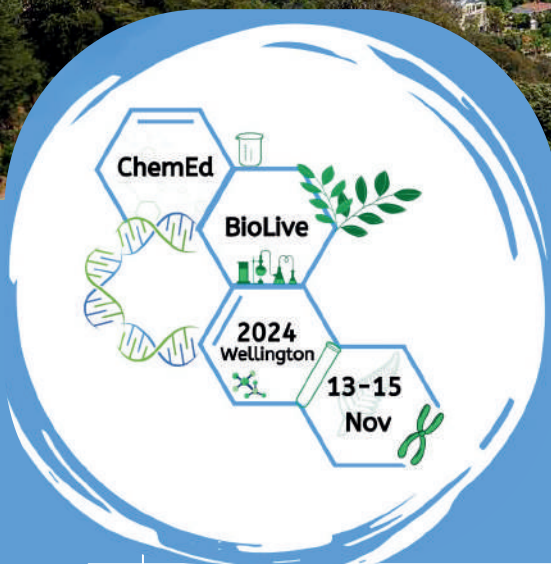


ChemEd & BioLive 2024



Wellington | Te Whanganui-a-Tara
13 - 15 November 2024

Nau te Rourou, Naku te Rourou, Ke Ora te Manuhiri

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Welcome

Tēnā koutou, nau mai haere mai;
Welcome to ChemEd BioLive 2024.

Nau te rourou, naku te rourou, ke ora te manuhiri.’
‘With your food basket, and my food basket, the people will flourish.

The 2024 ChemEd BioLive committee, in association with BEANZ and SCENZ, warmly welcomes you to our conference. We are most grateful to Te Herenga Waka, Victoria University of Wellington (VUW) for hosting us. We are excited to give teachers of Chemistry, Biology and Science a chance to connect, gain inspiration from both national and international speakers, and experience some of Wellington’s scenic, scientific and cultural highlights.

In addition to our keynote speakers there will be opportunities through workshops to catch up on the latest scientific research, hear about pedagogical approaches that colleagues are using to enhance learning in Chemistry, Biology and Science, and engage with hands-on practical activities. Field trips will also be available on the Thursday afternoon, featuring local venues that involve Science in their endeavors. The central location of VUW provides ready access by public transport, with entertainment, dining and shopping options within walking distance.

We acknowledge Taranaki Whānui, Ngāti Toa Rangatira, and Ngāti Raukawa ki te Tonga who are mana whenua around the Wellington area. We acknowledge our sponsors, which by their support allows us to keep registration fees to an absolute minimum. We thank teachers who will be volunteering their time and resources to share their presentations with us, and we look forward to the opportunities in collaboration, innovation and professional development that ChemEd BioLive 2024 will offer. ‘Nau te rourou, naku te rourou, ke ora te manuhiri.’ ‘With your food basket, and my food basket, the people will flourish.’ We hope you have an enjoyable and productive time here in Wellington.



Thanks to our sponsors

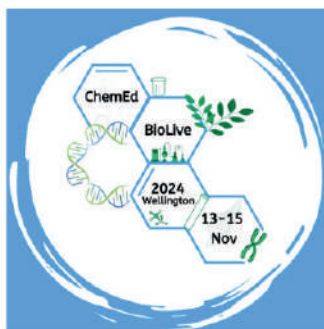
This conference would not be possible without the support of all our sponsors, who are listed below:

ChemEd BioLive

Te Herenga Waka | Victoria University of Wellington

13 - 15 November 2024

Nāu te rourou, nāku te rourou ka ora ai te manuhiri





SCIPAD (Gold)

At sciPAD, our mission is to empower and support science teachers and learners across New Zealand by providing innovative, high-quality educational resources tailored to the New Zealand curriculum that address the evolving needs of science education.

Our comprehensive range of workbooks, digital tools, and supplementary materials are designed to engage students and enhance their understanding of complex scientific concepts.

We are incredibly proud to be Gold Sponsors of this conference. We recognise and deeply appreciate the invaluable support we have received from teachers, and our sponsorship of ChemEd BioLive is a testament to our commitment to supporting and empowering educators. By partnering with educators, we strive to create a community dedicated to academic excellence and innovation in science teaching.

