

## Stella Clark - reflections on the past nine years

As I think back to my first days with the Bio21 Cluster<sup>1</sup>, I remember being alone in an office in the Old Geology building on campus at Melbourne University with a few boxes transferred from a previous office representing, more or less, the sum total of the Cluster. I think it would be fair to say that from then to now has seen a transformation from Zero to Hero!! We may not have had much in the office but Professor David Penington (Chair for the first 7 years) and I had big plans to expand the Membership and successfully invest the Victorian Government Science, Technology and Infrastructure (STI) Bio21 Project funds, which were the key goals of the first year or so. The list of achievements since that time is impressive due to the willingness of Bio21 Cluster Members to contribute time and expertise and to the efforts of the wonderful staff that are part of the Bio21 Cluster team. About six months after I started, and with only one other employee, we moved into our current home at 157 Barry Street, Carlton<sup>2</sup>. We now have 6 staff on site (quite cosy!) but it's a great location in the middle of the Cluster Members. From here, the small team works on a wide variety of projects and programs that bring wide benefits not only to the Bio21 Cluster but Victoria as a whole. Some of the key highlights of my time here include:

- Successful investment of \$16 million into six shared infrastructure projects and one business project – this leveraged at least \$70 million in additional funds in the first five years.
- Management by the Bio21 Cluster of the Undergraduate Research Opportunities Program (UROP), which has now employed over 380 participants in 30+ institutions. In recent years, while continuing to receive State Government Funding, UROP now has two Principal sponsors, CSL Ltd and the Victorian Life Sciences Computation Initiative (VLSCI).
- The Victorian Platform Technologies Network (VPTN) project, which, over three years, has developed from a feasibility study undertaken by the Bio21 Cluster to a project of major significance and stature for Victoria.
- The range of Symposia the Bio21 Cluster has hosted over the past years that have focussed on cutting edge or cross disciplinary issues and always tried to lead on to some post conference outcomes/developments.
- Amazing and dedicated staff without whom none of this would be possible, currently Kitty Cho, Debbie Dorfan, Gerard Gibbs, Elizabeth Johnson, Paula Misiewicz and Michelle Zajac; in the past Dimitria Katris, Tam Nguyen and a number of casual staff who have helped over the years.
- Working with two terrific Board Chairs, Professor David Penington and more recently Professor Ian Gust, and two fabulous SAC Chairs, Laureate Professor Peter Doherty and Professor Jock Findlay. It has been an honour and a pleasure to have worked alongside these people as the Bio21 Cluster has grown and flourished over the past nine years.
- The various committees of the Bio21 Cluster, from where the energy and ideas often emanate and whose dedication and support drives much of the work of the Cluster.
- Finally, all the people both within and external to the Bio21 Cluster, in Melbourne, Victoria, nationally and internationally, who have supported and championed the early notion of what the Bio21 Cluster could be like and continue their connections through to the present day.

This is not an exhaustive list of the Cluster's achievements, too many to mention in this short article, but I hope it conveys the message that, as with most things in life, it is the people that are the most important component. It has been a wonderful nine years and one of the best roles I will ever have. I look forward to watching the Bio21 Cluster go from strength to strength in the future<sup>3</sup>.



<sup>1</sup>Well perhaps a little older than this!



<sup>2</sup>The team in 2010 outside outside our Barry Street offices



<sup>3</sup>Stella in the office

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## FORUMS FOR DEVELOPING IDEAS AND COLLABORATIONS

### TRANSLATIONAL RESEARCH : THE MELBOURNE SUMMIT

*Professor John Funder, principal program organiser, reflects on the rationale, goals and outcome of the Summit.*

Melbourne has first rate universities and world class medical research institutes and the Victorian health system serves as a model for the rest of Australia. Currently, although there are growing ties between all three, they are ad hoc rather than systematized, and only lightly linked to primary care, which is where the patients are.

The Hospital Research Directors Forum (HRDF) in late 2010 decided to stage a 'Melbourne Summit' on Translational Research, to address these deficiencies - in communication, and in adequately resourcing hospital-based clinical and translational research.

From October 10-12 speakers from overseas - Professors Jan Carlstedt-Duke (Sweden/Singapore), Dame Sally Davies (UK), Victor Dzau (USA), Hiroo Imura (Japan) and John Wong (Singapore) - were joined by local and interstate speakers and panellists. Together, they and the audience addressed various facets of the present situation, and how interstate and overseas precedents might provide models to rectify the problems we are facing.

