Dear friends and colleagues

As you may know that at the recent annual general meeting held during the Combio in Adelaide, the previous executives completed their term and the new ones took office. As the incoming president of the ANZSCDB I have big shoes to fill after the fabulous contributions of Sally Dunwoodie, the president for the previous two years. Fortunately (for us), Sally will continue to guide us as a member of the executive committee over the next two years. On behalf of the ANZSCDB thank you Sally, and also the outgoing Secretary Annemiek Beverdam and Treasurer Mike Piper, for serving our society with distinction.

I am delighted to be joined by Jenny Stow as the president elect, Michael Samuel as the Secretary, Leonie Quinn as the Treasurer and Carol Wicking as a new member of the advisory committee. A warm welcome to the newly elected state representatives, Roger Pocock (VIC), Sophie Pageon (NSW), Sam Stehbens (QLD), Yoon Lim (SA), Yu Suk Choi (WA), Owen Marshall (TAS) and Erin Vaughn (ACT). More about the incoming office holders below, but I would like to emphasize that the state representatives are the life and blood of the society, the nodes that connect the local and national cell and developmental biology communities at all levels, especially through organising local meetings. Our state-based ANZSCDB meetings are perhaps the most important avenues for grass root interactions between members at all stages of their careers. As I welcome the new representatives, on behalf of the society I thank all those who have just completed their terms for serving the ANZSCDB and hope for their continued strong support and involvement in various activities of the society in coming years.

The recent ComBio2017 was a great success and I thank Natasha Harvey and other members of the organizing committee for a putting together an excellent program. ComBio2018 will be held in Sydney with Liz Harry as the conference chair, and Brent Kaiser and Annemiek Beverdam as program chairs. At ComBio2018, the International Society of Differentiation will join us for the first time. I realise that the meeting is still some time away, but I encourage all ANZSCDB members in NSW and elsewhere to become actively involved in helping to plan the various cell and developmental biology sessions.

Lastly, a big thank you to Michael Samuel for putting this newsletter together. Please keep sending material for future newsletters, including new publications, profiles of new members and anything you think will be of interest to the members of our society.

All the very best for the festive season and the coming year.

Sharad Kumar
Key Dates

19th – 22nd March, 2018: Hunter Meeting at the Crowne Plaza Hunter Valley. Please keep an eye on the meeting website for registration dates and don’t forget to tick the ANZSCDB box!

3rd – 7th June, 2018: 20th International Vascular Biology Meeting, Helsinki. Registrations are now open.


A very warm welcome to our New ANZSCDB Committee Member

A/Prof. Carol Wicking:
Associate Professor Carol Wicking is currently the Manager of Strategic Research Engagement at the Institute for Molecular Bioscience, the University of Queensland. Prior to this position she worked almost 30 years in research, with a focus on using cell and developmental biology to understand the genetic and mechanistic basis of inherited diseases including cystic fibrosis, naevoid basal cell carcinoma syndrome and, most recently, a class of rare diseases known as ciliopathies.

And to our new ANZSCDB State Representatives

Sophie Pageon (NSW)
I am a postdoctoral researcher working within the Centre for Single Molecule Science at the University of New South Wales (UNSW). My research interests revolve around the molecular mechanisms used by immune cells to successfully track down and destroy infected or cancerous cells, using advanced microscopy techniques to follow these processes. In my current research with Dr. Maté Biro, I am investigating the recruitment of effector T cells to a tumour microenvironment using 3D live cell imaging.

Erin Vaughn (ACT)
I am a post-doctoral scientist in the Division of Biomedical Science and Biochemistry at the ANU. Having recently completed my PhD studying population genetics of endangered American pronghorn, I made a field change to developmental biology. I am currently working with Dr. Maja Adamska to investigate Wnt signalling in the calcareous sponge, Sycon capricorn.
Yu Suk Choi (WA)
I am a lecturer and Heart Foundation Future Leader Fellow in the stem cell mechanobiology lab at the University of Western Australia. My lab studies how the mechanical properties of the extracellular matrix control stem cell fate, with the aim of uncovering regenerative applications, using multidisciplinary approaches developed during my PhD studies in stem cell/tissue engineering (University of Melbourne) and postdoctoral training in bioengineering (UCSD). My team are developing 3D cell encapsulation hydrogels with tuneable stiffness to study stem cell mechanotransduction in 3D microenvironments.

