

Report

UWC-UM Exchange Programme

By Dr. David Fisher

Date of trip: 1 August 2005 to 23 September 2005

This report is structured according to the questionnaire contained in the UWC-UM exchange application document.

1. **The objectives of the visit:**

The objectives of my visit were two fold: Firstly, exploring the effects of OA (male contraceptive) on the membrane of Sertoli cells. This was to be achieved by the use of the electrophysiological technique, patch clamp. Secondly, to further explore the effects of OA on the expression of two tight junction proteins key to the functioning of the blood-testis barrier.

2. **Objective successes:**

In both cases, the experimentation produced successful results. The success of this project was largely depended on the expertise and assistance of Prof. Doug Bowles. He provided the patch clamp apparatus and patiently coached me to the point of self proficiency. All cells and media were generously supplied and when I required to acquire any additional materials, his team supported me. He, furthermore, also organized his research personnel to train me in RT-PCR and to assist me throughout the molecular experimentation. This type of assistance and support in my area of research is currently not available (to my knowledge), and certainly no hands-on support.

3. **Aspects that could be improved:**

Arrangements for my visit were flawless, both from UWC and from UM. In this regard, my host also played an enormous role in making feel at home away from home. Just a small inconvenience was the slow internet access from my apartment. Broadband internet access would have improved my communications and downloads for lecture preparations.

4. **Planning by UWC:**

In this regard, support from the International office at UWC was out standing. Congratulations to Prof Jan Persens and his excellent team.

5. **Assessment of the programme:**

The UM/UWC Exchange Program is invaluable to the development of young and upcoming scientist at UWC. Both the intellectual stimulation and the exposure to a superb scientific culture will have a positive long term impact on the scientific community at UWC. Another clear benefit of the programme is the opportunity to engage intellectually, culturally and scientifically with scientists of the highest caliber.

6. Impact:

We have subsequently identified a project which is of interest to both institutions. The exchange program facilitates these academic interactions which are ultimately to the benefit of both universities, but especially for UWC.

Discussions between Prof Bill Lamberson (UM) and myself has led to the successful submission of a proposal to the UM/UWC Exchange Program which I hope would lead to the start of a successful collaboration.

Furthermore, Prof Bowles has identified areas of research involving the testing of indigenous plant extracts on vascular tissue. It is our hope that these research endeavors would further strengthen our ongoing collaboration.

7. Next Exchange Visit:

I have enjoyed my experience so much at the University of Missouri, that as I'm writing this report I am looking forward to my next visit. In the future, UM/UWC Exchange Program could perhaps investigate the possibility of sending supervisor and a postgraduate/research assistant on short visits to UM. This would be extremely valuable for exposure to new/difficult techniques.

8. Exchange Highlights:

During my stay with Doug Bowles I had the opportunity to not only to learn about the patch clamp technique but also to observe how certain laboratory procedures were carried out. Some of these will and is already adopted as part of the general routines of my laboratory. This is one of the great advantages of actually working in a collaborators laboratory. This sort of laboratory "nitty gritty" cannot be sourced in an alternative manner.

9. Laboratory Procedure:

My exposure in the above mentioned techniques would be critical to future research programs at UWC, especially in the area of patch clamping, since a

patch clamp amplifier has recently been acquired. In this regard a post doc from Chile will be joining our laboratory during 2006.

10. **Continuation of the UWC-UM exchange programme?:**

Most definitely. The exchange of ideas, both culturally and academically, are central to the ethos of individuals and institutions who want to be on the cutting edge of research, discovery and vision. The exchange program between the two institutions facilitates this process and attempts to prevent a detrimental introverted vision from developing. Each of my visits to UM has made life richer and scientifically more endowed. Once again I would like to echo my previous sentiments: visiting the world class research infrastructure at UM Biomedical Science department could be likened to a research oasis. Here the researcher can obtain a focus that is not currently possible at UWC, where research funding is scarce and continuity of time required for focused research is interrupted by large lecture loads.

END