On the morning of Wednesday October 12 the overseas speakers plus members of the HRDF joined together to draft a brief meeting report - to HRDF members, the Boards and CEOs of hospitals, universities and medical research institutes, public servants and politicians. In addition, they have listed recommendations for system change to allow cost-neutral funding of translational and clinical research, equally from the Commonwealth and the States/Territories. We thank the Bio21 Cluster, the universities, hospitals and medical research institutes that supported this initiative, and look forward to a new level of discussion leading to action in the area of clinical and translational research in Australia.

Presentations from the Summit can be viewed at: <http://www.bio21.com.au/events/view/17>



L-R Dr Stella Clark, Prof Jan Carlstedt-Duke, Prof John Funder, Prof Hiroo Imura, Prof Ingrid Winship, Dr Victor Dzau, Prof Dame Sally Davies, Dr John Wong.



One of the many lively panel discussions followed by Q & A and enthusiastic audience participation.



Clinician Researcher Panellists L-R: Professors Andrew Roberts, Colin Masters, Michael Cowley, Neil Watkins, Joe Trapani, Andrew Davidson, Tom Kay and Geoff Donnan.

### NANO IN MEDICINE SYMPOSIUM - 14 NOVEMBER 2011

The emergence of nanotechnology applications in human health made this symposium a priority for the Cluster this year. It was held on 14 November at the newly opened Melbourne Brain Institute and was a collaboration between the Cluster and the Melbourne Materials Institute at the University of Melbourne.

The goal was to provide an overview of current trends in nanotechnology and their health applications. Professor Peter Choong, Head of the Department of Surgery at St Vincent's Hospital, opened the day addressing the question 'What can nano in medicine achieve that current medicine can't?'; clearly outlining the potential of the emerging technology. We were delighted to welcome A/Prof Eva Harth from Vanderbilt University to give the plenary lecture on the application of nanosponges in breast cancer treatment and Eva was an active participant throughout the day. Attendees also heard from local and interstate leaders in the field on the use of nanostructures, nanomaterials, drug delivery and the underpinning infrastructure needed as the field advances, e.g. informatics and information management. Promising examples were given of experimental applications of the various technologies.

A key goal of the symposia organised by the Cluster is to attract parties from different fields who may not normally meet in the usual course of their work but who can spark innovative projects when they do. We know of at least one new project where partners were found during the tea break discussions at this symposium.

## NANO IN MEDICINE SYMPOSIUM - 14 NOVEMBER 2011 (Contd....)

In closing, Professor Steven Prawer, Director of the Melbourne Materials Institute, sounded a note of caution, reminding the audience of the imperative, as with any other emerging technology, to engage actively with the community to inform the public at large, contribute to reasoned debate and allay fear and misconceptions, in order that the benefits may ultimately be realised.



L-R: A/Prof Eva Harth, Dr Simon Corrie, Prof Maria Kavallaris, Prof Peter Choong, Dr Stella Clark and Prof Steven Prawer.

## CAPABILITY-BUILDING VIA EDUCATION AND TRAINING

### UNDERGRADUATE RESEARCH OPPORTUNITIES PROGRAM (UROP)

The Cluster is delighted to welcome Dr Michelle Zajac to the position of Manager of the Undergraduate Research Opportunities Program (UROP). Michelle's background is in neurosciences, having completed a PhD and postdoctoral research at the Florey Neurosciences Institute. She has taken to the role with enthusiasm and energy, having always harboured a deep interest in student training.

Michelle has managed the most recent round of student placements very successfully and there will be a further 20 students obtaining casual jobs through UROP this round.

Those interested in participating in UROP, supporting student positions or requiring information about the Program are invited to contact Michelle on 8344 1936 or michelle.zajac@unimelb.edu.au.



Dr Michelle Zajac



## UROP Profile



Ilya Varfolomeev at work in the CSL R&D labs.

When not undertaking the requirements of his Bachelor of Biomedicine degree, Ilya Varfolomeev spent much of 2011 working on a research project at global biopharmaceutical company CSL.

"My research year really opened my eyes to the joys and pains of biomedical research in a way that a university course could not," said Ilya of his experience.

The broad aim of his project at CSL was to gain an understanding of how the cell culture conditions under which monoclonal antibodies are made influence their structure and so assist in the production of safer, more consistent biopharmaceuticals.

On commencing his UROP research project with Louis Fabri and Catherine Owczarek in the R&D division of CSL in the Bio21 Institute, Ilya was assigned the task of working up applications of a new state-of-the-art piece of equipment, capable of assessing changes in the overall chemical charge of proteins.

Next, he began to use the newly mastered technique of 'capillary isoelectric focussing' to detect changes in the charge of monoclonal antibodies produced by cells as a consequence of altering specific cell culture conditions.

