

MONTHLY UPDATE

DEPARTMENT OF BIOCHEMISTRY

May 2017

It has been a busy time in the Department and this month's newsletter is not quite the one we had planned. You were supposed to have been reading an "Equipment and Facilities Special", but this is postponed until next month - Bronwyn will be chasing people but all equipment experts and others with techniques/methods to share should think about what to write for next month's edition - in 3 weeks time!

A big thank you to those who helped organise and host forty graduands and their families at our graduation function on the 13th of May. As always it was a most enjoyable event, and it is the efforts of the many "behind the scenes" people that make it run so smoothly.

Thank you also to everyone who has been involved with our recent 200-level afternoon teas, and to everyone else for putting up with the common room being taken over by a mass of keen future students last week. At least there was left-over food to make up for it.

Although this is a busy semester with many student activities, research continues and many PIs are busy with grants - either writing or crossing fingers for a successful outcome! Papers have also been coming with several in excellent journals so well done to all.

Otago is hosting the Genetics Society of Australasia and New Zealand Society for Biochemistry and Molecular Biology conference on 2nd - 6th July. Congratulations to Wayne, who will present the Custom Science NZSBMB Award lecture at the meeting. The Annual QMB meetings are back in Queenstown this year in September and I know many staff are involved in them. As always these meetings are a great opportunity for our postgraduate students to attend an excellent conference, so I encourage you take advantage of the opportunity to hear from scientists from around New Zealand and overseas.

Over the page you will see that our staff and students have been making waves in the press! Well done all.



Catherine

Health and Safety

We cleared the building in 4.5 minutes during the trial fire evacuation which was really good. Just a couple of reminders about fire evacuations. 1. Remember there are three sets of stairs for evacuating (people tended to use the main stair well, forgetting about the 'outside' stairwell). 2. On evacuating you need to move away from the building (as during an actual fire the glass may blow out of the windows).

Please take care cleaning up spills around the department as we have had a recent spate of slips and trips.

New arrival

Miriam Sharpe will be helping with publicity and doing some scientific writing on a part time basis over the next few months. She can be found in Room 234 with Bronwyn.

Building

As you will be aware, the builders are back on the first floor and we hope we'll have nice shiny offices soon.

A replacement main switchboard for the building is being made, and will go in the back room of the store. Installation will involve cutting the power to the building completely for about half a day. We will probably take this opportunity to check and rehearse our emergency power procedures for the minus 80 freezers. The date will be announced well in advance.

The distilled water supply is in the process of being automated. This should bring better continuity of supply, especially over breaks. They have already re-routed the overflow to pour out of the building slightly west of the main entrance. So don't worry too much in the next few weeks about water pouring there - until it is automated this may happen daily, especially first thing Monday morning and later in the afternoons.

HEALTH REVOLUTION! NOT SO FAST

North & South spoke to scientists at the forefront of using DNA technology in their research. They say revolutionary change is coming but much of their work is raising more questions than answers.

CANCER

Professor Parry Guilford, cancer researcher, University of Otago.

"About five to 10 per cent of cancers are caused by major genes, and a gene test for the non-inherited, or sporadic, cancers would tell you very little.

If you're the "worried well", you could think about having a look for the 25-30 genes associated with a very high cancer risk. You could have inherited a mutation, but the mutation may have occurred in the sex cells of your parents, so if you're unlucky, you would be the first in the lineage to have an inherited cancer.

I haven't had a gene test and I could do it myself, tomorrow. I don't think I have a sufficient family history to think I have an inherited risk. The information you get from your family history is way more useful than what you'd get from having your genome sequenced.



Professor Parry Guilford, cancer researcher, University of Otago.

"The information you get from your family history is way more useful than what you'd get from having your genome sequenced."

Parry Guilford

North & South

New insights gained into genetics of gout in Māori and Pacific people

Wednesday, 24 May 2017

Newly identified gene variants contribute to explaining why Māori and Pacific people have the highest rates worldwide of gout, the painful and debilitating arthritic disease, an international collaboration led by University of Otago researchers has found.

