



Bio21 Institute Update

A quarterly review of highlights and news

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Message from the Interim Director, Professor Tony Bacic.

Since joining the Bio21 Institute in 2008, I have had the privilege of experiencing first hand the impressive achievements that signify Bio21's position as a flagship biotechnology centre of excellence. Built on the solid foundations of the research expertise and resources of the University of Melbourne and its affiliates in the areas of medicine, science and engineering, the Bio21 Institute was established to deliver a multidisciplinary approach to research, education and training in frontier fields of health-related biotechnology, dynamic interactions with industry and translating our discoveries and knowledge into economic benefits for the community. Almost four years on, the evolution has been impressive with the

Institute growing to 500 people, two thirds of whom are early career scientists and includes approximately 100 industry researchers. Most notably we house CSL's R&D team for protein based therapeutics. We look towards a bright future in the knowledge that we have a sound foundation upon which to build.

Since 2008, a new management structure was implemented including a Management Advisory Committee responsible for day-to-day operations. A parallel reporting relationship has also provided opportunity for Bio21 to be represented at all levels of the organization. Operationally we have been integrated into the Faculty of Science whilst reporting to the Deputy Vice Chancellor (Research) on strategic matters. Opportunities to further enhance our governance are being implemented with the underlying principle of developing a whole-of-institute approach.

We look forward to updating you on our progress, recognizing our achievements and sharing our aspirations. Tony

Hoarding rainwater could "dramatically" expand range of dengue-fever mosquito. Dr Michael Kearney of the Zoology Department and Professor Ary Hoffmann from CESAR, Bio21 Institute and the University of Melbourne have developed a new model to predict the impact of climate change on the dengue fever-carrying mosquito *Aedes aegypti* in Australia - information that could help limit its spread. Read the [Media Release](#). Michael and Ary will be giving a seminar on June 4th as part of the Bio21 Institute Seminar Series. Check our [website](#) for details.



From Research to Rooftop. Bio21 Institute based researchers, led by organic chemist, Professor Andrew Holmes, are one step closer to realising their dream - to develop materials that can be used to produce cheap, paper-thin, printable, organic solar cells. Victorian Minister for Energy and Resources, Peter Batchelor announced the commencement of printing trials by industry leader Securrency International. [Read more.](#)

Congratulations to Professors Frank Caruso and Paul Mulvaney on being elected as Fellows of the Australian Academy of Science. One of the highest honours for individual contributions to science that a scientist may receive in this country. Frank Caruso, Director, Centre for NanoScience and Nanotechnology (CNST) was honoured for his work on nanoengineering of surface structures through polymer self-assembly and ARC Federation Fellow at Bio21, Paul Mulvaney was honoured for his work on nanoscience and plasmonics: surface plasmon spectroscopy enabling the optical detection of electrons in metal nanostructures. Read more about [Paul Mulvaney's](#) research at Bio21 and [Frank Caruso](#) and CNST.



Building our interdisciplinary community – Annual Bio21 Institute Research Symposium. After months of planning, the 3rd annual Bio21 Institute Research Symposium, was held on 20 March. Organised by the Institute's dynamic RA and Postdoc group, the event aims to assist researchers within the institute to showcase their work through oral and poster presentations, share information, meet fellow members and create an interactive environment in which potential collaborations can be forged and strengthened. [Read more.](#)

Korean Initiatives in Biotechnology: Challenges and Opportunities. The Institute was pleased to host a special seminar by Dr Sang-Ki Rhee, Senior Fellow and Advisor of Korea Research Institute of Bioscience and Biotechnology (KRIBB). A former President and CEO of KRIBB with a distinguished career in both business and research, Dr Rhee presented a valuable insight into the country's Bio-Vision and plans for innovation. Dr Rhee has joined the Bio21 Institute as an Honorary Fellow until December 2009. Read [more](#) about Dr Rhee and his recent presentation.



From disease to aeronautics: Centre earns extra 9.8 million for Free Radical Research.

In a recent announcement, the Australian Research Council (ARC) approved an extension to grant funding for the Free Radical Chemistry Centre that will enable it to continue its research to the end of 2013 and beyond. Read the [Media Release](#).

Fifty-two Young Science Ambassadors who flew over South Magnetic Pole, Antarctica end their science education week at University of Melbourne. As part of their week at the University, the Bio21 Institute hosted 52 year 12 science students as part of the Royal Society of Victoria's Young Science Ambassadors' program. The visit included a tour of the Institute, the NMR Facility and a presentation by Chemical and Biomolecular Engineer Dr Sally Gras, giving them an insight into her career, the breadth of her research and its application in today's society. [Read more](#).



Engaging our Community - U3A visit Bio21 – The Institute in conjunction with the Gene & NanoTechnology Information Service was pleased to host a group of U3A members from the Stonington division. U3A stands for 'University of the Third Age' and is a not-for-profit organization all over the world. It is a learning co-operative of older people which encourages healthy ageing by enabling members to share many educational, creative and leisure activities. The group expressed a keen interest to visit Bio21, to find out more about our vision and purpose and the research and facilities we have. Our guests toured the Electron Microscopy and NMR

facilities and learnt more about environmental research conducted by the CESAR group and organic solar cells research conducted by the Holmes group.

Congratulations to Biochemistry and Molecular Biology's Shayne Bellingham who was awarded a NHMRC Australian Based Biomedical Fellowship for the next four years. Shayne is a member of Andy Hill's lab, working on the project "Novel Genetic Signalling Mechanisms in the Pathology of Alzheimer's and Prion Diseases". Find out [more](#) about the group's work.



Cocktail To Fix Bugs That Fight Drugs. Dr Matt Perugini and his team (Biochemistry and Molecular Biology), in collaboration with Bio21 based chemist Dr Craig Hutton and Professor Juliet Gerrard (University of Canterbury, NZ), believe that the evolution of antibiotic-resistant bacteria may provide drug targets and are developing an antibiotic cocktail with multiple modes of action to be taken as a prophylactic before an at-risk situation, such as entering hospital for an operation or going on holiday. Read the [Melbourne Voice article](#): Find out [more](#) about the Perugini group's research.

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