In examining the effects of changing various factors, such as the type of cell culture vessel, temperature and different chemical additives in the culture medium, Ilya has contributed to knowledge that will enhance the ability to consistently produce proteins of high quality. This type of consistency and rigorous analysis is critical in producing products that can be safely administered to humans to prevent and treat disease.

When asked about his next step, Ilya replied: "As a result of the research experience offered me by UROP, I was torn between continuing with an Honours year and taking up an offer to start a graduate medical degree at the University of Melbourne. After much thought, I opted for medicine, but I'm determined to return to clinical research after completing a PhD in the future."

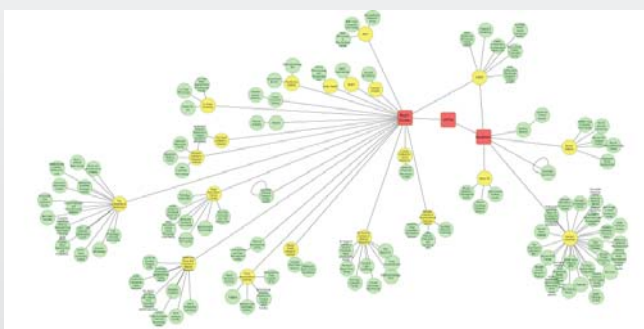
*UROP's principal sponsors are CSL Ltd and the Victorian Life Sciences Computation Initiative (VLSCI). Supporting sponsor is the Victorian Government.*

## COLLABORATIVE RESOURCES AND PLATFORM TECHNOLOGIES

### VICTORIAN PLATFORM TECHNOLOGIES NETWORK (VPTN)

What's happened in 2011?

- Facilities in the VPTN now number 108 of which 68 are facilities in the Bio21 Cluster node of the VPTN
- New facilities added to date in 2011 = 7
- Relationships the VPTN maintains throughout the network can be mapped in the network visualisation figure below. If you would like a larger version of this figure, please contact Gerard Gibbs.



In recent months, the VPTN coordinators have been preparing an application for funding to purchase a software platform to help manage core facility operations. It includes a bookings tool (instruments, services, materials), with integrated reporting and invoicing. We have focused upon understanding the needs of facilities across a wide range of operational environments to ensure we select a system that suits the majority. This application is currently under review and pending funding, will move toward purchasing early in the New Year.

If the software proposal is successful, we will be focused upon the Stage 1 deployment. If you are interested in learning more about this initiative, please contact Gerard Gibbs at the Bio21 Cluster office, or via the VPTN website.

We have conducted four well-attended workshops covering the following topics:

- Future-Proofing Your Facility: grants, funding and income
- Fee for service: Expectations and Obligations
- Customer Service
- Marketing 2.0: Social media and web communications
- Coming up in the VPTN in 2012

As the VPTN funding from the Victorian Government officially ends in September 2012, the VPTN is actively undertaking its sustainability planning. This will be prefaced with an independent review of the activities of the VPTN over the previous two and half years.

We are always looking for additional resources that are relevant to include in the network. If you know of one then please let the Bio21 Cluster node coordinator know.

Email: [ggibbs@unimelb.edu.au](mailto:ggibbs@unimelb.edu.au)

Website: <http://www.platformtechnologies.org/>

## PROFILE AND ADVOCACY

### AUSTRALIAN RESEARCH MANAGEMENT SOCIETY (ARMS) – National Conference 2011, Sydney

Stella Clark presented in the session on Health and Medical Research: Are we translating? Entitled: The Bio21 Cluster: Transforming the Environment in Health and Medical Research. Throughout the meeting there were other presentations about the role of Academic Health Science Centres and lively discussions about various models already operating across Australia. The conference had almost 500 participants, so there were plenty of networking opportunities and discussions on a broad range of research management topics.



Stella Clark at ARMS 2011

### RESEARCH AUSTRALIA PHILANTHROPY - Inaugural Conference, Sydney

At the end of August, Research Australia held its inaugural Philanthropy Conference at the National Maritime Museum, Sydney. The goals of the conference were to bring together local and international experts to discuss philanthropy for health and medical research and to enhance plans to improve communication. The conference also sought to find ways to align the expectations of various parties, i.e. donors, grant makers, government, corporations and researchers.

The conference attracted around 200 participants, provoked much discussion and networking and received very positive feedback from delegates. It was an opportunity to showcase the Cluster's initiatives in workforce-capacity building for the biomedical research sector. Dr Elizabeth Johnson presented on 'The role of philanthropy in capability and skills-building' using the Undergraduate Research Opportunities Program (UROP) and support for Clinician Researcher Fellowship, as key examples.

Seasons Greetings  
& Happy New Year  
from the Staff of the  
Bio21 Cluster