UC SPCS Newsletter

School of Physical and Chemical Sciences/ Te Kura Matū

25th March 2022

Please send me your news articles, photos, travel diaries, conference reports or funnys by 9am each Friday.
Email sharlene.wilson@canterbury.ac.nz
You can find previous issues here https://www.canterbury.ac.nz/science/

Facebook(@PhysandChematUC)
Twitter (@UCNZ_PhysChem)
WeChat(Physical&ChemicalSciences)

Rudi's Report.

Kia ora koutou

Hope you had a good week, and that you will be able to relax over the weekend.

First of all, I would like to thank everyone for all their hard work during the last few weeks, dealing with omicron has not been easy.
The feedback from our students has been amazing, and they appreciate all the hard work that has gone into delivering our courses in hybrid mode.

I would also like to thank our demonstrators, tutors and teaching fellows (Alex, Nic, Sha, Zach) for all the hard work that they have been doing, it is fair to say that we would not be doing as well as we are without their efforts.

As you might be aware, we are in the middle of an expansion phase in the School.
Professor Dave Frame (atmospheric physics) joined our School recently, and Dr. Clare Worley (astronomy) will be joining our SPCS whanau in November.

We are in the middle of appointing two new lecturers in material sciences, and we are hoping to complete the process in the next 10 days or so. All the candidates are excellent, and the future for the School looks very exciting indeed. Please look after yourselves and each other.

Please do not hesitate to get in touch should you need any support.

Nga mihi nui
Rudi

Welcome to Professor Dave Frame.

Welcome to Professor Dave Frame, who has recently joined UC via a joint appointment between the School of Physical and Chemical Sciences and the School of Earth and Environment.

Dave has joined us from Victoria University of Wellington, where he was director of the New Zealand Climate Change Research Institute and an author on recent Intergovernmental Panel on Climate Change (IPCC) Working Group I assessments.

Dave will contribute to teaching in atmospheric physics and environmental sciences at UC, and we are excited that he is joining us.

Welcome Dave!

SMC Media Talk: In the news (or want to be)? Tips on communicating your research.

THURSDAY, 31 MARCH 2022 AT 10:00
Join us for an online session lead by the Science Media Centre (SMC) to learn how to talk about your science in the media! This session will help you to gain media savvy confidence, teach skills to aid you when talking to the media, and support you to discover how SMC can help you communicate more effectively.

Topics include:- What to do when your area of expertise is in the headlines
- Advice for busy researchers - making the most of opportunities
- Understanding the media landscape, the news cycle and timing
- Anticipating what journalists want from experts / researchers

Register for the talk here: https://airtable.com/shrO5JGQsaX9F3wam. We hope to see you (virtually) there!

For more details to join us remotely, follow the event online at https://www.facebook.com/groups/ucscicomm or email molly.magid@pg.canterbury.ac.nz.

Health, Safety and Wellbeing- Sharlene Wilson (H&S Administrator)

A-Z of Health and Safety at UC

2022 Professional Development

To enrol in Professional Development log in to UC People and navigate to the Professional Development tile.

Learning & Development Calendar 2022, including Health & Safety Training

07/04/2022
First Aid Refresher

21/04/2022
Te Reo Maori for the Workplace

05/05/2022
Rainbow Awareness

24/05/2022
Tangata Tū, Tangata Ora

01/06/2022
First Aid Refresher

07/06/2022
Finance Seminar - 55 years +

08/06/2022
H&S Rep Initial Training

14/06/2022
Finance Seminar - 25 to 35yrs

15/06/2022
Finance Seminar - 35 to 55yrs

16/06/2022
UC Business Case Workshop

28/06/2022
Tangata Tū, Tangata Ora

07/07/2022
Mental Health 101 Workshop

Clarification of RATs and masks.- Janet Carter

I have become aware of the need for clarification about the intended use of the UC supplied Rapid Antigen Tests (RATs), and the supply of surgical masks to students.

Rapid Antigen Testing

When the government widened the use of RATs to monitor the ongoing Omicron outbreak in Phase 3, UC purchased enough individual RATs to allocate up to 4 per staff member, if required. The intent is for staff who are asymptomatic and at work, to have one or two RATs at home, to use if they became symptomatic. If you haven't used all your allocation and you would like some, please contact your School Safety Officer.