Yoon Lim (SA)
I am a Research Associate at the Centre for Cancer Biology, University of South Australia and SA Pathology. I completed my Ph.D. in 2016, during which I investigated the signalling mechanisms of neurotrophins and their importance for neuronal survival, proliferation, and in neurological disorders including glioma. I am currently working with Prof. Sharad Kumar to decipher novel molecular mechanisms of caspase-2 activation and regulation in eliminating cells carrying mitotic errors, which is important for tumour suppression.

Samantha Stehbens (QLD)
I am a cell biologist with a research focus on live-cell high-resolution imaging of cell migration and the underlying mechanistic contributions of cell adhesion and the cytoskeleton to this process. I have recently joined the Experimental Melanoma Research Group headed by Prof. Nikolas Haass at the UQ Diamantina Institute. My research aims to understand the role of the extracellular matrix in regulating microtubule-adhesion crosstalk during metastatic melanoma invasion.

Roger Pocock (VIC)
I am a NHMRC Senior Research Fellow at the Monash Biomedicine Discovery Institute in Melbourne. I have extensive international experience, having worked at Oxford University (Ph.D.), Columbia University (Postdoc) and the University of Copenhagen (Laboratory Head), before moving my laboratory to Monash University in 2015. I am a developmental neurobiologist and use the Caenorhabditis elegans genetic model to study neuronal development and function at the molecular level.

Owen Marshall (TAS)
I obtained my Ph.D. in Prof. Andy Choo’s group at the Murdoch Children’s Research Institute, working on the structure of centromeric chromatin. I then moved to the UK in 2012 to undertake a second postdoctoral fellowship in Prof. Andrea Brand’s group at the University of Cambridge, studying the epigenetic changes that drive neural development. I returned to Australia in 2016 to establish my own research group at the Menzies, investigating the epigenetic changes in the adult brain that occur during learning, ageing and neurodegeneration.
ANZSCDB State Representatives who are staying on are:

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Outgoing ANZSCDB Representatives:

Finally a big thank you to our outgoing ANZSCDB State Representatives Stuart Fraser (NSW), Koula Diamand (ACT), Guillermo Gomez (QLD), Sebastian Dworkin (VIC), Oliver Rackham (WA) and Sophie Wiszniak (SA) for their enormous support of the ANZSCDB. We especially appreciate all your efforts in the past two years in organising the State-based Cell and Developmental Biology Meetings.

ANZSCDB Corporate Member News:

We would like to thank the following corporate sponsors. Please visit their websites below:

- **Promega Australia**
- **Australian BioResources** (Advertisement on the last page)
- **NewSpec Pty. Ltd.**
- **Pakair Cargo Specialists**
2017 ANZSCDB President’s Medallist

Professor Peter Currie
The Australian Regenerative Medicine Institute, Monash University, Melbourne

Hearty congratulations to Professor Peter Currie, the 2017 ANZSCDB President’s Medallist. Peter is a world leader in the development and regeneration of muscle and has been awarded the Eureka Prize and the Paul Walker Award in recognition of his groundbreaking research. He is currently the Director of the Australian Regenerative Medicine Institute, Melbourne. An interview with Peter by WA State Representative Oliver Rackham can be accessed from the ANZSCDB President’s Medal site.

2017 ANZSCDB Emerging Leader

Dr. Archa Fox
The University of Western Australia, Perth

Congratulations to Dr. Archa Fox on winning the 2017 ANZSCDB Emerging Leader Award. An interview with Archa by Alex Combes, our VIC State Representative of ANZSCDB can be accessed from the ANZSCDB Emerging Leader Award site.

