HEADSPACE

I am pleased to announce that this newsletter is the first that will be posted to alumni of the School, as an insert in the University’s Alumni Magazine. Welcome to all alumni and we look forward to establishing better links into the future (more on that in later newsletters).

All alumni, staff and students are invited to Professor Francis Ratnieks’ public lecture entitled “Can humans learn from insect societies?”. Professor Ratnieks from the University of Sheffield is the Murray Visiting Lecturer for 2008. His lecture will be in the Eastern Avenue Auditorium at 6.00 pm on Wednesday 19th September and will be followed by cocktails.

Professor Peter Waterhouse from CSIRO has been awarded a Federation Fellowship jointly to the School and MMB. Professor Waterhouse, who will be accommodated in the Biochemistry Building, works on plant molecular biology and is one of the discoverers of RNAi technology.

Finally, I am pleased to say that sorely needed renovations and upgrades at Warrah are now complete and have already been enjoyed by a number of undergraduate classes.

Mike Thompson
August 2007

ECOLOGICAL ENGINEERING:
THE NEXT BIG THING IN BIOLOGICAL SCIENCES?

Researchers Professor Chris Dickman and Chin-Liang Beh from the Institute of Wildlife Research, Sydney University, have been contracted by Sydney Airport to solve what was once an intractable problem: ‘bird-strikes’ by aeroplanes on landing and takeoff.

A conservative estimate is that $2-3 billion is lost annually to the world’s aircraft industry due to damage caused by birds crashing into aircraft around airports; and that does not include the mortality cost in human lives as a direct consequence of severe collisions involving wildlife.

While previous attempts to examine the issue have discovered which species of birds are most likely to be involved in ‘bird strike’ no lasting solution to the problem had been found, until now.

“By taking a holistic approach to understanding the ecology of the airport environment we have been able to determine the relationships between vegetation complexity, invertebrate animals, larger mammals, birds, human-induced effects and various aspects of climatic factors”, said Chin-Liang Beh.

Understanding these relationships has enabled Dickman and Beh to create and develop a risk and environmental management plan which encourages high risk bird species from the area while maintaining a rich biodiversity of plants and animals that pose much less risk to aircraft.

The proof is in the pudding, with Sydney Airport recording a zero confirmed bird-strike rate for the month of November 2006 – the first ever no-strike period since both Sydney International and Domestic Airports were Federal entities.

“By using the program as an opportunity for research projects, we have established which types of food are favoured by particular bird species and, by managing grass and vegetation complexity we can have a dramatic effect on the species of birds present,” said Prof Dickman.

This holistic model can be applied to many other industries and communities.

The Institute’s novel and scientific approach at Sydney Airport has also brought about a key realisation and recognition that what has been traditionally seen as a strictly localised problem for aerodromes can actually be framed in a larger spatial and temporal context. For example, the Institute and Sydney Airport are actively engaged with key stakeholders such as neighbouring councils and government organisations in targeting invasive species such as foxes and rabbits. These species pose structural and collision risks for aircraft movements, and also represent recognised threats to areas of high conservation biodiversity values.

As applied ecologists, we are moving from a situation where management ‘problems’ would be tackled as if they were isolated to a situation where we consider the whole system. It is exciting to apply ecological principles to achieve important conservation and pest management goals, and also to be able to build educational and further research opportunities into the program with Sydney Airport.

Consultancy opportunities for SoBS Members
Angeline Farmer from Sydnovate (the commercial arm of the University of Sydney) will address School members on how they can assist researchers consulting to industry. All welcome at 1pm on Friday 31st August in D T Anderson Lecture Theatre A08.
As predicted, our expansion of postdoctoral staff is continuing, which is rapidly expanding the vibrant intellectual environment of the School. Our rate of increase continues to outstrip our capacity to accommodate everyone in the way that we would like, which has been the trigger for the building developments mentioned in the last newsletter.

We now have architectural plans for redevelopment of the Stephen Hales lab as offices for 25 staff and students, plus a meeting room. Refurbishment of the old darkroom precinct and associated areas, for use by the teaching support staff and to accommodate Professor Andrew Parker and his group, has begun.

I thank all those who have been disrupted by these works for their patience and perseverance. At the same time, the $3M refurbishments of the Badham Laboratories for joint use by the School and the Faculty of Agriculture, Food and Natural Resources have been approved and will happen this summer.

