

ASCEPT Travel Grant Report – T. Michael De Silva

Experimental Biology 2009

New Orleans, Louisiana, USA

Owing to the generosity of *ASCEPT* in providing me with an International Travel Award, I was able to attend and present at Experimental Biology 2009 in New Orleans, Louisiana, USA (April 18th – 22nd).

The conference attracted numerous internationally renowned scientists in the field of cerebrovascular and cardiovascular research and the presentations I attended by these researchers were both interesting and stimulating. Several of the sessions I attended discussed the role of reactive oxygen species and the immune system in the pathogenesis of vascular diseases such as hypertension and atherosclerosis. I found these sessions to be of particular interest as they were most closely related to my current research. Not surprisingly I came away with many new ideas, which I plan to pursue as part of my PhD studies. Two of the presentation were particularly interesting and are briefly summarized below.

Role of Vascular T cell Infiltration in Mediating Hypertension – *Dr David Harrison*

Dr. Harrison presented an elegant paper demonstrating a key relationship between T lymphocytes, angiotensin II and reactive oxygen species in the development of hypertension. The main point I came away from this presentation was that T lymphocytes might play a key role in promoting endothelial dysfunction via the production of reactive oxygen species. This is of particular interest as I am currently investigating the role of NADPH-oxidase –derived reactive oxygen species and the immune system in cerebral endothelial dysfunction during hypercholesterolemia.

Mechanisms and Consequences of Inflammatory Cell Interactions within the Microvasculature – *Dr Neil Granger*

Dr. Granger presented a very interesting lecture discussing the detrimental effects of hypercholesterolemia on the microvasculature. In particular, Dr. Granger presented data showing that hypercholesterolemia increases the expression of adhesions molecules on endothelial cells leading to increased immune cell adhesion and infiltration, and a pro-thrombogenic state. Dr. Granger also showed that a lack of AT₁ receptors on leukocytes leads to a reduction in cell infiltration into the vasculature. This presentation was particularly interesting as it stimulated a number of ideas that I plan to pursue in my future PhD studies.

The International Travel Grant also allowed me to present my research as a poster communication in the American Society of Pharmacology and Experimental Therapeutics (ASPET) Cardiovascular Division Best Abstract Competition, which took place on the Sunday night of the conference. I presented a poster titled “Gender Influences Cerebral Vascular Responses to Angiotensin II via Nox2-Derived Reactive Oxygen Species and Rho-Kinase”. I received many positive and useful comments, and was awarded second place in the competition. On the following day I attended the ASPET Student Mixer, which provided me with an excellent opportunity to meet other young scientists in a relaxed setting.

Overall, I am immensely grateful to *ASCEPT* for providing myself with an International Travel Grant to attend this conference and of course to take part in the ASPET Cardiovascular Division Best Abstract Poster competition. Without the funding from *ASCEPT* my attendance would not have been possible. Thank you.