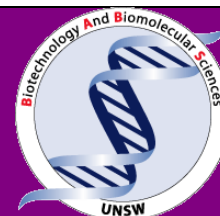


BABS Quarterly

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The HOS column will resume next issue.

RAT

Research

- Congratulations were sent from the Dean and the School to our two new ARC Future Fellows, Belinda Ferrari and Irina Voineagu. Irina commenced her fellowship on 1 July and Belinda's will begin on 1 January 2018.

Administration

- The BABS School Office has relocated to Biolink Room 241, sharing with the BEES School Office.
- The BABS mailroom is now located in Biolink 272.
- **Kylie Jones** has commenced maternity leave, and we have welcomed **Seda Cokcetin** who is filling the 12-month role via Internal Temporary Transfer from the Graduate Research School.
- **Marlene Tsie** has also commenced maternity leave, with **Gus Franco** coming on board to fill the Teaching Laboratory Manager role for 12 months.

Teaching

- Our new teaching labs in E26 are now functioning, with students appreciating the modern facilities.



Two new Associate Professors

Belinda Ferrari and **Vladimir Sytnyk** have been promoted to Associate Professor, effective 1 January 2018.



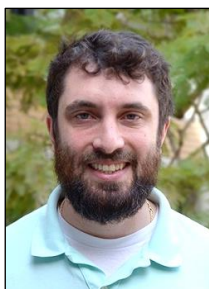
Belinda joined BABS as a Senior Lecturer in 2008 as part of the Environmental Microbiology discipline. Her research focus is microbial diversity of soil bacteria in the Antarctic region in collaboration with the Australian Antarctic Division.

Vladimir arrived in BABS in 2009 from the Centre for Molecular Neurobiology in Hamburg and joined the School as a Senior Lecturer in the Molecular Medicine discipline. The main focus of his work is brain disorders, investigating the mechanisms of neuronal network development and memory formation, with particular reference to Alzheimer's disease.



BABS staff in the news

Rick Cavicchioli and his team had a paper published in August in *Nature Microbiology* (Impact Factor 26.82) on their research that investigated microbes from some of the lakes of the Rauer Islands off the coast of Antarctica. The team found a peculiar Antarctic microbe that may offer a clue to one of the biggest mysteries in evolution: the origin of viruses. The microorganism is host to a fragment of DNA that can build a capsule around itself, and may help solve the mystery of how viruses first arose. The paper 'A plasmid from an Antarctic haloarchaeon uses specialized membrane vesicles to disseminate and infect plasmid-free cells' (doi:10.1038/s41564-017-0009-2)



New arrival to BABS **Matt Baker** has won a prestigious NSW Young Tall Poppy Science Award for 2017. The awards recognise a commitment to science and a drive to communicate, and during the next 12 months along with other awardees, Matt will share his knowledge with school students, teachers and the broader community through workshops, seminars and public lectures. Matt uses pioneering methods in synthetic biology to template and shape the assembly of one of the pinnacles of evolution: the bacteria flagellar motor, an electric motor a millionth the size of a grain of sand that can build itself and rotate five times faster than a Formula1 engine.

A research sojourn in Jerusalem – A/Professor Andrew Collins (written 29 June 2017)



During May and June, I have been a Visiting Fellow at the Israel Institute of Advanced Studies at the Hebrew University in Jerusalem. It is an exciting institute to visit. Einstein's hand-written 1916 paper 'The Foundation of the Generalised Theory of Relativity' is in a cabinet outside my office. And Jerusalem is a crazy but endlessly fascinating city in which I have watched the religious celebrate first Passover, then Easter and finally Ramadan!



I came here to be part of a group that is interested in the stochastic processes and controls that shape the B cell and T cell receptor repertoires. A core group of seven researchers have been together since early April, but we have been joined by a number of others for shorter periods. (One of these was Michael Levitt, who won the 2013 Nobel Prize for chemistry, for his modelling of the molecular dynamics of DNA and proteins.) Even wider interactions were made possible by a six-day conference that was hosted by IIAS in late June, at which almost all major T cell and B cell receptor repertoire research groups were represented.

It has been very interesting to see how the IIAS encourages collaboration. There are only two expectations of Fellows - that they eat lunch together, and that they attend a seminar program that occupies most of one day each week. Our lunches are shared with the two other current IIAS Research Groups. These groups are made up of historians, linguists and theologians. But while our research interests are too disparate for these groups to have contributed to our research, the collegiality that the IASS fosters through these lunches has almost certainly shaped the way our group functions.