Many changes of support staff in the School are occurring at present, due to a number of factors. Maureen Claxton has taken extended long service leave, so Suzan Ramsey has taken on her role. Suzan’s position has been filled by Paxton (Pax) Chmara. Louie Briskoski will take up a position with the new finance team for the Faculties of Science on 1 September, and he will be replaced until the end of this year by Geraldine Arriesgado. This is the first, and certainly a very real, result of the forthcoming Shared Services Project for finance staff. The Shared Services Model is still on the agenda for IT staff, but we currently do not know how that might change the way that we do things in the School. The objectives of the Shared Service Models, including better career structures for staff, better coordination among units and more higher level advice to Schools, are certainly welcome. We will have to wait to see how it all works.

Steve Simpson and I have met with senior staff at the Royal Botanic Gardens and Australian Museum with the view of strengthening and formalizing our links with them. We look forward to an active and healthy relationship into the future.

It is with some sadness that, by the time you read this, the large Chinese elm that has shaded many School events on the Botany lawn will have been removed because of disease. The tree could not be saved, but it is hoped that its removal will enable its smaller neighbour to grow larger. Let’s hope that happens quickly because it won’t currently shade everyone in the School at the same time.

Mike Thompson
SPOTLIGHT

“BEEKMAN’S WORLD”

DR MADELINE BEEKMAN

We humans can learn a lot from social insects (ants, bees, wasps and termites). Just like our own societies insect societies need to prevent conflict, solve conflicts when they do occur, and make collective decisions. Dr Madeleine Beekman has spent the last 9 years studying conflict and cooperation in honeybees and collective decision-making in ants and honeybees. She has done this first as a post-doctoral research fellow at the University of Sheffield and since 2001 in the School of Biological Sciences.

Why do social insects have conflicts? Aren’t they the hallmark of harmonious societies, suffering none of the disasters resulting from selfish behaviour that so often characterise our human societies? Well, not quite. Even though insect societies comprise a family, they are not clones. As a result, the genetic interests of colony members never overlap completely and individuals are selected to be selfish whenever this is beneficial to them, in particular when it comes to reproduction. Most insect workers are not sterile but can lay eggs without mating (parthenogenesis). These eggs will result in viable males (arrenotokous parthenogenesis) and workers can thus compete with their mother (the queen) over the production of the colony’s males. But some workers have improved on this and can lay female eggs without mating (thelytokous parthenogenesis) thus producing clonal offspring. Madeleine is currently studying a subspecies of honeybee endemic to South Africa in which the workers are thelytokous: the Cape honeybee, Apis mellifera capensis.

It was already known that workers of the Cape honeybee are capable of becoming social parasites of other colonies by invading them and parasitising them with their eggs. The resulting workers then become parasites themselves and spread to other colonies. Because parasitic workers do not contribute to colony maintenance, the host colonies are ultimately destroyed. But this is only part of the story. Recent work by an honours student, Alex Jordan, has revealed that workers of the Cape honeybee are capable of reincarnating themselves as queens. Honeybee queens are genetically identical to workers. Whether or not a diploid larva will develop into a queen depends solely on the quality and quantity of food she receives. Eggs laid in specially enlarged ‘queen-cells’ will be fed more, quality food and develop into queens instead of workers. During his honours year Alex found that the majority of queens produced by Cape honeybee colonies are not the daughters of the resident queen (as is normal in all other honeybees) but were produced by workers that snuck in from other colonies. Due to thelytoky the parasites, in genetic terms, become the new queen thus reducing the fitness of the resident queen and her workers to zero. This finding as well as other recent findings of social parasitism in social insects (for example recent work by Ben Oldroyd and colleagues) are forcing researchers to change their view of insect colonies as well-defended entities in which most individuals behave altruistically most of the time.

Another of Madeleine’s recent interests is collective decision-making in honeybee swarms. Swarms are produced as part of the colony’s reproductive cycle. When the colony is producing new queens, the old queen leaves with about a third of all the bees in the swarm. But this is only part of the story. When the colony is producing new queens, the old queen leaves with about a third of all the bees in the swarm. The other 95% of the bees in the swarm are the workers, the scouts, leave the swarm and explore the surroundings for suitable new homes. When they have found one, they will return to the swarm and perform a ‘dance’ that conveys information about the location of the discovered site. Other scouts will extract this information from the dance and inspect the site themselves, recruiting more scouts if they also consider the site suitable. Only about 5% of all the bees in the swarm will search for new nest sites while the other 95% sit still and preserve energy as they will have filled themselves with honey prior to leaving their old colony. They thus form the new colony’s only food stores until new combs have been built. Scouts will discover different sites that differ in quality. However, most of the time the swarm will collectively choose the best site present. Madeleine’s research aims at understanding how such a collective decision is achieved given that individual bees do not directly compare the suitability of multiple sites.