We can't wait to see you at ChemEd BioLive to learn more about how Team sciPAD can support your teaching journey and help you inspire the scientists of tomorrow.



BIOLOGY EDUCATORS OF AOTEAROA NZ

TE RŌPŪ WHAKAAKO KOIORA O AOTEAROA

BEANZ (Gold)

What can BEANZ offer Members?

- In person support via our trained facilitators and regional representatives.
- Scholarships to attend conferences that will cover conference registration and travel expenses.
- Research scholarships to develop unique relevant materials for other teachers to use in their teaching and learning programmes.
- Access the QAAM tasks Access to quality practice examinations for L3 Bio and Scholarship.
- Access to a resource kete for Biology topics from year 7-13.
- Access to online Webinars.
- Opportunities to meet teachers from all over NZ.
- Opportunities to grow your profession with leadership roles within the organisation and collaborations with the Ministry of Education, Teacher Development Aotearoa, PPTA and NZQA.

SCENZ (Gold)

The Secondary Chemistry Educators of NZ (SCENZ) is a national chemistry teachers' subject association, which was established to support and promote chemistry education throughout New Zealand.

The association operates under the umbrella of the New Zealand Institute of Chemistry (NZIC) to provide a voice for chemistry teachers with the Ministry of Education and NZQA. SCENZ also provides resources, PLD and financial support for members to meet the aims of our constitution at https://nzic.org.nz/unsecure_files/scenz/Constitution.pdf

Our current focus areas include providing:

- Resources and PLD to support the introduction of the new L1 Chemistry standards
- Professional input into the development of the NZ Science curriculum and L2/3 NCEA.
- Support and mentoring for new, isolated or non-specialist teachers of chemistry



Maurice Wilkins Centre (Gold)

The Maurice Wilkins Centre (MWC) is a New Zealand Centre of Research Excellence (CoRE) focused on improving health outcomes from serious diseases: cancer, diabetes and metabolic diseases, and infectious diseases.

As well as aiming to improve the long-term health outcomes of Aotearoa New Zealand, the MWC is committed to supporting teachers and young scientists in their understanding of biomedical sciences. Some of our approaches include:

- School outreach
- Annual high school teacher professional development days
- Sponsorships for teachers to attend Queenstown Research Week (New Zealand's most successful and relevant annual biomedical conference)

Our events enable teachers to familiarise themselves with the latest biomedical research and make connections with scientists who could potentially interact with individual schools.

Find Maurice Wilkins Centre here:
<https://www.mauricewilkinscentre.org/>



VICTORIA UNIVERSITY OF
WELLINGTON
TE HERENGA WAKA

Te Herenga Waka – Victoria University of Wellington (Gold)

Victoria University of Wellington is one of New Zealand's oldest and most prestigious tertiary institutions with a proud tradition of academic excellence.

Our internationally recognised staff are at the forefront of groundbreaking scientific research. From exploring the connection between tropical cyclones and warming at the South Pole, to investigating New Zealand plant molecules and possible solutions to Kauri dieback, to ensuring equitable access to healthcare for Māori and Pasifika communities, we're leading global knowledge and using modern technologies to address longstanding challenges.

Our commitment to science education extends beyond our campus through our comprehensive outreach programme. We actively support science teachers across Aotearoa, providing curriculum-linked resources for classrooms and regularly engaging with schools—our staff and students are happy to share their knowledge to inspire the next generation of scientists. Our tailored outreach can be adapted to suit any classroom's needs, fostering a love for science from an early age and strengthening the pipeline of future STEM professionals.

Find out more: www.wgtn.ac.nz

Silver Sponsor



ESA Publications has been a leader in providing quality print educational resources for teachers and learners since 1985. Since our first Study Guides, through to our current range of over 340 books, you'll find ESA Publications books in most New Zealand schools. Whether you're looking for print or digital, or a combination of both, LearnWell has the resource you're looking for.

Find LearnWell here: <https://learnwell.co.nz/>

Bronze Sponsors



LearnCoach



Te Mana
Tangata Whakawhanake
**MacDiarmid
Institute**
Advanced Materials
& Nanotechnology



ecp
laboratory & research chemicals



Keynotes

Nicola Nelson

Dean of Science, Victoria University of Wellington

Tuatara conservation has been founded on understanding the biology of sex determination, disease ecology and restoration of populations. Nicky will present case studies on research into aspects of the biology of tuatara that have supported their removal from the threat list and empowered iwi to manage their taonga, while also demonstrating the risk to reptiles with climate warming and opportunities for local conservation initiatives for lizards.



