



**BIOMEDICAL
RESEARCH
VICTORIA**

INNOVATING FOR HEALTH

BioMedVic
News

BioMedVic News - March 2016

Through an international lens ...

It's often difficult to gauge just how highly Victoria's health and medical research capabilities are respected until you leave our shores.

From 24 February - 2 March inclusive I was part of the 2016 City of Melbourne Business Missions to China and Medical Japan, the latter also involving the Victorian Government. China and Japan are respectively Australia's first and second largest trading partners and among the most innovative nations in the world, so the mission offered me the chance to promote the life sciences research capabilities of the state and in particular of the members of Biomedical Research Victoria.

For those unfamiliar, Medical Japan is held in Osaka and is Japan's pre-eminent specialized expo covering the healthcare, innovation, regenerative medicine, clinical testing, diagnostics, medicine and health IT sectors.

One of my Medical Japan 2016 presentations was a seminar organised by the Forum for Innovative Regenerative Medicine and attended by >20 key representatives from the Japanese industry. I also spent time at the City of Melbourne-Victoria pavilion meeting expo delegates and discussing ways in which BioMedVic can facilitate development of collaborations between Japan and Victoria across all of our health, biomedical, biotech and medtech sectors. And I even had my pic taken for the promotional [flyer](#) for next year's expo!

Prior to the expo I spent two days in meetings with the new Dean of the Osaka University Graduate School of Medicine (OU-GSM), Professor Yoshiki Sawa, with members of his faculty and also with leaders of the Medical Center for Translation and Clinical Research (in the Department of Medical Innovation, Osaka University Hospital). One year on from the signing of a Memorandum of Understanding, OU-GSM and BioMedVic are now building initiatives to advance common goals such as bringing Osaka-trained medicos out to participate in translational research training programs in Victoria. We are also planning to add to the growing exchange between Osaka and Melbourne of keynote symposium speakers with initial talks suggesting suitable topics could be in the cardiac, neuroscience and regenerative medicine fields.

The China portion of the mission started with a busy 3½ -day schedule in Beijing and Tianjin and included excellent updates on the Free Trade Agreement by the Chinese Ministry of Commerce, Business Roundtables organized by Invest Beijing and a series of interesting and potentially productive 1 on1 business matching meetings with Tianjin-based organisations that had been strategically set up by the City of Melbourne. One take-

home message was that organisations in China are extremely interested in potential collaborations with Victorian researchers and health and medical research organisations, from discovery through to research translation and its commercialization.

Further evidence of the high level of international interest in Victoria's biomedical research capabilities came via the 'full house' of attendees at a short presentation I gave on 18 March at the Victorian Government's VIP *International Health Week Industry Day*. Not only was there huge interest in general from the delegates from China, India, Indonesia, Malaysia and Korea, it was interesting to note the focus of their questions on Victoria's research capacity and expertise in the area of clinical trials.

There has also been lots happening on home soil and I will fill you in on that, including an update on the exciting BioMedVic Researcher in Residence program, next month.

Best wishes,

Jan Tennent, CEO BioMedVic

BioMedVic Activity Scorecard



2 International Trade Missions



Communication Professionals Forum



VIP International Trade Expo



UROP Round 1 Opened



3 Advisory Group & Committee Meetings



3 Presentations at Events & Seminars

Last chance to submit a UROP Project!

UROP Project submission deadline has been **extended to Monday 4 April 2016**.

Once again, the UROP office has received a huge number of high-calibre student applications for this exciting scheme.



To be matched with an enthusiastic and motivated undergraduate student, new and past supervisors are encouraged to submit a UROP project for Round 1-16. UROP scholars successful in gaining a placement in this round will start their placement in the winter semester break.

For more information about UROP and project submission guidelines, click [here](#).

BioMedVic Event Review

Collaboration and Idea Sharing explored at the BioMedVic Communications Professionals Forum

Story telling is a skill that never dates. However, where we once sat around a fire and talked about the current news, we now check our smartphones to read the latest on our social media feeds.

People are plugging into podcasts, short videos meet limited attention spans and content interaction is king! In this explosion of media and channel opportunities, how does the biomedical sector not only keep up, but lead?

The BioMedVic Communications Professionals Forum, held in early March, provided an environment for media advisors, digital managers, marketing producers and event coordinators from across Victoria's biomedical sector to discuss opportunities to stay ahead of the technology curve and continue to deliver engaging content.

We heard about how biomedical research and health organisations are approaching the challenge of developing their websites.

We reviewed the changing face of the media and sought new perspectives on connecting with audiences and spreading our message.

We examined the reality of supporting our income activities, encompassing donors, government and funding bodies.

“[The] website revolutions [session] was very interesting, with insights on audience and managing complex organisations,” -
Attendee feedback

“Story telling: very concrete tips on how to engage not only with our audiences, but also with media specialists and journalists,”
- *Attendee feedback*



Enthusiastic forum attendees agreed that to produce outstanding health and medical research communications, we must create networks, share ideas and drive collaboration between our organisations and institutes.

Different messages through different channels

A key conversation topic running throughout the event focused on targeting our audiences. Specifically, how do we deliver distinct messages to identified groups through different methods?

We communicate with scientists, doctors, students, nurses, patients, friends and family, donors, collaborators, supporters and many more including the vaguely described general

public. We use websites, news releases and interviews, social media, public events and publications to deliver our stories.

The platforms are dynamic, our messages are evolving, but the need for a story remains the same.