The Australian Biochemist also profiled Archa’s unusual path to science in Great Expectations.
ANZSCDB ComBio2016 Presentation Award Winners

Congratulations to our ANZSCDB Students and Postdocs who won prizes for their presentations at ComBio2016. They are:

**Andrew Stempel**, Flinders University – ANZSCDB Prize for best cell biology student poster: “Role of CXCL13 in human retinal endothelial cell biology: implications for pathogenesis of diabetic retinopathy”

**Aleisha Symon**, Hudson Institute of Medical Research – Keith Dixon Prize for best developmental biology student poster: “Elucidating the role of SOX9 target genes in embryonic testis development”

**Catherine Cochrane**, Hudson Institute of Medical Research - David Walsh Prize for best student symposium: “p53 and Rb regulate ciliogenesis and hedgehog pathway sensitisation in development and cancer”

**Kynan Lawlor**, Murdoch Children’s Research Institute – Toshiya Yamada Prize for best postdoctoral symposium: “Fast moving nephron progenitors escape commitment and re-enter the niche”

ANZSCDB ComBio2017 Travel Bursary Awardees were invited to provide their impressions of the conference.

**Elena Savva** (M.Sc. student, Hime laboratory, University of Melbourne)

*ComBio 2017 was a spectacular collection of scientists and medical professionals from around Australia and the world. Listening to talks by the clinical geneticists was a personal highlight. Hearing the personal effects their work has on grieving parents and providing emotional closure for lost loved ones, was an inspiring moment most attendees would agree on. Cocktail mixers in the afternoon were a great way to mingle with others and relax after a long day of talks, with amazing finger food from the Adelaide Convention Centre perfecting a great occasion.*

**Chieh (Jade) Yu** (Ph.D. student, Haupt laboratory, QUT)

*ComBio 2017 was fantastic! Prior to the conference commencement, the ComBio Web App made it easy to plan which symposia to attend and personalise my conference schedule. There were many talks I’ve enjoyed, my top three symposia were ‘Stem cell and reprogramming’, ‘New technologies in cell biology’, and ‘Regeneration’ - all
educational and inspirational for my own research! Social event-wise, I enjoyed the passport competition immensely. It was great fun chatting to all of the exhibitors and learning what they do – I even won a nice box of chocolates and a bottle of wine at the end of it! I also found the Adelaide Convention Centre to be a prime conference venue; great use of space, close to the hotels, and the R Bar Regattas provide a nice area for a between-symposia break. I would like to thank ANZSCDB for awarding me the student travel grant and for the opportunity of this great experience.

**Aleisha Symon** (Ph.D. student, Harley laboratory, Hudson Institute of Medical Research)
ComBio2017 was an awesome experience for me as a Ph.D. student. I don’t think I’ve ever learnt so much in such a short amount of time. Everyone attending was from such a diverse range of scientific backgrounds, researching such different topics. I was exposed to research into organogenesis, developmental stages, various animal models and cell types that I probably would never have otherwise learnt about. It also gave me an opportunity to discuss aspects of my research that I don’t have a huge amount of expertise around me in, with some real experts! I have made some great connections and would absolutely recommend this conference to other students.

**Claire Homan** (Ph.D. student, Jolly laboratory, University of Adelaide)
I thoroughly enjoyed attending ComBio2017 in Adelaide thanks to the generous support of the ANZSCDB. Although an Adelaide local myself, it was fantastic to see a large number of attendees from interstate. I found it to be a highly diverse, yet engaging meeting where I was able to listen to and interact with researchers from both related and unrelated fields. The standard of plenary and symposium talks was outstanding. I particularly enjoyed the plenary lecture given by Professor REW (Bob) Hancock on alternatives to antibiotics for treating multidrug-resistant infections. Although this is an area I do not currently work in, I found his research to be highly interesting given resistance to antibiotics is becoming a real problem. I was lucky enough to be selected to present my work in the "organoid” symposia session. This was a fantastic opportunity to present my work to experts in my field and receive constructive feedback. The poster sessions and mixers provided valuable opportunities to network with other attendees, leading to in-depth conversations about the different work being conducted and the techniques used. In particular, given my research interests, it was inspiring to hear how the work in the human induced pluripotent stem cell field has advanced and developed and is really taking off in different laboratories around Australia. Overall, I would say ComBio2017 was a great experience and I would recommend others to attend ComBio2018 in Sydney (in their fancy new international convention centre!).

