Associate Professor Desmond Lun has returned to Australia from Boston to work for ACPFG and UniSA and direct the new Phenomics and Bioinformatics Research Centre.

How did you end up working in bioinformatics?

It wasn’t exactly planned. In graduate school at the Massachusetts Institute of Technology (MIT), I took a few classes in computational biology – outside of my field at the time, information theory – just out of interest. I liked them. The applications were exciting and had the potential for significant impact. Fortunately Muriel Medard, my doctoral adviser, was very open-minded (which might contribute to some degree to her brilliance) and, in my final year, Muriel and I started up a collaborative project on DNA sequencing with the MIT/Harvard Broad Institute.

When graduation came, I was unsure what I wanted to do. I thought about something related to biology, but it seemed like a leap. Muriel, whose own research career spanned several areas, encouraged me that working on something completely different after graduation was not necessarily a bad thing, so I applied for a job as a computational biologist at the Broad, gave them a talk about communications networks, and, when they surprisingly made me an offer, I took it.

Can you explain for potential students in your lab what there is to be passionate about?

Engineering life is a grand challenge for humanity. It is funny to think that we, living organisms ourselves, are in position to design and create other living organisms, but it’s true. And the technology that’s making this possible is becoming available as we speak. We have measurement technology that’s allowing us to understand the intricate workings of living organisms at unprecedented levels, and we have fabrication technology that’s allowing us to modify existing organisms at unprecedented levels – and even to create fundamentally new organisms. There’s tremendous potential to use all this technology to tackle fundamental problems facing humanity. I’m interested in training students who want to do this.

“It is funny to think that we, living organisms ourselves, are in position to design and create other living organisms, but it’s true. And the technology that’s making this possible is becoming available as we speak.”
Do you feel it makes much difference having agricultural aims from your work compared to what you’ve done in the past?

Plants, of course, are more complicated than microbes, which have been the focus of my work so far. But the core aim of the ACPFG – of improving stress tolerance in cereals – is an immensely important one, in general and for Australia in particular. Ultimately, it’s the goal of the work I feel is most important, so I don’t feel the plant/microbe distinction makes that much difference.

What do you think about Adelaide so far, compared to other places you’ve lived?

I’m originally a Melbournian, so I was always encouraged to think disparagingly of Adelaide. But now that I’m here, I rather like it. It’s a change from Boston (not least because I left Boston just as it was beginning to get seriously cold) and I’m still adjusting, but I could see myself being very happy in Adelaide.

What’s it like balancing being out at UniSA’s Mawson Lakes Campus, but spending time at the University of Adelaide’s Waite Campus and being part of ACPFG nationally?

I’m not a fan of commuting. But what I do like is that each location brings with it different expertise and a different culture. And I find it stimulating to switch back and forth. In my previous position, I split my time between the Broad Institute and Harvard Medical School, and I appreciated being able to choose which location I’d go to on a given day based, at least partially, on my mood.

What would you like to see happening in your lab in two years time?

I’d like to have a successful lab, which to me primarily means good science and good character. I’d like to have a happy lab, where people enjoy working and enjoy being, and where there is a strong sense of purpose. I’ve trained in some very happy labs, and that’s what I’d like to create. If I can achieve that, I’m less concerned about whether the lab has five people or 50.

With the arrival of Desmond Lun, the PBRC is now actively engaged in enrolling students and recruiting staff for its activities, and is having an exciting year of growth in 2009. The year began with a kickoff meeting held on 22nd and 23rd January at the University of Adelaide Waite Campus. The meeting was a thorough success, with 18 talks from speakers based at UniSA and from ACPFG nodes all around Australia. There was lively exchange among mathematicians, bioinformaticians, and biologists, resulting in engaging discussion that is sure to keep the PBRC well-equipped with ideas for 2009. Pictured above are researchers at the meeting, from left: Dave Edwards (University of Queensland), Bettina Berger, Mark Tester and Karthika Rajendran (University of Adelaide), Ute Roessner (University of Melbourne), Rachel Burton (University of Adelaide) and Desmond Lun (University of South Australia).