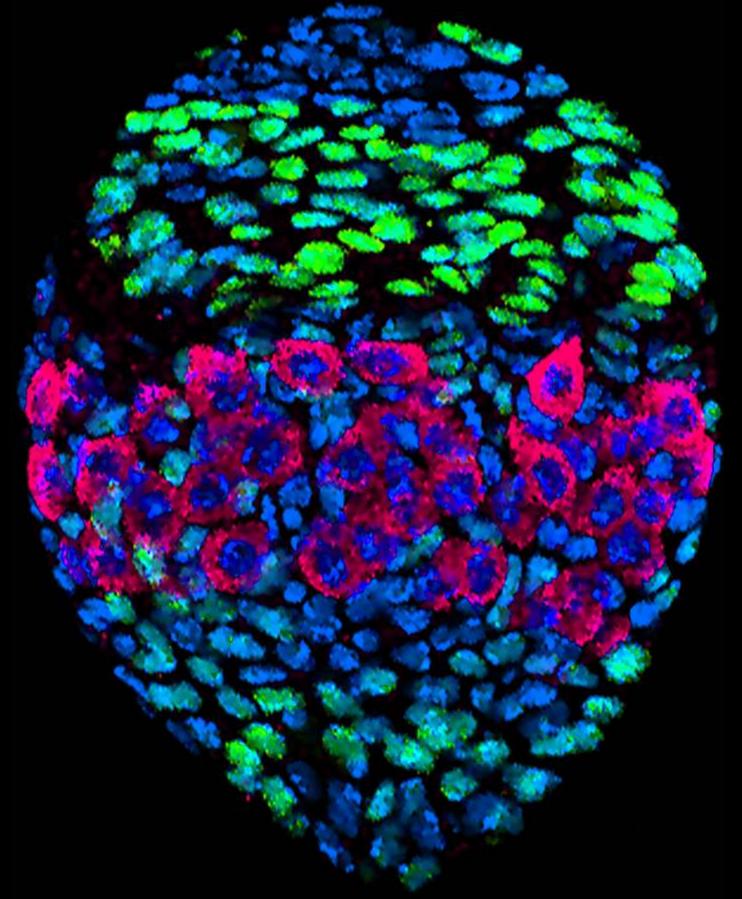
# ANZSCDB

Australia and New Zealand Society for Cell and Developmental Biology Inc.





**AUTUMN NEWSLETTER 2018** 

## ANZSCDB

Australia and New Zealand Society for Cell and Developmental Biology Inc.



### **AUTUMN NEWSLETTER - APRIL 2018**

Dear ANZSCDB members,

As you recover (hopefully) from yet another hectic grant writing season, it is with pleasure that I share with you again the news of the Society. It is hard to believe that it is the end of April already, and for many of us this means grant reviewing and GRP work. With NHMRC funding schemes undergoing massive changes, this is a particularly important year for various funding schemes. We wish all ANZSCDB members the best of luck with their scholarship, fellowship and project grant applications.

In 2016 many of you participated in a poll about the future of ComBio, which is the combined annual meeting of several Societies including our own. The proposal was to hold ComBio every two years and that each society would hold their own annual meeting in the alternate years. With 94% of ANZSCDB members in favour of this change, the three societies decided that ComBio would be held biennially after the 2018 meeting. This means that the subsequent ComBio will be in 2020, and in 2019 we will have a stand-alone ANZSCDB meeting. The ANZSCDB executives are currently discussing the shape of this meeting but I welcome any suggestions that members might have. We will keep you posted about any developments in this area. That brings me to the ComBio 2018 meeting, which will be held at the International Convention Centre in Sydney from 23-26 September. The meeting program is already looking great, thanks to our own (immediate past Secretary of ANZSCDB) Annemiek Beverdam, the Program Chair of ComBio 2018. This year the International Society of Differentiation is also joining us at ComBio, sponsoring several international speakers. Please join us in Sydney, for what promises to be an outstanding meeting. And importantly, please don't forget to 'tick' the ANZSCDB box when registering for the meeting.