The Uni Pharmacy is now a collection point for the Government free RAT tests for those experiencing symptoms or are a household contact of a COVID case. Information on how you can arrange collection has recently been posted on the UC COVID-19 notices – Free RAT Tests.

If you have COVID-19 symptoms it is important that you have a test. If in doubt, you can talk to your local healthcare provider or call Healthline on 0800 358 5453. Please do not return to campus if you are symptomatic, even if you have received a negative test result. Only return when you are no longer symptomatic. Please let us know if you are self-isolating so we can support you.

If you are a household contact of someone who has Covid-19, you need to isolate and test in accordance with the guidance provided by the Ministry of Health.

Students Face Masks

It is important for students to wear properly fitted surgical masks (e.g., blue medical masks).

UC are supplying surgical masks for students, staff, and visitors on campus.

Unless exempt, students can be asked to switch their cloth masks to a surgical one during indoor teaching or research activities (where supplied).

FM are currently installing dispensers at the entry points of the main buildings, e.g., Ernest Rutherford, at the main north and south entrances. In areas where the dispensers are not yet installed FM are leaving boxes of surgical masks, supplies are checked daily.

If you are aware of a building with teaching and research spaces that has not been supplied with masks, please lodge a request via BEIMS. The plan is to eventually have dispensers at the main entrances of all UC buildings.

A very big thank you for all the work you are doing in this very challenging time. Your commitment, flexibility and adaptability are very much appreciated.

Ngā mihi
Janet

Congratulations to ...

Please join me in congratulating Edoardo Galli on his excellent PhD defence today (4th March 2022).

Edoarado's thesis was "Nanoparticle Devices for Brain-Inspired Computing", supervised by Simon Brown, Susant Acharya, and Saurabh Bose. Franck Natali from VUW was the oral examiner.
I'm looking forward to seeing Edoardo in person again in the near future. It's not quite the same when everything is remote.
Best Wishes, Mike

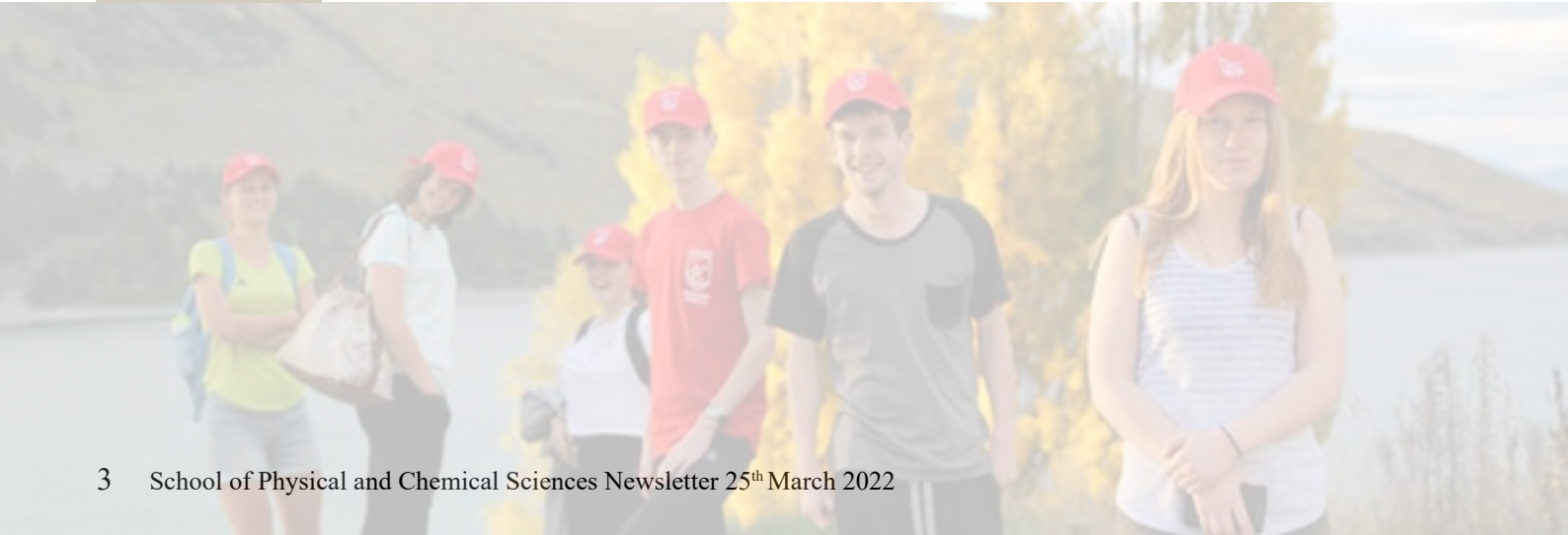
Congratulations to Rachel Bennie, who this morning (10th Feb 2022) successfully defended her PhD thesis entitled "Molecular Modelling Prediction of Estrogen Mimicry and its Biological Consequences in Estrogen Receptor Positive Breast Cancer Cells"
Rachel was supervised by Prof. Ian Shaw and Dr John Lewis.
Well done Rachel!
Ngā mihi
Brett