**Catherine Cochrane** (Ph.D. student, Cain laboratory, Hudson Institute of Medical Research)
ComBio2017 in Adelaide was an intellectually stimulating and exciting conference to attend, which had an amazing line-up of international and national keynote speakers. I was fortunate enough to receive the opportunity to speak in the 'Cancer Signalling’ themed symposium, and present my research on biomarkers linked to Hedgehog pathway sensitisation in Development and Cancer. Presenting my work gave me the opportunity to discuss new experimental ideas with principal investigators, post-docs and students from within my field. Two keynote presentations that intrigued me the most were by Prof. Michael Hall, on his work in targeting the mTOR signalling pathway in hepatocellular carcinoma. The extensive number of human samples analysed was impressive, which I can only dream of doing in my current PhD project. Secondly, Prof. Peter Currie’s talk on fate mapping experiments in zebrafish to study muscle
regeneration was outstanding and fuelled my interest in organ regeneration, as the Hedgehog pathway plays a dominant role in this process. Lastly, attending ComBio gave me the important opportunity to network with other scientists during the poster sessions, and to expand on my scientific knowledge in both related and unrelated fields. I highly recommend ANZSCDB Ph.D. Students at any stage of their candidature to attend ComBio2018 in Sydney, which will definitely be an invaluable experience to remember.

The other ComBio travel award winners were: Miriam Fuentes (Jans/Bogoyevitch – UniMelb), Srilakshmi Srinivasan (Clements Lab – QUT), Chieh Yu (Haupt Lab – QUT).

Thank you to everyone who contributed their thoughts on ComBio2017.

Member Publications


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**ANZSCDB Member News:**

Student member **Chieh (Jade) Yu** from Larisa Haupt's laboratory at QUT attended the 19th EMBL Ph.D. Symposium in Heidelberg, Germany and has sent us this short report. Thank you very much, Jade!

*Having received a short-term travel grant from EMBL Australia, I attended the 19th EMBL PhD Symposium: Bridging the Gap - Interdisciplinary Approaches in Life Sciences in Heidelberg, Germany in October 2017. For each of the three conference days, the themes were Evolving Life, Modifying Life and Visualising Life, all included research covering a broad range of interdisciplinary approaches that are used in the Life Sciences to bridge the gaps between fields to answer scientific questions. I had the opportunity to present my research in a poster as well as a short talk, abstract titled, "Turning Bone to Brain - The Key May Be in the Matrix", to show how bone marrow mesenchymal stem cells can be turned into neural cells and how specific heparan sulfate proteoglycans are involved in mediating neurogenesis. Not only did the conference highlight the latest in technological breakthroughs (such as 4D bioprinting!), but it provided the opportunity to form international networks and an insight into the research culture at the European Molecular Biology Laboratory.*

Student member **Daisy Shu** from the University of Sydney has successfully secured crowdfunding for her Ph.D. project. As part of her preparation for setting up a crowdfunding campaign, she interviewed two research teams who had been previously successful with crowdfunding. You can find her podcast of the interviews **HERE** and her blog post about her experience is **HERE**.