Peter Mahaffy

Professor of Chemistry, King's University, Edmonton

Peter Mahaffy, a 3M National Teaching Fellow and Professor of Chemistry at King's University in Edmonton, Canada, directs the King's Centre for Visualization in Science, which provides widely-used digital resources for science learning. His work focuses on chemistry education, sustainability, and the use of interactive visualization tools.

Mahaffy has held prominent roles, including chair of IUPAC's Committee on Chemistry Education and member of the International Council of Science's Committee on Freedom and Responsibility. He contributed to the Nobel Peace Prize-winning Organization for the Prohibition of Chemical Weapons and currently co-chairs an IUPAC project on systems thinking and sustainability in chemistry. His contributions have earned him numerous national and international awards.



Ian Shaw

Professor of Toxicology, University of Canterbury

Ian will explore the chemical interactions between toxic chemicals and biological systems. He'll illustrate his talk with his research on the fumigant methyl bromide – a banned pesticide still used in NZ – and its health implications, the estrogen receptor and molecules that mimic its natural ligand 17 β -estradiol and their implications for breast cancer, and androgens as drivers of prostate cancer cell growth and development. He'll finish his talk with a brief foray into some of the molecules that you might prefer not to encounter in your food.



Meet the team



Hayden Kleiss (co-convener)
*Assistant Head of Science,
Wellington College (chemistry
teacher)*

Erica Jar
*Senior Vice President of
BEANZ*

Rachael Anderson
*Physics and Chemistry
teacher - Wellington College*

Heena Shah
*Ashburton College, Head of
Chemistry.*

Robin Fulton
*Associate Dean, Learning
and Teaching, Wellington
Faculty of Science Te
Wāhanga Pūtaiao*

Teneya Nicol
*Outreach and Recruitment
Adviser (STEM), Future
Students, Te Herenga Waka |
Victoria University of
Wellington*

Gemma Cook
*Tauranga Boys College -
Chemistry*

Phil Kendon (co-convener)
*HOD Science, Wellington
College, Wellington SCENZ
Regional representative*

Allan Smith
BEANZ Administrator

Suzanne Boniface
Treasurer for SCENZ

Emma Stoddart
*Chanel College, Wairarapa -
BEANZ representative*

Diane Ormsby
*Senior Lecturer Program
Director, Biology*

Tu Temaea,
*Mata Awhinuku (Marae
Operational Manager), Marae
o te Herenga Waka - Victoria
University of Wellington*

Paul Holmes
*Fmr Wellington Girls College -
Chemistry*

Good to know information

Health and Safety

For medical assistance while on campus call Campus Safety - 0800 842 8888.

If a person has sustained a severe injury or is very unwell call Wellington Free Ambulance on 111 from a cell phone.

Please also contact Hayden Kleiss, Phil Kendon and Diane Ormsby following an incident

Anyone participating in a lab or field trip must be wearing closed toe shoes.

Wi-fi Access

You will have access to complimentary Wi-Fi for the duration of the conference.

You can access the Wi-Fi by selecting “VUWguest” option and then click the button “Don’t have an account?”.

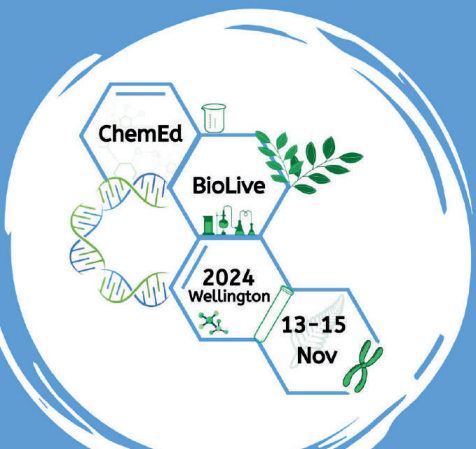
It will then ask for guest details (name, email) and will allow access for 2 weeks.

