheduled experiments with me, and suggested relevant trainings and Symposiums that I should attend during my stay. I immediately joined on-going research projects to learn new techniques.

During my visit, the Gu Laboratory was involved with research projects investigating embolic Stroke models and Traumatic Brain Injury (TBI), both of which utilize similar analytical techniques. I participated in the surgeries, neurobehavioural deficit testing and analysis, brain tissue processing as well as brain image analysis. The Laboratory focuses on translational research especially as both the Principal Investigator and Lab manager are trained as doctors and Medical Scientists respectively. I learned many new techniques and
procedures, most of which are applicable to my current research here in UWC. Some of the new techniques learned include:

1. Stereotaxic frame setting for small animal mechanical force impaction during TBI
2. Systemic transcardial perfusion technique for fixing and preserving nervous tissue.
3. Training on the use of vibrotome for sectioning; cryopreservation, mounting and staining of vibrotome brain sections
4. Training on use of Image-J software for analysis of brain sections to determine volume of damaged brain tissue following stroke and TBI
5. Video analysis of neurobehavioural testing of mice – beam walking,
6. Effective Laboratory Management techniques:
   a. Experiment planning
   b. Specimen storage and labelling
   c. Lab book management
   d. Attended all Gu Lab meetings

**Formal Trainings attended**

Chemical management for chemical workers Chemical organised by the Environmental Management Section of the Environmental Health and Safety Unit at MU (July 9, 2014).

**Symposiums attended**

Symposium in Honour of Retiring Prof. Grace Sun titled “Advancing Neuroscience in MU”: June 26-28, 2014 at the Christopher Bond Life Sciences Centre, University of Missouri, Columbia. About 50 poster and oral presentations were made during this symposium.

**Academic Meetings**

1. Visit to Medical Schools in St. Louis led by the Senior Associate Dean for Diversity & Inclusion at the University of Missouri School of Medicine:
   a. St. Louis University: met with Dr. Mike Railey, Associate Dean, Multicultural Affairs; Associate Professor, Family & Community Medicine
   b. Washington University, St. Louis: met with Dr. Will Ross, Associate Dean for Diversity, Associate Professor of Medicine
2. Lunch with the Dean of School of Medicine, MU as well as staff and students in MU travelling to South Africa during the next academic session in MU – 26 June, 2014.
Future collaboration
My host, Prof. Gu and other members of the Gu Laboratory were keen on consolidating the relationship between their Lab and my Lab in UWC. I worked with a postdoc from China (Dr. Zhenzhou Chen, MD, PhD) who returned home shortly after I arrived at the Gu Lab. We have since been discussing collaboration as he is also interested in researching the effects of natural products on stroke prevention and treatment as does the Gu Lab. I also discussed joint grant writing proposals with my host as well as the possibility of allowing UWC graduate students to visit the Gu Lab if they have funding. I also envisage a visit to UWC by some members of the Gu Lab in the near future.

Conclusion:
The MU-UWC staff exchange visit was a pleasant and enriching experience for me. I am sincerely grateful to the UWC International Office staff (Leolyn Jackson, Debbie Lamson and Hilda Andrew) as well as Brenda Dennis and Prof. Upphoff (at the MU Presidents Office) for facilitating the process of my Missouri visit. I hope to report about the collaboration with the Gu Laboratory when it happens in the near future.

A Missouri University Media Relations Department official interviewed me about my visit and this was published in August edition of the Missouri University’s ROAR Newsletter under the title - Report of "Cross-continent collaboration".

Thank you and kind regards,

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