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ANZSCDB State Meeting Reports

NSW and ACT Meeting Report 2017

This year’s meeting was held on April 3rd at the Lowy Cancer Centre, University of New South Wales. The meeting received a total of 134 registrants and 50 abstracts from various universities and medical research institutes throughout NSW. Prof Mariann Bienz from MRC Laboratory of Molecular Biology, University of Cambridge, Prof Peter Currie from Australian Regenerative Medicine Institute, Monash University and Dr Archa Fox from University of Western Australia delivered fascinating plenary lectures. Five postdoctoral fellow and five students were selected to give oral presentations and over 30 posters were displayed. The meeting was well attended during the entire day and the attendants were impressed by the extremely high quality of work from our local researchers. The meeting for the first time adopted an “all attendants voting system” for judging the presentations. Approximately 60% of the attendants voted via the menti.com website for the following presenters:

Best Postdoctoral talk - Dr Adam Svahn, Macquarie University (A)
Best Student talk - Holly Holliday, Garvan Institute (B)
Best Postdoctoral poster – Dr Sheng Le, Macquarie University (C)
Best Student poster - Badwi Bob Boumelhem, University of Sydney (D)

This year, we held the microphotography competition again. Among 15 contesters, Jacinta Martin (E) from University of Newcastle won the Best Image Award. The ANZSCDB president Prof Sally Dunwoodie and representatives of sponsoring organisations presented the prizes.

The free event was kindly sponsored by ANZSCDB, UNSW School of Medical Sciences, Integrated DNA Technologies, Labcabs and Sigma-Aldrich Merck Millipore. Their generous support is greatly appreciated.
In particular, we wish to acknowledge the Company of Biologists whose generous support included four travel fellowships for student and early career researchers from Newcastle to attend the conference in Sydney.

Thanks to all our participants and we look forward to seeing everyone again at the 2018 meeting.

Members of the organising committee: Annemiek Beverdam, Kazu Kikuchi, Munira Xaymardan, James Cornwell and Daniel Hesselson, together with:

ANZSCDB NSW State Representatives Stuart Fraser and Hongjun Shi

WA Meeting Report 2017

Western Australia’s cell and developmental biology community came together to celebrate the great research being done in our state at the annual Combined Biological Sciences Meeting (CBSM). CBSM provides an excellent opportunity for students and early career researchers to showcase their research as oral or poster presentations to a wide biological sciences community. This one-day meeting continues to be one of our most successful local events to connect with colleagues from across Perth, and hear from some great speakers.

Our 2017 meeting was held on Friday 25th August at the University Club of the University of Western Australia. It was a pleasure to host a panel of local, national and international speakers and hear about their research. The day began with a spectacular visual feast of early embryology by Dr Nicholas Plachta (A*STAR, Singapore). His talk entitled “Imaging the molecular and cell dynamics that form the early mouse embryo” described new imaging techniques his team have used to visualise how the very first cells within an embryo use filopodia to maintain their position. Other plenary speakers were Dr Siouxsie Wiles (University of Auckland, New Zealand) who spoke not only about her research in bioluminescence organisms, but also of the importance of science communication and how she has combined her research with art projects such as “Biolumination” to bring science to the masses. Lastly, Prof Helene Marsh (James Cook University, Queensland) provided an interesting overview of her work in marine mammal science, describing where we have come from and how the conduct of her current work has changed over time to incorporate indigenous knowledge, citizen science and truly cross-disciplinary teams.

CSBM 2017 also held four concurrent breakout sessions including a dedicated Cell and Developmental Biology Symposium sponsored by ANZSCDB. We welcomed Assoc Prof Natasha Harvey (Centre for Cancer Biology, South Australia) who described her work that has identified the mechanisms that link lymphedema and a predisposition to myelodysplastic syndrome/acute myeloid leukemia in patients with Emberger syndrome. Other keynote speakers were Assoc Prof Julien Heng (Curtin University, WA), who spoke about characterising novel genetic mutations associated with diagnosed brain disorders where the genetic cause is unclear; and Dr Yu Suk Choi
(University of WA) who described the use of hydrogels to understand stem cell behaviour.