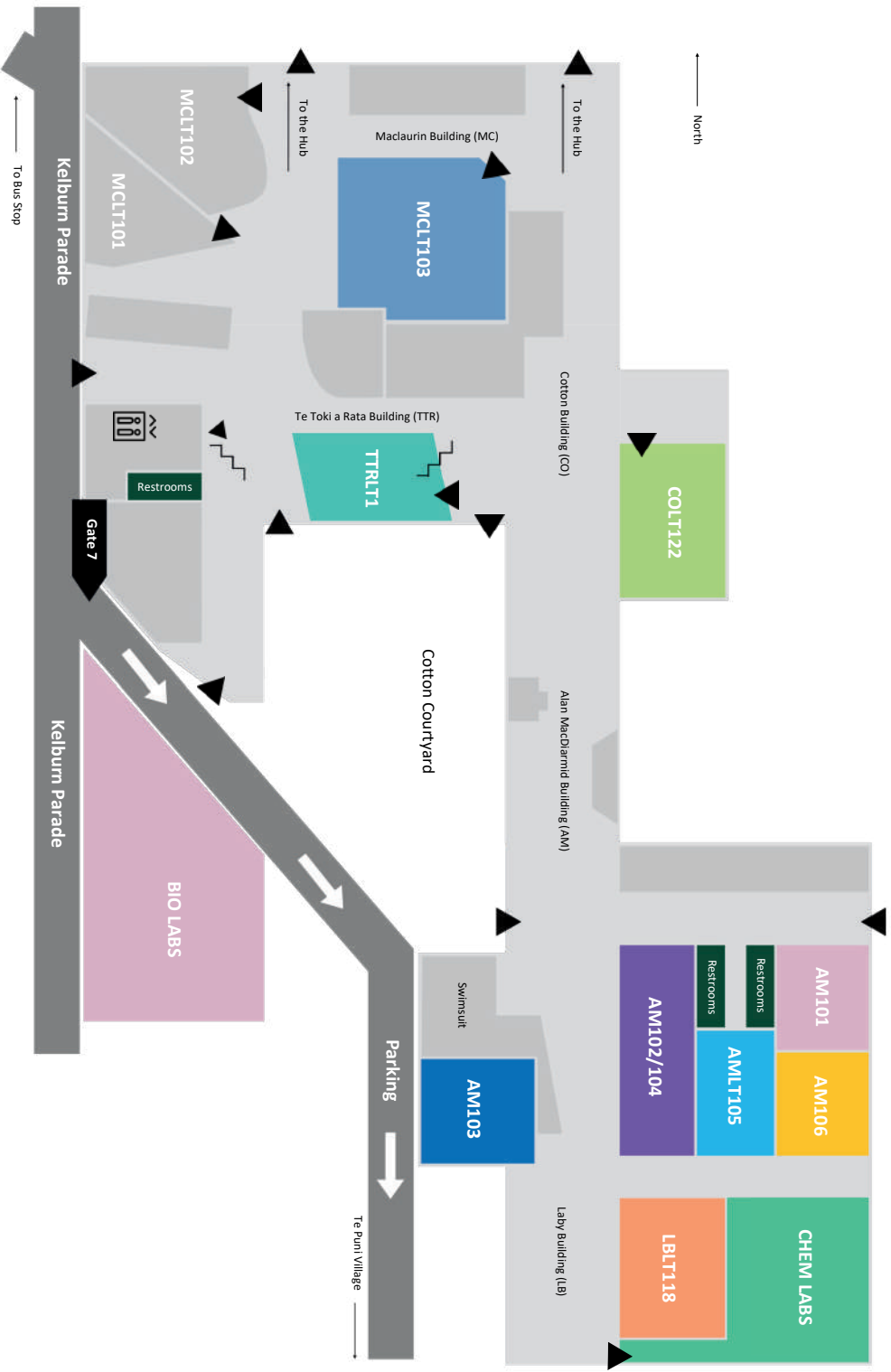
Key Contacts

Hayden Kleiss (027 964 3368)
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chemedbiolive@gmail.com