Studying nest site selection in cavity nesting bees is relatively simple because we know what the bees are looking for when they inspect a potential new home. It has to be big enough so that the colony can grow, the entrance should be small so that it can easily be defended and it should be dry and shielded from direct sunlight. But there are many species of honeybee that nest in the open, building a single comb hanging off a tree branch or cliff face. What decisions do these bees make when they need to move home? Madeleine has spent the last three months working in Thailand together with Ben Oldroyd and Ros Gloag (former honours student) trying to understand what the dwarf bee A. florea seeks when finding a new home.

Madeleine’s research often combines behavioural observations with mathematical or simulation models. This is essential if we want to understand how the behaviour of individual bees or ants results in behaviour at the level of the group. However, Madeleine is the first to admit that she is not a mathematician and therefore maintains an elaborate network of international collaborators. The recent award of a Human Frontier Science Program grant for multidisciplinary research will allow her to continue and strengthen these fruitful collaborations.
EDITORIAL

The Winter edition of Biology News will be printed and posted to all Alumni via the Alumni Magazine. On-line versions will, as usual, be available to everyone in the School and our friends. Feel free to request a printed version, although numbers are limited.

We are embarking on a new drive to find out where our graduates end up, so we invite all Alumni to send us their current business cards. This will become a visual display showcasing the myriad of academic and vocational opportunities for our current and prospective students.

Enjoy the read and the last days of winter.

- Adam Selinger & Elizabeth May

Feedback

Thank you for a simply wonderful newsletter. P [McGee]

Another very professional production as well as being very interesting. Maryp [Peat]

The newsletter is excellent - thank you too for putting the spotlight section together on me for this issue! Cheers, Chris [Dickman]

I preferred SobScene. Biology News is the most boring name I could imagine. I hope you didn’t award a prize for that one. Yours in sobscenity, Eszter [Kovacs]

WHO’S NEW

Dr Alison Gosby took up duties as Postdoctoral Research Fellow on 1 June 2007. Alison did a Masters of Nutritional Science followed by a PhD (Science, School of Molecular and Microbial Biosciences) at Sydney before going to work with the Diabetes and Obesity group at The Garvan Institute for Medical Research. There she investigated the possible use of a traditional Chinese medicine, Berberine, in the treatment of insulin resistance. She will be working with Prof Steve Simpson testing the Protein Leveragage Hypothesis in humans.

Dr Elizabeth Denny took up duties as Postdoctoral Research Fellow in the Dickman Lab on 9 July 2007.

Ms Sarah Newell took up duties as Administrative Assistant in First Year Biology on 4 June 2007.

Ms Sarah Newell and Friends

HATCHES, MATCHES & DISPATCHES

Tyler John Aitken born Monday 21st May for proud grandma Katie Jakes

A new arrival for David Midgley; Connor Arlan Sawyer Midgley born Thursday 14th June.

Stella Loke (center) handed in her PhD and has left for Melbourne with husband Kane. Seen here at her farewell with fellow PhD hand-ins Leonie Whiffen and Angela Ho.

We sadly report of the passing of our long-lived neighbour, the Chinese Weeping Elm from Botany Lawn.

Due to age and disease, the Elm had lost over 30% of its canopy (including live branches) and the amount of deadwood within the tree posed a significant safety hazard.

The University’s consulting arborist advised that pruning the deadwood or thinning the remaining canopy would not help the tree recover its overall health, which is why the decision was made to remove the tree. As an unintended benefit, removing the diseased Elm gives the other smaller Chinese Weeping Elm more room and light to grow into a significant specimen tree on the Lawn.

In accordance with the University’s tree management and replacement programme, another tree will be planted on campus to replace this Chinese Weeping Elm. The best timber from the Elm will be turned into pens by the Head of School, and the remainder will be mulched and used in the University grounds.