Congratulations to Claire Chambers
Claire Chambers defended her PhD (21/01/2022) on Material Identification and Quantification using MARS Spectral CT.
Claire's senior supervisor was Phil Butler.
Ge Wang had interesting and penetrating questions from his location in Rensselaer Polytechnic Institute (USA), and the panel was impressed by how well Claire answered them.
Congratulations, Claire!

It gives me great pleasure to advise you that Nic Bason (8th December 2021)successfully defended his PhD thesis today. Nic's thesis was titled, 'Oligo-Aryl Acenes and Oxidative Cyclodehydrogenation', and carried out under the supervision of Chris Fitchett. The viva voce exam was conducted by Assoc. Prof. Nigel Lucas (Otago); Prof. Jonathan White (Melbourne) was the external examiner.
Ngā mihi,
Paul (exam chair)

It is my great pleasure to announce Shailendra Sharma's successful defence of his PhD thesis this morning(7th Decemeber 2021). The title of his thesis is "Synthesis and Activation of Metal Cluster-based Electrocatalysts for CO2 Reduction", and his supervisors were Vladimir Golovko and Aaron Marshall (CAPE). By all accounts, Shailendra has produced an excellent thesis and also gave an excellent defence of it this morning. Please join me in congratulating him on his achievement!
Owen Curnow
(Chair)

Xin Qiu successfully defended his PhD thesis yesterday (22nd November 2021). Xin's thesis was titled, 'New Protecting Group Free Transformations of Carbohydrates', and he was supervised by Prof. Antony Fairbanks. The viva voce exam took place over Zoom and Xin was examined by Prof. David Larsen (Otago).
Congratulations, Xin!
Ngā mihi,
Dan



PhD Research Scholarship Opportunity in NMR analysis of illicit drugs

Department of Chemical and Process Engineering, University of Canterbury

We're looking for a highly-motivated PhD applicant to join our multi-disciplinary team, to work on developing a field-invariant NMR spectroscopy database for the analysis of illicit drugs.

The project

Illicit drug use is a major cause of harm, particularly for young New Zealanders. Recent research has demonstrated that drug checking services can reduce the harm caused by illicit substances by providing users and agencies with intelligence about drugs in circulation, allowing for more informed decision making. In many cases, harm is caused because users inadvertently consume a different substance to that intended, or the dosage is different to that expected. For example, in early 2021, drug checking services such as Know Your Stuff and the Institute of Environmental Science and Research (ESR) identified eutylone being distributed as MDMA and were able to connect this with severe adverse reactions in users. Early identification enabled users to make informed decisions about whether to consume substances. However, existing drug checking services cannot provide the quantitative information on the composition of substances, which is key intelligence to mitigate the risks of illicit substances. This project seeks to develop automated analysis of illicit substances by Nuclear Magnetic Resonance (NMR) spectroscopy.

NMR is a powerful analytical technique that provides both identification and quantification in a single measurement. Recently benchtop NMR instruments have become available that make NMR an affordable and accessible technique. The project is a collaboration between the University of Canterbury (UC) and ESR. UC has developed a new analytical tool that uses quantum mechanical (QM) modelling of the NMR signature to enable accurate quantification of mixtures of substances using benchtop NMR. ESR provides primary analytical chemistry and forensic services for the analysis of illicit drugs in New Zealand. We are now collaborating to develop a tool for the automated quantification and identification of illicit substances, including impurities and cutting agents, using benchtop NMR. This project will focus on developing the spectral database and database searching techniques required to support the use of benchtop NMR for analysis of illicit drugs.