Phil Kendon (021 025 64841)
p.kendon@wc.school.nz
chemedbiolive@gmail.com

Diane Ormsby (027 327 5696)
diane.ormsby@vuw.ac.nz





WEDNESDAY



7:45AM

REGISTRATION OPEN

8:30AM

MIHI WHAKATAU / WELCOME

9:00AM

KEYNOTE

10:00AM

MORNING TEA

10:35AM

SECONDARY KEYNOTE

11:40AM

WORKSHOPS

WEDNESDAY



12:55PM

LUNCH

2:00PM

WORKSHOPS

3:15PM

AFTERNOON TEA

3:45PM

BEANZ FORUM

4:30PM

BEANZ EXEC MEETING

6:30PM

SCIPAD QUIZ NIGHT

THURSDAY



7:30AM

**BEANZ BREAKFAST FOR
REGIONAL REPS**

8:30AM

CONFERENCE START

9:00AM

KEYNOTE

10:00AM

MORNING TEA

10:35AM

SECONDARY KEYNOTE

11:40AM

WORKSHOPS

THURSDAY



12:55PM

LUNCH

2:00PM

FIELDTRIPS

Field trips in science aren't just about escaping the classroom - they're about diving headfirst into real-world experiences that ignite curiosity and foster a deeper understanding of the natural world.

Plus, what better place to do this than in the vibrant city of Wellington?



4:30PM

FIELDTRIPS RETURN

6:00PM

CONFERENCE DINNER

FIELD TRIPS

DOUBLE VISION BREWERY, MIRAMAR

Learn about their beginnings, and how their brewers create a variety of unique beer styles. There will also be a talk about their creative solutions to challenges, such as generating their own carbon dioxide during a national shortage. To top it all off, there will be a free beer tasting to finish the talk and tour!

NIWA

An exciting trip where you will explore the fascinating world of water and atmospheric sciences. In small groups, you will view:

- National Invertebrates Collection
- Gas lab - atmospheric chemistry processes
- Ocean acidification demo/experiments
- Demo about kina nourishment and/or kelp carbon experiment

ZEALANDIA

The world's first fully-fenced urban ecosanctuary, aiming to restore the valley's forest and freshwater ecosystems to their pre-human state within 500 years. Located around a scenic reservoir, Zealandia is home to some of New Zealand's rarest wildlife, all thriving in this protected sanctuary.

FIELD TRIPS

GILLIES MCINDOE INSTITUTE

Gillies McIndoe Institute is an internationally recognised research institute with world-class laboratories. We exist to find better ways of treating cancer, vascular birthmarks (strawberry birthmarks), and fibrotic conditions. Come along to hear about the latest research and how a state of the art research lab operates.

WELLINGTON CHOCOLATE FACTORY

Some of Aotearoa's highest quality, organic, ethically sourced chocolate all the way from Bean to Bar. The story began with a direct-trade relationship with a grower in Bourganville, a retired ballistics engineer who created the trilling machine, and a grinding machine from India. The tour will show you all the steps of how chocolate is made and will include some tasting of Wellington Chocolate Factory's epic chocolate bars.

FERRIER RESEARCH INSTITUTE

The Ferrier Institute is a group of Organic Chemists and Biochemists doing a mix of fundamental, applied and commercial research alongside graduate teaching and student supervision. Tackling scientific issues related to health, wellbeing and environmental sustainability.

FIELD TRIPS

WELLINGTON ZOO

New Zealand's first Zoo and a place of excellence in animal care, welfare and conservation. Te Nukuaio offers curriculum-linked Learning Workshop visits that spark ideas and extend classroom learning in an exciting and engaging EOTC context. Come to get a glimpse behind the scenes at the work of the Zoo.

NZ MARINE STUDIES CENTRE, WORSER BAY

A range of hands-on programmes and resources designed to immerse students, teachers and whānau in learning more about their local marine environment and strengthening connections to it. Explore the diverse rocky shore using new Marine Meter Squared tools and a range of sampling methods to monitor changes taking place in the coastal environment.

CALLAGHAN INNOVATION

Te Pokapū Auaha Callaghan Innovation is a government agency that provides a hub for scientists and entrepreneurs to enable them to grow their innovative ideas into commercial successes. Come and discover more details on the latest developments.

FIELD TRIPS

VICTORIA UNIVERSITY STAR TOUR

Health and safety requirement: participants must wear closed shoes to be able to enter the labs.