Penny Smith gave birth to Lachlan James on Monday 23rd July.
PRIZES, AWARDS AND GRANTS

Dr Peter Waterhouse has been awarded a Federation Fellowship jointly between the Schools of Biological Sciences and Molecular and Microbial Biosciences. Dr Waterhouse uncovered the mechanism of post-transcriptional gene silencing in plants.

Prof Rick Shine received a large Linkage Grant with ARC contributing more than $750,000 over 4 years for the study Understanding and reversing the habitat shifts that have endangered the broad-headed snake.

Dr Charlotte Taylor received a Carrick Institute Grant of $191,400 for a project entitled, Using threshold concepts to generate a new understanding of teaching and learning biology.

Matt Renner and Vivek Jayaswal were awarded Faculty of Science Postgraduate Research Prizes for Outstanding Academic Achievement in Biology. This new award recognises publication of research in the early stages of PhD candidature.

Matt works on the systematics of lizards and is jointly supervised by Dr Elizabeth Brown at the Sydney Royal Botanic Gardens and Dr Glenda Wardle.

Vivek is co-supervised by Prof John Robinson (Maths & Stats) and Dr Lars Jermini, and was awarded the prize for a paper that has just appeared in Systematic Biology.

Dr Murray Henwood was approved as the Associate Dean (Honours) in the Faculty of Science in July 2007. The winner of the 2006 Jabez King Heydon Memorial Prize, awarded in July 2007, was Dr Deborah Barton, who is now a postdoctoral fellow in the Parker Lab. This prize is awarded for the most meritorious PhD awarded in the School in the twelve months preceding the Award and is a cash prize of $700.

Ms Virginia Klomp, Computer Systems Officer in First Year Biology, has been awarded a Graduate Diploma in Education (Secondary) from Charles Sturt University. Study was carried out on a part-time basis over the last 2 years.

INTERNATIONAL VISITING RESEARCH FELLOW

The Simpson Lab is hosting A/Professor David Raubenheimer for 12 weeks from the 8th August 2007.

David completed both a BSc and a MSc at University of Capetown, South Africa. In 1990, he completed a DPhil at the University of Oxford and became Lecturer in Entomology and Animal Behaviour at Oxford and Fellow of Magdalen College until 2003.

David Raubenheimer moved to the University of Auckland in 2003, where he is currently Associate Professor and Group Leader in Nutritional Ecology at the Liggins Institute and School of Biological Sciences.

David works in marine and terrestrial systems on comparative nutrition, behavioural and evolutionary ecology.

MEDIA

Cane toads their own worst enemy, Prof Rick Shine's research is reported in the Brisbane Times.

Toad Kill featuring research from Prof Rick Shine was the cover story in Australasian Science July 2007.

Locust Link to Obesity featured the work of Prof Steve Simpson in Australasian Science August 2007.

Life in the last frontier featuring the work of Dr Adele Pile and SERPENT published in the Sydney Morning Herald on 25 May 2007.

Fox on the run as dingo's day dawns (Sydney Morning Herald) and Dingoes sniff out conservation role (The Australian) on 11 July 2007, highlighting the recent research presented by Prof Chris Dickman at an international biodiversity conference held at the University of NSW.

AUSTRALIA’S BIGGEST MORNING TEA

On Tuesday 22nd May 2007 SoBS participated in Australia’s Biggest Morning Tea, which helps raise awareness and funds for The Cancer Council. It is the most successful event of its kind in Australia and members of School were out in force with over 60 staff and students enjoying home-baked cake and tea in the Macleay Museum. Around $350.00 was raised.

No morning tea is complete without a bake-off and this year was no exception with 20 entries, under a marine theme, vying in ‘yummiest’ and ‘most imaginative’ categories. Voted by mouthfuls we are pleased to acknowledge the inspiring work of: Margaret Gilchrist (cherry flan) - Plants team technician; Renee Simms (Nemo cake) - RA in PEB lab; Valerie Morris (caramel slice) - Honorary research fellow; Jennifer Morrow (beach jelly cake) - RA in Fruit Fly Research Centre; and Christine Newman (with her tiramisu) Plants technician. Thanks to all members who made a cake and to the organisers led by Jo Walker.
OUTREACH
INTERNATIONAL SCIENCE SCHOOL 1 - 14 JULY 2007

Biology was a key element at this year’s International Science School (ISS), a free two-week residential program run by the Science Foundation for Physics at the University of Sydney. This year’s ISS had the theme of ecoscience, and the high school students attending from Australia and around the world spent much of their time studying the impact of global warming and other environmental challenges that face many species.