Our medical and health discoveries continue to accelerate, producing real outcomes for the community. The role of professional communicators is to be the story-teller for these exciting advances, delivering inspiring stories to the right people, using the best method



and motivating engagement.

*Lee Byrne, Online and Internal Communications Manager
Walter and Eliza Hall Institute*

UROP@BioMedVic in the News

C3 internship pays off for scientist after UROP placement

UROP Alumni Nicholas Rosa and his UROP supervisor Dr Janet Newman featured in an article in The Australian on 24 February 2016.



Just months after finishing undergraduate studies, Nick Rosa has title credits on two scientific papers, not to mention a full-time job. And he is the architect of a crowdsourcing app known as Cinder, which has been described as Tinder for crystallography.

“That’s not bad for somebody who’s just finished third year,” says Janet Newman, director of CSIRO’s Collaborative Crystallisation Centre — better known as C3 — where Rosa started work as a part-timer in 2014.

Rosa admits he’s “ahead of the curve” when it comes to his career. It hit its straps when he secured an internship with C3, arranged through Victoria’s unique Undergraduate Research Opportunities Program.

The flagship education program of peak body Biomedical Research Victoria, UROP matches Victorian science, technology, engineering and maths undergraduates to part-time placements — typically one day a week — in local research labs.

Tomorrow the scheme launches its 25th intake, having helped an estimated 560 budding scientists and technologists over the past 12 years.

“What distinguishes UROP is that it’s usually 12 months placement in parallel with undergraduate studies, and it’s a paid scheme,” says Biomedical Research Victoria chief executive Jan Tennent.

She says about 70 per cent of UROP students proceed to higher degrees.

And participants often secure full-time work with the labs where they complete their placements — a trend she attributes to the calibre of the students.

Newman says that was the case with Rosa. “Somebody in my lab was moving into a different area, and Nick had a combination of computer science skills and a biology background, which is unusual,” she says.

C3 produces protein crystals for clients both within and outside CSIRO.

Crystals enable structural biologists to visualise proteins in three dimensions, and C3 has assisted researchers studying topics such as cancer therapeutics, bioremediation, grape-ripening enzymes, and proteins that protect platypus milk from bacteria.

To cultivate protein crystals, C3 mixes chemicals into droplets containing concentrated protein samples. Many attempts are needed for each protein, as it is impossible to predict which combination of chemicals will work.

The droplets are photographed over many weeks, with the images scrutinised for signs of crystallisation — which happens in less than 1 per cent of droplets.

The agency decided to outsource this work to the crowd, through a Tinder-like app that allows users to swipe right when they see a crystal.

The information is being used to train machines to detect crystals automatically, much like the approach Facebook took to develop face recognition tools.

Rosa, who had already participated in two projects for C3, was asked to stay on to develop the app. He says a strong background in biology helped, even though he was chosen for his computer skills. C3 employed him full-time after he completed his degree last year.

Newman attributes UROP’s success to careful matching between students and projects.

“(It) is very good at winnowing out on both sides, and doing the matchmaking in between. That gets around the problem of having people who are eager, but sort of clueless,” she says

Tennent says a lack of projects is hampering the program. She says each six-monthly round attracts about 250 student applicants, whittled down to a shortlist of 60 or 70 — all vying for about 25 projects.

“If I had 60 projects each round I could find 60 talented students that would fit the bill,”

she says.



Celia Vandestadt loves zebrafish. Really loves zebrafish!

The enthusiasm of UROP Alumni Celia Vanderstadt for her research was palpable as was her endorsement of the UROP program in her interview with ABC Tasmania Evenings’ Melanie Tait on ABC Radio across Victoria and Tasmania on 3 March 2016.

The animals are what Celia calls “king regenerators” – they have the capacity to regenerate any nerve that is injured and, being see-through, scientists can literally watch the regeneration within the living fish. Add to that the fact that they share 85% genetic similarity to humans when it comes to diseases they share, and it’s clear why zebra fish are one of the world’s great ways to study how the nervous system works.

Celia Vanderstadt is doing her PhD studies at Monash University’s Australian Regenerative Medicine Institute (ARMI). Using different fluorescent markers, she can literally watch how drugs used to treat humans who have experienced nerve cord damage can alter the inflammatory process in the zebra fish. “By putting different drugs into the solution holding the fish – and watch the regeneration process with the help of fluorescent fish – we can determine just how these drugs work,” she said. “We can add different drugs to the fish solution and monitor the effect on the inflammatory and regeneration processes thanks to the help of coloured cells within the living fish.”

In 2013 Celia won a UROP placement at ARMI and in 2016 she went on to be one of 17 people in all disciplines nationally to be awarded a Westpac Future Leaders Scholarship. Crediting her UROP placement as having kick-starting her research career, Celia said “These days you need to have an honours degree to even be a research assistant. To do a PhD you have to get a first class honours. The competition is intense.”

“The UROP placement gave me an edge in my honours degree. I got lab experience and I got paid!”

Celia adds that Lab Heads should seriously consider the UROP program. “I think for any student who is seriously thinking of a career in science and any supervisor who is serious about keeping a good record of high achieving students, then UROP is really a no-brainer.”

BioMedVic Events Diary

If you haven’t yet subscribed to our weekly Events Diary, sign up and check out what our Members and others are up to at www.biomedvic.org.au/events

Stay in touch with BioMedVic



Follow BioMedVic



BioMedVic Website



Subscribe to BioMedVic News



Follow BioMedVic CEO