This year’s cell and developmental biology student prize was awarded to Adam Edwards (Perron Institute for Neurological and Translational Sciences, WA), for his presentation entitled “The poly-arginine-18 (R18) peptide is neuroprotective in a modified model of perinatal hypoxic-ischaemic encephalopathy; a dose-response and therapeutic window study”. The ANZSDCB-sponsored prize for the best poster in cell and developmental biology was awarded to Sara Pasic of Curtin University for her poster “The Role of Wnt Signalling in the Regulation of Non-Tumorigenic Versus Tumorigenic Liver Progenitor Cells”.

We thank all our local members for continuing to promote cell and developmental biology research in WA and for being part of this vibrant research community. We are looking forward to seeing more great work from the west in 2018.

Best image was awarded to Junjie Gao (University of WA) for this picture of GFP-expressing calvarial osteocytes from Dmp1creGFP mice.

ANZSCDB WA State Representatives Raelene Endersby & Oliver Rackham
SA Meeting Report 2017

This year’s ANZSCDB Adelaide meeting was the 7th meeting of the Adelaide Chapter and was held on November 13th at UniSA City East Campus. Convened by SA State Representatives Dr Sophie Wiszniak and Dr Sarah Boyle, both from the Centre for Cancer Biology, we had 66 registrants for the full-day meeting. As always, registration for the meeting was free, thanks to our generous sponsors.
Plenary speakers included Professor Fiona Watt from King’s College London, who spoke about cell states in mammalian epidermis, and Associate Professor Edwina McGlinn from Monash University/ARMI in Melbourne, who presented her work on Hox gene networks in development. We also heard a Special Symposium from Dr Guillermo Gomez of the Centre for Cancer Biology in Adelaide, who discussed his recently published work on Src regulation of adherens junctions in epithelium.

In addition to our invited speakers we also heard from a selected number of post-doctoral researchers and post-graduate students, all of which were of extremely high quality. The poster session over lunch included over 20 post-doc and student posters from a diverse range of cell and developmental biologists from multiple universities and institutes across Adelaide, and the interactive atmosphere was wonderfully stimulating and beneficial for all our young scientists, the next generation of researchers in South Australia.

This year we also ran an image competition for the first time, generously sponsored by Zeiss and with awards presented by state representative Benjamin Ung. First prize was taken out Natalie Foot for her image “Arrestin Development”, with second place to Kelly Betterman for “Mesenteric Lymphatic Vessel Valve”. We would like to congratulate the following presenters for their outstanding presentations that won prizes: Best Post-Doctoral Oral Winner Genevieve Secker and Runner-up Winnie Kan, Best Student Oral Winner Kimberley Clark and Runner-Up Rebecca Lehmann, Best Post-Doctoral Poster Winner Jan Kazenwadel and joint Runners-up Tanya Henshall and Jantina Manning, and Best Student Poster jointly awarded to Chandron Pfitzner, Mara Zeissig and Ellen Potoczky. (Presentation winners are pictured with Sophie Wiszniak.)

Thank you very much to our sponsors for their generous support of this free event: Centre for Cancer Biology, University of South Australia, University of Adelaide Faculty of Health and Medical Sciences, Eppendorf, Life Technologies, Abacus ALS, Bioline and Merck. We look forward to seeing everyone again at our event in 2018!

ANZSCDB SA State Representatives Sophie Wiszniak and Sarah Boyle.
**Keeping up to date**

Thanks to Megan Wilson and Leonie Quinn, the ANZSCDB has a Facebook page for news updates and is also now on Twitter as @ANZSCDB.

We encourage ANZSCDB members to engage with our social media for news and updates.

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**Would you like to contribute to the ANZSCDB newsletter?**

Please send items to Michael Samuel.

The newsletter will be published approximately every three months and distributed to all ANZSCDB Members via e-mail.

Please ensure that your submissions are no more than 100 words and have been fact-checked.
Sale Strains

Highest quality SPF mice including:

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- BALB/C-Fox1nu/Ausb (‘Nude’)
- BALB/cJAusb
- C57BL/6JAusb*
- CBA/CaHArcAusb
- FVBN/nJAusb*
- NOD.Cg-Prkd^{scidIL2rg^{tm1Wjl}}SzJAusb* (‘NSG’)
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