An outstanding feature of the seminar program, to my mind, is the fact that few if any speakers directly addressed the central research interests of our group! This may be a consequence of the fact that the seminar organisers share a background in theoretical physics, as is the case with many Israeli immunologists. They are therefore used to looking beyond disciplinary boundaries. Whatever the explanation, the seminar program had some quite surprising inclusions.

All of the talks have been stimulating, and many of them have provided unexpected insights. Two talks illustrate this. Leila Perie from the Biophysics Department at the Curie Institute in Paris spoke to us about cell differentiation. She also circulated a publication on the power of metaphors to shape and sometimes to restrict our thinking. The metaphor of Darwinian evolution is constantly invoked to explain the immune system. Leila's thoughts on the power of metaphors came to mind during a seminar given by Irun Cohen - an emeritus professor at the Weizmann Institute. Beyond the specifics of Irun's discussion of evolution, he made me realise that the use of the Darwinian metaphor blinds immunologists to the way that cooperation contributes to immune function. I am now writing a theoretical paper on this subject with a member of our research group.

By any measure, my time here has been relaxed. So, has it been productive? Before arriving in Israel, I spent several weeks thinking of new ideas that could be explored in the special circumstances that I knew I would experience in Jerusalem. Within my first two weeks here, these thoughts had taken shape, and could be shared with the group. The encouragement that I received stimulated me to pursue these ideas, and my new way of analysing antibody gene variability was presented at our conference. The response to my talk makes me confident that this will be a productive new research avenue for me, and other members of our research group are keen to collaborate with me. My time has, therefore, been very productive. We are committed to maintaining our momentum, through virtual meetings in the short term, and two other international gatherings in the longer term. So, what the final outcome of my fellowship will be, only time will tell.

Ballard Dingo Win

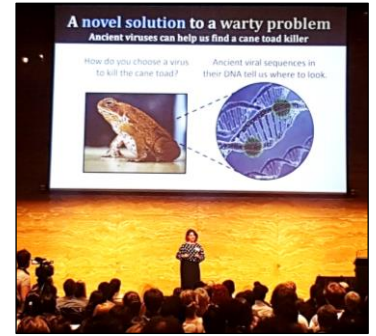
In the last issue, we highlighted the proposal by **Bill Ballard** to study the DNA of 2-year-old dingo Sandy as one of five finalists in the World's Most Interesting Genome competition, competing for a \$20,000 Pacific Biosciences SMRT Grant. Online voting decided the winner and closed 5 April, and we are very happy to report that Sandy was the winner. The team engaged with staff and students at UNSW by bringing two pure alpine dingoes from the Bargo Dingo Sanctuary onto campus. The sequencing will be carried out at the University of Arizona, with initial analysis by Computomics in Germany.



BABS students in the news



A big well done to PhD student **Alice Russo** (supervisor **Peter White**) at the UNSW 3-Minute Thesis Competition, taking out first place! Only allowed to use one slide, with just three minutes to present her thesis and up against 21 other finalists, Alice did a fantastic job. Her talk 'A novel solution to a warty problem' explained that endogenous viral elements present in host genomes are a fossil record of past infections and reveal new information about what viruses once infected the animal. These ancient viruses could help find a contemporary cane toad virus that could be used to control the



population of this amphibian pest. Alice won a \$3000 cash prize and will now represent UNSW at the Asia Pacific Competition at the University of Queensland, and at the international Universitas 21 final in October.

NSW Chief Scientist Officially Opens new Ramaciotti Centre for Genomics in E26

The new BioScience South Building includes a new custom-designed facility for the Ramaciotti Centre for Genomics, the largest university-based facility of its kind in Australia. NSW Chief Scientist Professor Mary O’Kane officially opened the new facility on 24 July. The Centre, headed by **Marc Wilkins**, is dedicated to supporting research by offering genomic services to academic and industry-based research groups at UNSW and Australia-wide and is one of the few facilities in Australia that accommodates a full suite of genomics technologies and links these together using process management software.



Pitter patter of little scientists

Congratulations to **Fatemeh Vafae** and family on the arrival of their new daughter. Zeinab was born on 8 September at 9:23pm, arriving a little early – the evening Fatemeh commenced maternity leave in fact! But Fatemeh advises she is very healthy and happy, weighing 2.740 kg and measuring 47.5cm.



But wait, there’s more - let’s hear it for the girls!

Congratulations too, to **Marlene Tsie** and family, whose daughter was born on 18 September, another early arrival. No photo or details as yet, but we send our best wishes.



Our [facebook](#) ‘likes’ are now edging towards 1,000, currently 973 up from 932 in March 2017.

If you would like something included in the next BABS Quarterly please email Michele at m.potter@unsw.du.au