NEWS AND EVENTS

Lorne Conference Poster Prize

Jhih-Hang Jiang (Lithgow Lab) was awarded third place at the Lorne Infection and Immunity Conference for his poster presentation:

*PorB from pathogenic Neisseria hijacks the mitochondrial import machineries to localize in the outer mitochondrial membrane during infection.*

Jhih-Hang Jiang, John Davies, Trevor Lithgow, Richard Strugnell (Melb Uni) & Kip Gabriel

General Departmental Meeting

One of the two Biochemistry General Departmental Meetings for 2012 will be held in March:

**Date:** Wednesday, 21 March 2012  
**Time:** 12pm - 1pm  
**Venue:** Lecture Theatre M2, building 13A

All Biochemistry staff, PhD students and Honours students should attend this meeting.

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<th>LATEST MEMBER OF STAFF</th>
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<td><strong>Lab Head</strong></td>
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<td>Prof David Jans</td>
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Biochemistry Honours Welcome Barbeque

On Thursday February 23rd the Department welcomed 21 new Honours students with the traditional BBQ on the outside deck. The weather was excellent and the food even better - expertly barbequed by Justin Ludeman, Martin Stone and Tim Cole.

140 members of the Department enjoyed themselves in brilliant sunshine. Raffle prizes were drawn by our new HOD Rod Devenish and fittingly a number of new Honours students won prizes.

A relaxing BBQ was enjoyed by all!

Tim Cole  
Honours Convenor

Seminars in March

4 pm on Wednesdays in Building 13A, Lecture Theatre M2

**March 14th**
Joel Mackay (The University of Sydney)  
*A molecular perspective on the mechanisms of gene regulation*

**March 21st**
Trevor Lithgow (Monash University)  
*Evolution of molecular machines: how an “in-through-the-out-door” strategy explains the evolution of protein import into mitochondria*

**March 28th**
David Tremethick (The Australian National University)  
*Memory beyond DNA: new insights into the role of epigenetics in the initiation and maintenance of cell fate*

Please send suggestions for future speakers to committee members: Travis Beddoe, Melanie Pritchard, Martin Stone, Ana Traven, Catherine Itman, Peter Boag

A list of all seminars for 2012 can be found on the Biochem webpage  
www.med.monash.edu.au/biochem under “About”
Projects

My main project within the Wilce lab was to understand the specificity of polycytosine-binding proteins for their target DNA/RNA. I used my skills in protein crystallography and learned Surface Plasmon Resonance (SPR) to characterize the DNA binding properties of the first KH domain of the human polyC binding protein 1. This work was recently accepted for publication in *Nucleic Acid Research*. That was an excellent start for a PhD project, however, tragedy struck when my supervisor passed away in February 2008. Dr Lilian Jacquamet was more than a supervisor, he was a friend and due to the emotional breakdown I suffered, I wanted to go as far as possible from Grenoble. Not only did I think Australia was far enough, but I also wanted to learn English. A/Prof Jackie Wilce, offered me a postdoctoral position in her laboratory. I defended my thesis in September 2008 and a week later, I was in Melbourne.

My current project, which is funded by an ARC Super Science Fellowship, seeks to engineer pore-forming proteins as tools for the delivery of nanoparticles into cells. I started this project in 2011 along with Dr Carlos Rosado in the Whisstock Laboratory. My current focus is to understand how Perforin undergoes conformational change upon calcium binding to trigger pore formation. We recently solved several crystal structures of the membrane-binding domain of Perforin homologues in both calcium free and calcium bound forms. These structures bring us new insight into the calcium dependent membrane binding mechanism of Perforin.

I'm also involved in the strong collaboration Prof Whisstock has with Prof Julian Rood (Microbiology Department) working on the *Clostridium perfringens* conjugation system. This project seeks to understand the mechanism by which antibiotic resistance is transferred via the conjugative apparatus in Gram-negative bacteria.

Lastly, I’m working with Dr Oliver Seneque and Dr Jean-Marc Latour (CEA Grenoble) on peptide models of metalloproteins. The aim is to understand the reactivity of iron/zinc containing proteins by downsizing the protein. Limited to its reactive core, the use of peptide models will allow us to perform highly detailed structural and kinetic studies so as to reach a molecular description of the kinetically meaningful mechanistic events.

Aside from these projects, I’m always trying to find a way to repay my home country for enabling me to fulfill my scientific ambitions. Malaria is a major problem in Mali and I believe that I can contribute to fighting the disease. I’m seeking to establish a strong collaboration with Prof Christian Doerig (Microbiology Department) as well as with the Malaria Research and Training Center based at the University of Bamako.

I would like to take this opportunity to thank A/Prof Jackie Wilce for bringing me to Australia and for offering me my first job in her lab. I would also like to thank everyone in the Wilce lab for their friendship. I’m also grateful to Dr Stephanie Gras who showed me around and help me a lot during my first weeks here in Melbourne, both on and off campus. Finally, I would like to thank Prof Whisstock, and everyone in the Whisstock/Dunstone lab.
POSTGRADUATE MATTERS

PhD Graduates

Ann Thi Nhu Du
Thesis: “Expression and purification of the Urotensin-II receptor with an affinity ligand”
Supervisor: Mibel Aguilar

Allyson Michelle Croxford
Thesis: “The development of infrared microspectroscopy techniques to examine the effect of monoclonal antibodies to type II collagen in murine model of rheumatoid arthritis”
Supervisor: Merrill Rowley

STUDENT SOCIETY

NOTDRS Annual General Meeting
The Annual General Meeting was held on 5th March, with the election of a new committee on the agenda. The results of the meeting will be published in the next edition of the Biochem Newsletter.

Quick Overview of What to Do When an Emergency Arises:
1. Remain CALM...
2. Yell out for a First Aider (don’t go looking for one yourself, get someone else to go looking)
3. First Aiders: Read MSDS before treating any chemical injury
4. First Aiders: Call Med Centre if necessary ext. 53175
5. First Aiders: Call the Safety Officer and/or Safety Representative as soon as possible

Figure shows an image from confocal laser scanning microscope analysis of a cell in which the P protein of rabies virus (green) and dynein chain LC8 (red) are associated with cytoplasmic microtubules (MTs). P-MT association is a key mechanism in viral subversion of IFN signaling. Colocalization of P and LC8 appear yellow in merged image (right).

Photo courtesy Dr Greg Moseley

To find out more about NOTDRS please visit:
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Link to MBio e-bulletin:
All queries on Postgraduate matters:
Please contact Prof Mibel Aguilar
mibel.aguilar@monash.edu
**RECENT PUBLICATIONS**


### RECENT PUBLICATIONS


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