

Newsletter: Issue 4, February 2009

University of Otago, Dunedin, NZ

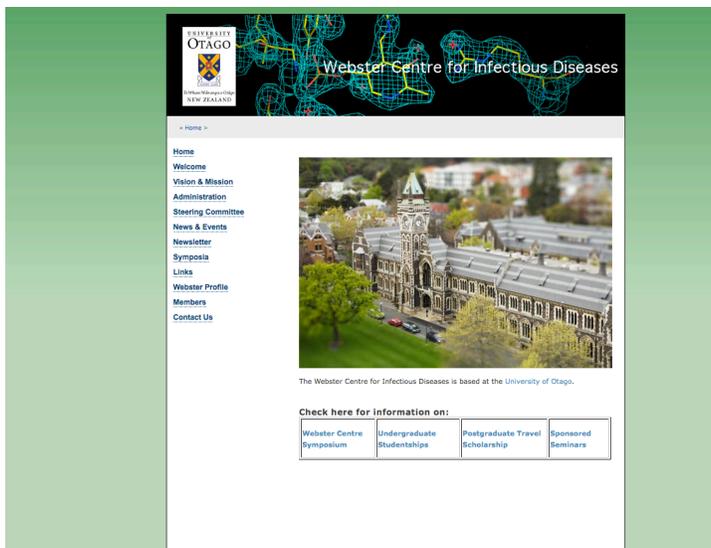
### *A Message from the Director:*



Professor Kurt Krause  
Webster Centre Director

Hello and welcome to the February edition of the Webster Centre newsletter. This month we are announcing the opening of the Centre's website at [www.otago.ac.nz/webstercentre](http://www.otago.ac.nz/webstercentre). Please visit the site, check out the links, especially those involving the upcoming symposium. A few of the links are still under construction. For example, the link for members is being designed to list a member's name, affiliation, weblink, e-mail, and a brief research description. You should be hearing from us soon to OK this listing with you. The Webster Centre for Infectious Diseases website was designed and developed by Webster Centre Coordinator, Rebecca Psutka, with assistance from the Department of Biochemistry Webmistress Bronwyn Carlisle. Rebecca has worked very hard and creatively on our site and I know she would enjoy receiving your feedback. Other highlights of this month's newsletter include a feature on our two summer students and a visit with some parasite experts from Australia. Hope you enjoy these features and the new website.

## The Webster Centre has a website!



Go to:

[www.otago.ac.nz/webstercentre](http://www.otago.ac.nz/webstercentre)

The Webster Centre for Infectious Diseases is pleased to announce that it has joined the 21st century and now has an online presence!

Please check out the new Webster Centre for Infectious Diseases website!

We have information on the upcoming Symposium, Studentships, Travel Awards, Seminar speakers, as well as some background on who we are and what we do. Hope you enjoy it.

## Webster Centre sponsors speakers in Microbiology Seminar



Drs Peter and Jacqui  
Upcroft across from the  
Clocktower

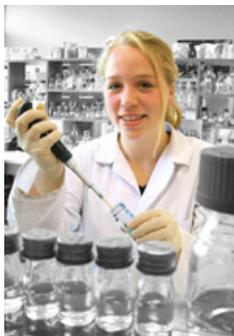
The Webster Centre for Infectious Diseases was pleased to sponsor Associate Professor Peter Upcroft and Dr. Jacqui Upcroft from the Queensland Institute of Medical Research who gave a seminar in the Department of Microbiology & Immunology on "New drugs for anaerobic protozoa".

Metronidazole and similar members of the 5-nitroimidazole family are used to treat *Giardia duodenalis*, *Trichomonas vaginalis*, *Entamoeba histolytica*, and various anaerobic bacteria including *Helicobacter pylori* and *Clostridium spp.* Although members of the 5-nitroimidazole family are both inexpensive and effective, worldwide resistance is increasing.

In this seminar Associate Professor Upcroft and Dr. Upcroft explored new drugs based on the nitroimidazole theme and described variations to it which affect efficacy. Similar drugs, including veterinary pharmaceuticals such as ronidazole have slight modifications that render them up to eight times more active than metronidazole against *Giardia*. Knowing this the Upcrofts have trialed new compounds against *G. duodenalis* and *T. vaginalis* in vitro and were able to discuss their findings and future research plans.

The Upcroft's Seminar was held in the Microbiology Building (720 Cumberland Street), 4:00pm, 4th Floor, Room 408, Monday 16th February, 2009.

## Webster Centre summer students present research



Sarah James, BSc.

The Webster Centre for Infectious Diseases was able to award two studentships for undergraduate level summer research this year as part of our plan to encourage bright young scientists to pursue infectious disease related research.

This year the Studentships were decided in early November, and went to Sarah James, BSc. Genetics, And Emma Scaletti, a 4th year BSc. Honours student in Biochemistry.

Sarah James completed her research entitled "Developing methodology to identify and characterise cellular proteins that interact with the HIV-1 frameshift element" in the laboratory of Professor Warren Tate, Department of Biochemistry, University of Otago, Dunedin. Sarah's project was based on both the -1 frameshift element in HIV and the human gene PEG10. She was able to associate these with the MS2 stem loop protein sequence in a vector and incorporated sUTP (4-thio-uracil triphosphate) which allowed the gene to fuse to important and closely interacting proteins. This will help to identify proteins that may interact with these genes.

Additionally Sarah has laid the foundations for fluorescent labeling of transcripts by optimizing the general conditions required to mitigate the effects of incorporation of sUTP; which significantly reduces transcript yields.



Emma Scaletti, 4th yr BSc. Honours student

Emma Scaletti did her research project in the laboratory of Professor Kurt Krause, Department of Biochemistry, University of Otago, Dunedin. Emma's research project is entitled "Purification and Crystallisation of Alanine Racemase from *Staphylococcus aureus* and *Pseudomonas aeruginosa*". She has worked with techniques such as PCR, restriction digests, SDS-PAGE, ion-exchange columns, size exclusion column, and has learned to set up crystallization trays. She has purified and is crystallizing the protein alanine racemase from *P. aeruginosa* as a positive control and is currently doing expression trials concerning the alanine racemase protein from *S. aureus*. Emma plans to do her 4th year honours research project in the Krause laboratory and will work on expressing, purifying and crystallizing alanine racemase from *S. aureus* during her honours year.

As a portion of their Studentships, both students presented their research to the combined groups of the Krause and Tate Laboratories on 24 February at 1:00pm, Room 228, Biochemistry, University of Otago, Dunedin. Additionally, both Sarah James and Emma Scaletti will submit a written report to Webster Centre Director as the conclusion of their 10-week projects.

## General Announcements and Upcoming Meetings



Rebecca Psutka, BSc (Hons)  
Coordinator,  
Webster Centre for  
Infectious Diseases

Please email the Webster Centre at: [webstercentre@otago.ac.nz](mailto:webstercentre@otago.ac.nz)

- if there is a **scientific meeting** you would like highlighted
- if you are not on the Webster Centre **email list**
- if your research relates to infectious diseases and would like to **join** the Webster Centre for Infectious Diseases
- if you otherwise have any questions, comments or concerns regarding this newsletter or any other Webster Centre related activities.

### Upcoming Meetings

#### 2009 Webster Centre Symposium

23-24 April, 2009

St. Margaret's College

University of Otago, Dunedin, New Zealand

An advertisement and a registration form are attached with this newsletter.

Please submit registration forms via emailing the word document ASAP.

More information can be found on our website:

The Webster Centre for Infectious Diseases can be contacted at:

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