ISS 2007 students learned about the 125 year legacy of International Polar Year (IYP) and urgent present-day topics including shrinking snow and ice, polar-global connections, and the impacts of change on Arctic residents. Addressing these critical issues requires an interdisciplinary approach to understanding land, air, oceans, people, ice, and space and the animals affected by this change.

The 140 talented year 11 and year 12 ISS students were from Australia, China, Japan, India, New Zealand, Singapore, Thailand, UK and the USA. Indigenous science students attended the ISS as part of its Indigenous Scholars Program designed to increase indigenous students’ participation in science.

The ISS aims to encourage participants to pursue careers in science and related areas. Feedback has shown that since 1962 many former ISS students go on to become experts in the field that they studied at the School - great news for green science.

The School also hosted an activity from the Australian Government Antarctic Division. Aliens in Antarctica was run by Dr Dana Bergstrom with assistance from our team of demonstrators.

Students used vacuum cleaners fitted with high tech filters (ok, so they were foot stockings!) to go over their shoes, camera bags and jackets. After tipping the captured material onto Petri dishes they could examine their finds under microscopes. All were amazed at the collection of seeds, bugs and other “aliens” collected, and all appreciated how much of a walking bio-hazard they really were!
NOTES FROM THE GENERAL STAFF BOARD REP.

Firstly a big ‘thank you’ to all the general staff who supported my nomination to School Board. I will provide a voice for the general staff at the next school board meeting on 4th September.

A special Thank You to Aida Yalcin and Kathy Kuzmanovic in Teaching Development Unit for the production of the Plant Form and Function Audio Visual learning CD, beautifully designed from the AV lab digital materials we built up over the last few years.

This has been a turbulent year so far for many reasons, not least of which is the rapid flow of academic staff and their associates into the school. While this influx is excellent for the school itself, our success has meant our already snug accommodation across our building is now at bursting point. The general staff are managing well amidst the disruptions to the building.

The biggest development occurring at present is the conversion of Stephen Hales Lab to office space via a temporary store room incarnation; the move of microscopy and photography and Malcolm Ricketts sideways into SHL (via A13) and the relocation of Teaching General staff from room 112 (via A13) into the area vacated by photography. The valuable teaching space lost this semester will be replaced by Semester One 2008 with a freshly redeveloped space in the Badham Library building and shared with the Faculty of Agriculture. These spaces are enormous and will allow various courses to teach more comfortably than previous laboratory spaces have allowed. Please see Mark Ahern or Mike Joseph for further details.

Other changes on the drawing board are benching in the Macleay Glasshouse potting shed and a sheltered outdoor root washing sink. Good lateral thinking by Malcolm to think of a way to recycle material from Stephen Hales cont...8

WINTER GRADUATION 2007

Tanya Golubchik Functional and molecular investigation of pathogenicity in Fusarium oxysporum f.sp. vasinfectum (FOV)

Kris Rogers Mechanisms of thermal acclimation of metabolism in striped marsh frogs (Limnodynastes peronii)

Emilie Cameron Fruit fly pests of northwestern Australia

Julia Jones Evolution of worker sterility in honeybees

Yvonne Davila Pollination ecology of Trachymene incisa (Apiaceae): understanding generalised plant-pollinator systems

Danny Liu Intracellular and intercellular trafficking via the plant endomembrane system (Honours thesis)

Congratulations to our newest graduands from left to right the back row: Dr Tanya Golubchik, Danny Liu (BSc.Honours), Dr Julia Jones, Dr Kris Rogers. Front row: Dr Yvonne Davila and Dr Emilie Cameron. Photo: M.Ricketts
ALUMNI

MURRAY LECTURESHIP

PROF FRANCIS RATNIEKS

We are pleased to welcome Professor Francis L. W. Ratnieks from the Department of Animal & Plant Sciences at the University of Sheffield as our Inaugural Murray Lecturer in Biological Sciences for 2007.

The objectives for the Lectureship are for an internationally noted academic (likely to set up future collaboration within the School) to provide mentoring for postgraduate students, give some cameo lectures to undergraduates and present a public lecture.

During September Francis will participate in Honours Awareness Week activities (Wed 18), give a public lecture (Thu 19), provide a seminar in the School (Fri 21) and give a workshop at Warrah Research Station for post-graduates (Sat 22 - Sun 23).

