
Newsletter: Issue 10, May/June 2011 University of Otago, Dunedin, NZ

## *A Message from the Director:*

Professor Kurt Krause
Webster Centre Director

Greetings from Otago where I am writing on a brisk, but sunny May morning on the Dunedin campus. 2011 is zooming by and our March/April newsletter has morphed into a May-June bulletin. But there is exciting news today as we are pleased to be announcing the dates and keynote speakers for the 3rd biennial Webster Centre for Infectious Diseases Research Symposium. Our very special guests this year will be Dr. Stewart Cole whose name is synonymous with groundbreaking tuberculosis research and Dr. Ian Orme who will be visiting us from Colorado State University. I cannot imagine two more outstanding experts in tuberculosis to appear at the same meeting in New Zealand! I know you will want to attend the Webster meeting this year and we have special plans in place to help us welcome a good crowd of infectious diseases researchers to the meeting. Please read on for more details and look for meeting announcements to follow closely.

## Webster Centre Meeting: 15-16 September, 2011 - Dunedin, New Zealand

Prof. Stewart Cole, FRS

The Webster Centre for Infectious Diseases is pleased to announce that the 2011 Webster Centre Meeting will be held on 15-16 September, 2011 in the Hutton Theatre at the Otago Museum, in Dunedin, New Zealand.

Professor Stewart T. Cole has generously accepted our invitation to appear as our keynote speaker at this event. Professor Stewart Cole is an international authority on the molecular-genetics and genomics of tuberculosis. His work includes basic research on the pathogenicity, evolution and genomics of the tubercle and leprosy bacilli as well as translational work on drug design and development of antituberculosis agents. He has published over 250 scientific papers and review articles, and holds many patents. In 2009, he was awarded the WHO Stop TB Partnership Kochon prize for his extraordinary contribution to fighting tuberculosis. Presently, Prof. Cole leads the research unit dedicated to TB drug discovery at the Ecole Polytechnique Fédérale de Lausanne and serves as the Director of the Global Health Institute.

Prof. Ian Orme

This year's Webster meeting will also feature a special guest speaker, Professor Ian Orme, from Colorado State University, who will deliver a plenary address during the research session. Ian Orme is a University Distinguished Professor at Colorado State University. He is a noted tuberculosis immunologist and an international expert in animal models for mycobacterial disease. In his research he has described, using gene disrupted mice, the key roles for the IL-12 and gamma interferon cytokine pathways in mycobacterial diseases. More recently his laboratory has developed the first protocols for flow cytometric analysis of the immune response to TB in guinea pigs. He is a Fellow of the American Academy of Microbiology.

## Register Now to attend the 2011 Webster Symposium

- Call for speakers, abstracts, and posters
- Meeting registration and accommodation information
- Abstract submission

# Webster Centre Profiled Researcher: Professor Frank Griffin

Professor Frank Griffin
*Head of Department*
*Microbiology and*
*Immunology*

For the 10th edition of the Webster newsletter, we had the great pleasure of interviewing Professor Frank Griffin, Head of Department of Microbiology & Immunology, University of Otago.

**Where and what did your early academic life consist of?**
I went to university at Trinity in Dublin in 1962 and I graduated in Microbiology in 1967 in Trinity in Dublin with an honours degree.

I then did my PhD in Trinity in Dublin in 1967 – 70 and I did it on infertility of dairy cattle and how infection after the birth of the calf affected subsequent reproduction. Because cattle very often get infection after they deliver their calf and if that infection doesn't resolve quickly you can have downstream inflammatory sort of problems which means that then when they go back in cycle again, the womb is not receptive to conception and they don't conceive. Then in fact the project sort of went from looking at the organisms that cause disease to looking at the immune response, and that was what I did for my PhD. I then did about a year's postdoc in the same group at Trinity.

**What bought you to New Zealand?**
I applied for a lectureship at Otago for an Immunologist position because I wanted to be considered as an immunologist, even though in the 70's immunology wasn't a separate discipline; it was a part of infectious disease. When I came here my plan was to reposition my research into medically related projects. But after about 3 or 4 years I developed a little bit of a liaison with the guys out at Invermay and they were interested in immunology responses in sheep, because sheep also get toxemia like humans.

I thought then I have a really important career decision to make, if I'm going to continue researching in New Zealand, I've got to have one of two things, I've got to have a unique science or a unique resource. Well I thought, 'I'm not smart enough to have unique science so lets look for unique resources.' So what's unique about New Zealand? We have the biggest and most diverse gene pool of animals in the world. So we worked on sheep right throughout the 1980's. Then in 1985 I was approached by a deer farmer, who said to me there's a really big problem in trying to manage stress in captured deer but also in trying to manage their diseases, like TB. That seemed to me to be an absolutely unique type of resource because deer are the first large animal that has been domesticated for 5000 years, so it was actually quite unique.

We fairly quickly were presented by the industry with the prospect of developing new diagnostic tests for diseases that were causing problems. Then the big disease was TB. We started out working with TB in 1985 and we developed a new blood test to diagnose TB in deer and that was really the start of that phase in our research.

**What can the study of mycobacteria in deer tell us about human TB?**
The nice thing about deer is that they present what we regard in genetic terms as remarkably interesting phenotypes. TB in deer looks just like human disease. Some cases manifest with extremely long infections, some cases present with lymph node infections, some cases display practically no signs of infection. So we concluded that in deer we have really a representative animal for human TB. There are great advantages accrued by working with veterinary species. You have # 1 an economic issue, which is a disease in an animal, but # 2 if you use it correctly it can inform other areas of biology, like human biology. The other advantage of working with a deer for something like TB is you can experimentally inject animals, and that we believe is probably one of the more important things we accomplished.

**What thoughts went through your head when you learned you were awarded the Pickering medal from the RSNZ in recognition of your excellence and innovation in the practical application of technology?**
I was humbled and excited, largely for the reason that a lot of our work had been involved in diagnostics, and even though diagnostics had informed our research in vaccine development and genetics, it has always seemed to be a little ho-hum.

To me the most important thing about the award was that it gave a credibility to applied research which is targeted to look at problem solving. You felt that after a lifetime of working in applied scientific research, it wasn't all second-hand, that maybe some of it was a little bit important. Also I was hugely fortified that the leaders in the deer industry had said, 'Well look, Griffin has made a contribution that has had a material influence on the deer industry.' Of course we all have egos, and to have the recognition of your peers is the accolade you want as a scientist, so that was really quite neat.

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