Gout involves uric acid crystals forming in body joints and soft tissues, often in areas such as the big toe, after blood levels of uric acid become too high. Six per cent of Māori and eight per cent of Pacific people living in Aotearoa New Zealand suffer from the condition.

A research team led by University of Otago Department of Biochemistry's Professor Tony Merriman undertook a targeted DNA sequencing scan of more than 1,800 Māori and Pacific people and scoured the genetic data to identify gene variants that may be associated with gout risk.



Professor Tony Merriman

Otago Press Release



Meeting the test... University of Otago students (from left) Mika Smith (20), Sean Boulton (23) and Charlotte Steel (21) and (inset) Shaun Markham (21) recently received Freemasons University Scholarships.

Uni students receive scholarships

By JOHN GIBB

FOUR University of Otago students have received national Freemasons University Scholarships in a ceremony at Parliament this week. The recipients are Sean Boulton, Shaun Markham, Mika Smith and Charlotte Steel.

The scholarships reward academic achievement and community involvement.

A student in the final year of his master of science degree in biochemistry, Mr Boulton received a \$10,000 post-graduate scholarship.

His research explores how a plant pathogen locates and infects its kiwifruit host, work which is relevant to New Zealand's \$1.45 billion kiwifruit industry.

A former Kings High School dux, Mr Markham is about to complete a master

of economics and received a \$8000 university scholarship.

Ms Smith, who is in the final year of a bachelor of science degree, majoring in computer science and neuroscience, and Mr Steel, who is studying for a BSc (Hons), majoring in neuroscience, also both received \$8000 scholarships.

All four students undertook extensive volunteer work, the scholarship committee said.

Monday, 29 May 2017

Keep calm and carry on

By Bruce Munro



Life & Style > Magazine



Dr Monica Gerth, of the University of Otago's Maurice Wilkins Centre for Molecular Biodiscovery, is researching an antibiotic alternative, an enzyme that could "calm" bacteria before they cause disease. Photo: supplied

Dr Monica Gerth wants to become bacteria's equivalent of a horse whisperer.

In a world fast running out of effective antibiotics, she and other researchers at the University of Otago's biochemistry department want to swap the shoot-on-sight attitude to disease-causing microbes for a more soothing approach.

• Germs are us

Dr Gerth is developing an innovative way of "calming" bacteria before they can cause infection. If effective, it could provide a new, less harmful means of preventing up to two-thirds of all human infections.

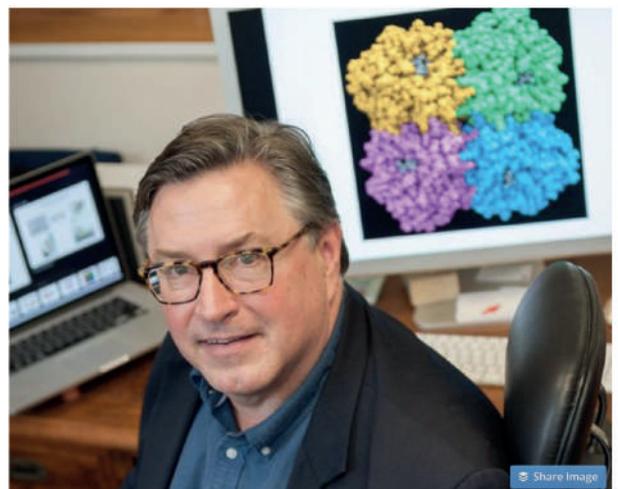
Monday, 29 May 2017

Germs are us

By Bruce Munro



Life & Style > Magazine



Professor Kurt Krause, director of the Webster Centre for Infectious Diseases, at the University of Otago, says microbial resistance demands an urgent rethink of our relationship with our microbes. Photo: Alan Dove Photography.

Faced with the grim prospect of a world without antibiotics, we're discovering microbes could be more important to our health than even our genes.

Bruce Munro talks to those who say radically rethinking our relationship with our body's 39 trillion microbes could literally be a matter of life and death.

Kurt Krause has had a rotten few hours.

The University of Otago biochemistry professor has already had a full day, including giving a lecture and tutorial at the medical school. Then things started to go wrong in one of the laboratories he oversees. A chromatography machine broke down mid-job.

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