PUBLIC LECTURE Can Humans Learn from Insect Societies? Wednesday 19 September Eastern Ave Auditorium from 5:30pm (for canapes). Free. Info: 9351 2848

Off campus database access for Alumni: www.library.usyd.edu.au/clients/alumni

WHAT’S YOUR BUSINESS?

With this edition of Biology News we launch the first of our initiatives to find out what our Biology Alumni are up to now. We invite you to send us your business cards (put your speciality and graduation date on the back e.g. genetics, ’88). Cards will be mounted in a frame in our First Year Biology corridor to inspire new students with the wealth of career opportunities that await them!

Please send to: Alumni Committee c/ Science Road Cottage A10 University of Sydney, NSW 2006

Q & A?

Q: Dear SoBS, I have an enquiry from a film production crew requesting the use of a ‘Forensic Lab’ for a day of filming. Any lab with enough stuff to look like forensic work might be undertaken is required. Please let me know if you have any ideas of what might be possible.

A: Any of the tea rooms would do. Realistic morgue-like atmosphere, pathological utensils and usually a few stiffes, especially on pay day. Anyway, a lot more action than a miniserries about the Patrick’s Stevedore dispute. Alfie

WHERE ARE THEY NOW?

Warrick Angus B.Sc.(Hons) 1999, supervised by Dieter Hochuli, is currently the Manager of the Australian Fauna Precinct at Taronga Zoo. Angus fondly remembers sneaking off with turf (for an experiment!) from one of the cricket fields in the middle of the night - don’t tell grounds! He also was fortunate to have worked with his hero, Sir David Attenborough, on an upcoming documentary.

Dear Michael

I think room 410 was converted to a fruit fly rearing room in the 1950s. My first memory of it (when I arrived here in nineteen thrumpty eight) is as a pheromone research facility. It was divided into two, with a partition where the transverse joist is. That explains why there are (were?) two humidifiers. I think the front part was for rearing larvae and the hind part had several photoperiod cabinets along the partition wall. The ‘fume cupboard’ on the opposite wall (where the window should have been) housed a complex array of quickkit glassware for the pheromone assays (used phenorones had to be vented to the outside). Temperature control was achieved with a combination of some heating elements above the false ceiling (which would be by now in a very hazardous state) and a 1950s vintage air-conditioning unit on the Juliette balcony which also served the other insect room (I do not know how, probably there were two compressor units there). It was very big and ugly (hence the frosted glass on the balcony doors) and made a noise like a DC3 taking off. A deafening silence (usually on a Friday or Christmas eve or the day before a heat-wave) signified that the bloody thing had broken down again.

When I inherited 410, nothing inside it worked and the humidifiers often threw water all over the place (on weekends, naturally). I had it gutted and painted and used it for behaviour experiments with fruit flies, cabbage white butterflies, meat ants, green vegetable bugs, parasitic wasps and dragonfly larvae (one at a time - not all at once). Many honours students were launched into research careers there, although the cabbage white chap became a Jesuit. The ants were sourced from the A08 front garden but later identified as exotic. It appeared probable that a certain post-doc had brought them illegally from PNG and discarded them via his window after he had finished with them.

The DC3 engines were eventually removed so that the Union could hire out its front lawn for ‘functions’ without the deafening noise. The other insect room was given a modern aircon but since 410 was part of the facade, ‘heritage reasons’ were dreamt up to avoid paying for an aircon for that room. Luckily we got money to fit out the top of A13 with an admirable set of CT rooms (non-functioning at weekends, Christmas and heatwaves as per tradition - but the problems were apparently solved last year).

Feel free to pass this on to the Newsletter for its anecdote section.

Cheers

Alfie, Dr A. W. Meats, Director, Fruit Fly Research Centre, School of Biological Sciences

Cont. from 7

redevelopment, driven by his long term love of a recycled bargain!

Personnel movements in the teaching general staff happened recently, including Jo Walker to Animals teaching (new team coordinator), Virginia Breen to Genetics replacing Jo, and Hamlet Giragossyan is on leave. Les Edwards has also converted to half time. Heather Sowden has taken on duties one day a week as Dive Officer and Christine Newman and Margaret Gilchrist have taken over technical coordination for 3rd year Plant Growth and Development and Plant Cell and Environment respectively.

I am now available to receive matters from general staff, to be raised at the School’s Board in early September.

- Mark Dickson
General Staff Rep
representative to the School Board