Newsletter: Issue 7, July 2010 University of Otago, Dunedin, NZ

A Message from the Director:

Professor Kurt Krause
Webster Centre Director

Hello and welcome to the July edition of the Webster Centre for Infectious Diseases newsletter. After a period of relative quiet, the Centre is preparing for a series of mid-winter activities. In this issue, you will read about our new Assistant to the Director, Chelsea Ivey, who has been busy organizing this month's edition of the newsletter. Below you will get some insight into the considerable scientific acumen of Dr. Alex McLellan and learn in what time of year he cannot bear to see a scientific paper! On the second page of the newsletter we are announcing the Webster Centre co-sponsorship of the Queenstown Tuberculosis meeting and we have provided a link to their on-line site. Finally page two, features comment on Webster Centre Researcher: Prof Iain Lamont extended interview on TV 7 NZ along with a link to the on-line site. Keep an eye out for student summer fellowships and travel award application announcements coming soon.

Webster Centre Featured Researcher: Dr Alexander McLellan

Dr Alexander McLellan
Department of Microbiology & Immunology

Webster Centre Assistant to the Director, Chelsea Ivey, had an opportunity to talk with Dr Alexander McLellan of the Microbiology & Immunology Department of Otago University.

Q. How did you decide to focus on infectious disease research and immunology?

A. I became interested in immunology through reading while I was doing my Masters, and then an opportunity came up at Christchurch hospital to do my PhD. It was exactly what I wanted to do and my PhD became working with human immune cells called dendritic cells that start immune responses. I then went to Germany and continued postdoctoral study on dendritic cells. At Otago, in addition to dendritic cells, we are studying tuberculosis, HIV and transplant rejection. Some of the infectious diseases we want to study such as TB or HIV won't be available to us unless we get a PC3 laboratory.

Q. For the non-scientists reading this article, what exactly is an immunologist?

A. A broad, brief outline would be that an immunologist studies how the body responds to infections, transplantations and cancer. Humans have complex immune systems in that we can be vaccinated and generate what is called "immunologic memory" such that we respond better the second and subsequent times we are exposed to the same antigens. Memory response is an important part of what immunologists study. Other aspects include topics such as transplant immunology, tumour immunology , cancer immunology and autoimmunity. Diseases attack our cells, so we also study cell tissue.

Q. One of your great successes in your research has been creating a urine test to detect whether transplant kidneys are failing. How long has this test been in the pipeline? And to take it to a commercial lever how much work and time is anticipated?

A. The test has been 7 years in creation so far. It has undergone a pilot study of just over 100 patients in Switzerland, Adelaide and New Zealand, but to take it further we really need a much larger patient group that we can carefully monitor everyday. This will hopefully occur next year, and will likely happen in a larger transplant centre like the United States or Germany where thousands of transplants are being done. The problem with doing it in New Zealand is that there are only around 120 transplants per year.

Q. You've been a scientist for many years now, when you were in high school was science a passion for you then, or what were your favourite subjects?

A. One of my uncles, the late Ian McLellan was a Stonefly expert, so one of my passions was to become a Zoologist, it didn't eventuate but I have always been interested in wildlife and have always been very science-minded.

Q. What is the most thrilling aspect of your research?

A. The minor breakthroughs when something starts to work, when a student thinks up an experiment, when a paper gets published, or when I'm dealing with people around the place that bring new ideas or new perspectives to my research. Making realisations or jumps ahead is always thrilling and that punctuates long periods of frustration.

Q. What are your interests outside of the lab?

A. I enjoy mountain biking, amateur surfing and I'm also a keen runner. I read novels in bursts in my holidays when I can't bear to see a scientific paper.

Thank you for taking your time to visit with us!

Webster Centre Sponsorship of QMB Tuberculosis Conference

This years Queenstown Molecular Biology Conference is being held from the 28th of August until the 3rd of September. The Webster Centre is happy to be a major sponsor on the QMB Tuberculosis Satellite meeting on the 2nd and 3rd of September. The meeting will feature a number of international invited speakers and will cover most aspects of current TB research, including the search for new drugs and vaccines, current advances in microbiology, genetics and immunology of TB, and clinical practice and experience. This meeting will be an excellent way to keep up with current tuberculosis related research in New Zealand and that being carried out around the world. On-line information about the QMB Tuberculosis meeting is available at http://www.qmb.org.nz/tuberculosis-index.html

Webster Centre Researcher in the Media

Prof. Iain Lamont
Department of Biochemistry

Professor Iain Lamont from the Biochemistry Department at Otago University recently made an appearance on TVNZ's Channel 7 news, giving his views and perspectives on scientist J. Craig Venter's progress in making synthetic life forms.

Professor Lamont explained that "Essentially what they have done is taken natural genetic blueprint form one kind of microorganism, made it up chemically in the test tube, put it in a different microorganism and found that the new microorganism they created had all the properties of the DNA that they made in the test tube."

"At this stage all they've done is shown in principle that they can make new organisms, they've have to take things an awful lot further to do any of the things [creating new life forms with designer properties] they're talking about, so at this stage they're talking about things that would be 5,10, 20 years or more down the track."

"For humanity, if you believe they hype, then it could mean in principle that we could find new ways of generating bio-fuels, or as I've said, for making new vaccines. There's certainly some potential for that, but perhaps not as much as you might believe form the hype. I think the steps that are needed for all the things have been suggested are technically too challenging for anything that I can visage right now." The interview may be accessed by clicking on Prof Lamont Interview or by typing the following in your web browser: http://tvnz.co.nz/technology-news/synthetic-living-cell-iain-lamont-talks-tvnz-news-8-04-34-video-3563364

Chelsea Ivey
Assistant to the Director WCID

Webster Centre welcomes new Assistant

In early June the Webster Centre for Infectious Diseases welcomed Chelsea Ivey to the Webster Administrative team. Chelsea hails from Invercargill, where she attended primary and secondary school. She then attended Otago University where she had a passion for anatomy and physiology. Apart from science, her true passion has been as an equestrian, and notably she has won three New Zealand under 21 titles in this sport.

General Announcements and Upcoming Meetings

Please email the Webster Centre at: webstercentre@otago.ac.nz

- if there is a **scientific meeting** you would like highlighted either on the website or in the newsletter
- if you are not on the Webster Centre **email list**
- if your research relates to infectious diseases and you would like to **join** the Webster Centre for Infectious Diseases

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