FLINDERS UNIVERSITY
ADELAIDE • AUSTRALIA

Department of Clinical Pharmacology
Faculty of Health Sciences
Mr Thomas Polasek, Associate Lecturer

GPO Box 2100
Adelaide 5001 Australia

Telephone: (+61 8) 8204 4031
Fax: (+61 8) 8204 5114
Email: tom.polasek@flinders.edu.au

ASCEPT Secretariat
4/184 Main Street
Lilydale
Victoria 3140

Dear ASCEPT Council Members,

Please find enclosed my report on the 15th World Congress of Pharmacology (Beijing, China). The program for the Congress included an impressive list of invited speakers who presented plenary lectures and symposia on all aspects of Pharmacology and Toxicology.

My PhD work investigated the mechanism-based inactivation of human drug metabolising cytochromes P450 (CYP) by therapeutic drugs *in vitro*. The following lectures regarding CYP enzymes were of particular interest as I wish to pursue further research in this area.

1. Frank Gonzalez (USA) summarised metabonomic approaches for the analysis and prediction of drug metabolism.
2. Patrick du Souich (Canada) described how CYP activity can be modulated by reactive oxygen species and nitric oxide during hypoxic stress.
3. Alan Boobis (UK) gave an overview of the role of CYP in chemically-induced carcinogenesis.
4. Numerous presentations on pharmacogenomics included examples from the CYP superfamily *e.g.* Michel Eichelbaum (Germany), Magnus Ingelman-Sundberg (Sweden), Richard Weinshilboum (USA) and Munir Prmohamed (UK).
5. Ophelia Yin (Hong Kong) presented data to support the use of a probe-drug cocktail for assessing herb-drug interactions involving CYP inhibition or induction.

My poster was entitled, 'Mechanism-based inactivation (MBI) of recombinant CYP2C19 and CYP3A4 but not human liver microsomal CYP2C19 and CYP3A by nortriptyline' (P180037). It demonstrated that some drugs have the capacity to inactivate recombinant CYP without the same effect on CYP in human liver microsomes. Despite being placed in the wrong poster category (Pharmacogenetics and Pharmacogenomics), several researchers in the area of MBI took an interest in these data. Possible explanations for the phenomenon were offered by Haoming Zhang (USA) and Brian Houston (UK). These discussions have improved the quality of a manuscript currently in preparation. It was also fascinating to discuss new experimental techniques in the study of MBI, particularly the use of cultured human hepatocytes as the CYP enzyme source. Collaborations are likely to ensure from our meeting.

Attendance at many other symposia offered a chance to broaden my knowledge in areas outside my own research interests *e.g.* the sessions on novel treatments for inflammatory airways disease, hypertension, and the influence of influx/efflux transporters on

pharmacokinetics. Of particular note was the main symposium on the teaching of Pharmacology.

1. Ian Hughes (UK) discussed how the term ‘integration’ may be interpreted when applied to the teaching of Pharmacology.
2. Douglas Oliver (South Africa) presented data to show how teaching approaches have changed significantly in developing countries in recent years, specifically, towards greater integration.
3. Kwan Chiu-Yin (Taiwan) gave a nice overview of the problem-based learning (PBL) philosophy and its advantages.
4. Several speakers (including David Dewhurst, UK) highlighted the growing need for flexible Web-based delivery *e.g.* practical classes previously requiring experimental animals can be replaced with online simulations.

Overall, the Congress was well-organised and offered an excellent educational opportunity for young scientists. I enjoyed meeting Pharmacologists from around the globe during the social functions and the ‘Great Wall’ and ‘Tiananmen/Forbidden City’ tours.

I should like to express my sincere appreciation to ASCEPT for the generous funding to attend the Congress.

Yours sincerely,

Tom Polasek