Requirements

The ideal candidate has a chemistry or chemical engineering Honours / Master's degree. Knowledge of analytical chemistry, nuclear magnetic resonance (NMR), and Python and/or MATLAB are advantageous. However, we are willing to provide training in the areas they are unfamiliar with if they do not meet the requirements above.

Funding and Opportunities

The successful applicant will receive a tax-free annual stipend of NZ$27,000 for three years, with additional funding to cover expenses such as tuition fees, Student Services Levy, consumables, as well as travel and accommodation costs for international conferences (if possible).
This project is hosted at the University of Canterbury, in collaboration with ESR.

For further information and to apply:

Please contact Professor Daniel Holland (daniel.holland@canterbury.ac.nz). Your cover letter, current CV, and undergraduate and postgraduate transcripts should be included in the application.

Professor Jim Coxon Graduate Prize

Please join me in congratulating Hadee Thompson-Morrison on being awarded the Professor Jim Coxon Graduate Prize in Chemistry.

This fund supports postgraduate Chemistry students to present their research results at a national or international conference.

Well done Hadee!

Online Author Symposium on Journal and Book Publishing -John Arnold

31st March (Thursday), 2:00pm to 4:00pm NZST.

Looking to get published? Springer Nature is hosting an Online Author Symposium on Journal and Book Publishing on 31st March (Thursday), 2:00pm to 4:00pm NZST. There will be a focus on the Open Access agreement that Australian and New Zealand Universities have in place with Springer Nature and how you can get the most out of it.

Location: Go to Webinar (https://bit.ly/3pS0WJG)

Find out about the role of publishing in today's academic environment, how to decide what publications are right for your research, and what new developments such as open access mean for academics and researchers. There are tips for early career researchers and advice on how to get published.

- A journal editor's perspective (2pm)
- What a Journal Editor Looks for in a Manuscript
- Anatomy of a Good Original Research Article
- Editorial Process – Peer Re view and Revision
- Open Access Publishing
- Journal Selection Academic book publishing with Springer Nature (3pm)
- Introduction to Springer Na ture
- Book Types and Book Series
- Book and Research Distribu tion
- The Book Publishing Process
- Open Access for Academic Books

You can register for the Symposium using the link below:
Register here (https://attendee.gotowebinar.com/register/3043907103634597390

Your Presenters:
Alison Fitches is an Auckland based Editor and is part of the Springer Nature Adis publications team. She is Editor-in-Chief of the journal Molecular Diagnosis & Therapy and is also a Section Editor for the Adis journal Drugs, Drugs & Aging, Pediatric Drugs and CNS Drugs, covering Pain & Anaesthesia, Nephrology & Urology and Ophthalmology. She joined Springer Nature 8 years ago, from the University of Otago.

Vishal Daryanomel commissions research books on Politics, Business Management and Economics for Palgrave Macmillan. He is based in Singapore, and works with authors from Southeast Asia, Australia and New Zealand. He commissions monographs, edited volumes, reference works, handbooks, textbooks and Palgrave Pivots.

Library News-John Arnold

Please try out the new SciFindern and give us your feedback.

You can find the link to the database, user guides and the survey for feedback at https://bit.ly/31C33G8 (Biochemistry Subject Guide) or https://bit.ly/2AuJ7Kg (Chemistry Subject Guide)

New books and ebooks:
* Astronomy http://bit.ly/xntPcH
* Chemistry http://bit.ly/2GYps4U
* Physics http://bit.ly/wafgjA
* Teaching support from UC Library https://bit.ly/3C8pCCm
* Adaptable new-titles-list generator http://bit.ly/1brTI3E

ArXiv.org Reaches a Milestone and a Reckoning
(Scientific American)
https://bit.ly/3ticeI0

Open-access Science in the Misinformation Era
https://bit.ly/36ZejkD

Missing the Bar: How People Misinterpret Data in Bar Graphs
(Wellesley College)
https://bit.ly/3vzDvbu

On the Lighter Side
Babies Natural Scientists
(Saturday Morning Breakfast Cereal)
https://bit.ly/3McrleN

Destiny
(Saturday Morning Breakfast Cereal)
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