Science, Technology, Art and Reptile (STAR) is an exclusive and personalised tour of our state-of-the-art science laboratories, a close encounter with tuatara, and an Art tour of selected works in the Ngā Puhipuhi o Te Herenga Waka—Victoria University of Wellington Art Collection displayed in the public spaces of the university where students and staff encounter them daily.



FRIDAY



9:00AM

CONFERENCE STARTS

9:15AM

KEYNOTE

10:15AM

MORNING TEA

10:15AM

SCENZ FORUM / AGM

11:15AM

WORKSHOPS

12:30PM

CLOSING

THINGS TO DO IN WELLINGTON

WELLINGTON CABLE CAR AND BOTANIC GARDEN

Take a historic cable car from the heart of the city up to the Botanic Garden. At the top, explore beautiful gardens, check out the Cable Car Museum, and enjoy a scenic view of Wellington.

WELLINGTON WATERFRONT AND ORIENTAL BAY

Ideal for a scenic stroll or relaxing by the bay. With a wide range of cafes and public art installations, it's a great place to enjoy Wellington's harbor views.

TE PAPA MUSEUM

Location: 55 Cable Street, Wellington Waterfront

Cost: Free

A must-see national museum offering interactive exhibits on New Zealand's history, culture, and natural environment.

CUBA STREET

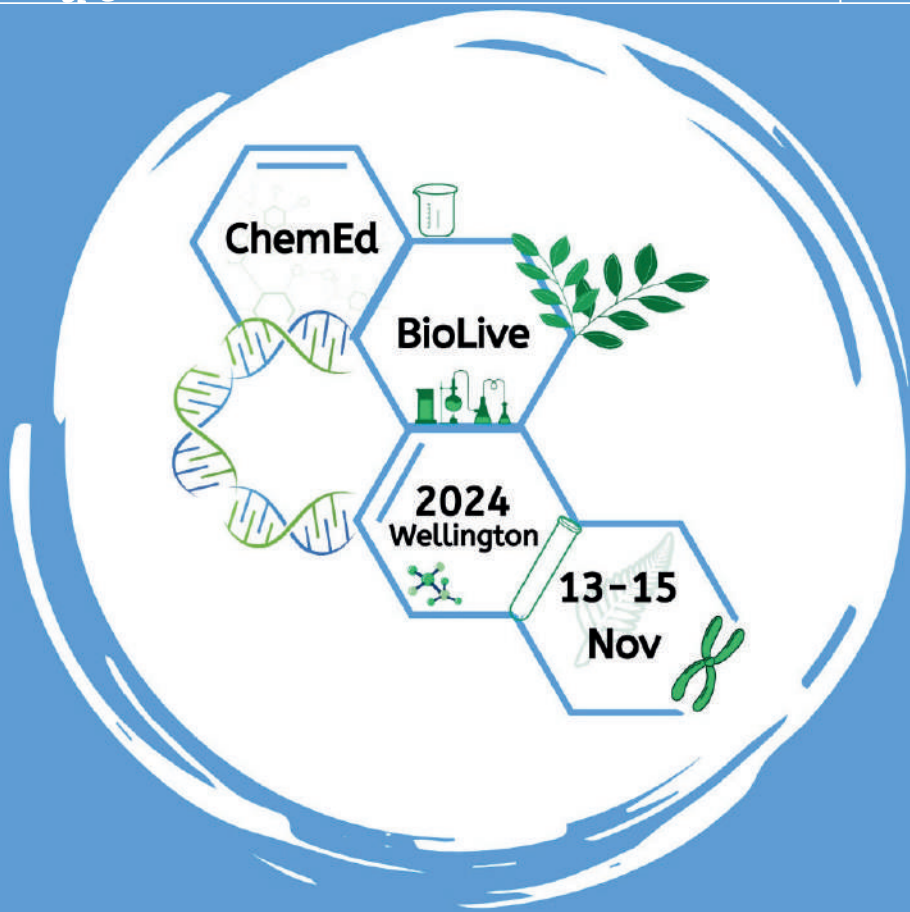
Location: Central Wellington
Known for its vibrant, bohemian atmosphere, home to an eclectic mix of cafes, restaurants, street art, and unique shops. Perfect for a leisurely afternoon of exploring and people-watching.

Notes for you :

Notes for you :

Notes for you :

Made by Liana Wheeler



Made by Hayden Kleiss