As always, the Society's Newsletter (thanks to our tireless Secretary Michael Samuel) provides a forum for all Members of our Society. We are always looking for brief profiles of our members for the Newsletter, so whether you are a student, an ECR, a new PI setting up her/his lab or a more seasoned cell and/or developmental biologist with a story to share, please write to us.

#### **Sharad Kumar**

Page | 1 Cover Art by Dr. Leonie Quinn (ACT) Drosophila third instar larval ovary. Germline cells marked in red, somatic lineage in green. Nuclei are blue.

### **Key Dates**

3<sup>rd</sup>-7<sup>th</sup> June 2018: 20<sup>th</sup> International Vascular Biology Meeting, Helsinki. Registrations are now open, and close on 20<sup>th</sup> May.

31st August 2018: 28th Annual Combined Biological Sciences Meeting, The University Club, University of Western Australia. The WA branch of the ANZSCDB will hold their annual meeting here in conjunction with several other WA societies.

23<sup>rd</sup>–26<sup>th</sup> September 2018: ComBio2018 at the International Convention Centre, Darling Harbour, Sydney. Registrations open this month and close on 22<sup>nd</sup> June.

ComBio2017 pictures are now available! Click HERE to see them.

27<sup>th</sup> September, 2018 (TBC): Annual ANZSCDB NSW and ACT Cell & Development Biology Meeting. More details to follow.

**13th November, 2018: 8<sup>th</sup> ANZSCDB Adelaide Meeting,** the UniSA CRI Building, Cnr. North Terrace and Morphett Street Bridge, Adelaide. More details to follow.

25<sup>th</sup> June 2018: Organoids Are Us: A Wnt signalling symposium, featuring organoids, cancer research, infectious diseases and stem cells. Doherty Institute Auditorium, Cnr. Royal Parade and Grattan Street, Melbourne. Please direct queries to Elizabeth Vincan or Maree Faux.



### **ANZSCDB Corporate Member News:**

We would like to thank the following corporate sponsors. Please visit their websites below and peruse their advertisements at the end of this newsletter.

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### **Awards**

We congratulate our President, <u>Professor Sharad Kumar</u>, on his AM, Member of the Order of Australia in the General Division, for his "significant service to medical research in the field of cancer and cell biology, as a scientist and author, to medical education, and as a mentor".



Read more about Sharad's award <u>here</u> and <u>here</u>. You can also find out more about his lab's current research in this recent article in <u>The Lead</u> and on the <u>CCB</u> and <u>UniSA</u> sites.

#### **Member Publications**

Henshall TL, Manning JA, Alfassy OS, Goel P, Boase NA, Kawabe H, Kumar S. Deletion of Nedd4-2 results in progressive kidney disease in mice. Cell Death Differ. 2017 Dec; 24(12): 2150-2160. doi: 10.1038/cdd.2017.137.

Vincan E, Schwab RHM, Flanagan DJ, Moselen JM, Tran BM, Barker N, Phesse TJ. The Central Role of Wnt Signaling and Organoid Technology in Personalizing Anticancer Therapy. Prog Mol Biol Transl Sci. 2018 Jan; 153: 299-319. doi: 10.1016/bs.pmbts.2017.11.009.

Pederick DT, Richards KL, Piltz SG, Kumar R, Mincheva-Tasheva S, Mandelstam SA, Dale RC, Scheffer IE, Gecz J, Petrou S, Hughes JN, Thomas PQ. Abnormal Cell Sorting Underlies the Unique X-Linked Inheritance of PCDH19 Epilepsy. Neuron. 2018 Jan 3;97(1):59-66.e5. doi: 10.1016/j.neuron.2017.12.005.

Meier M, Grant J, Dowdle A, Thomas A, Gerton J, Collas P, O'Sullivan JM, Horsfield JA. Cohesin facilitates zygotic genome activation in zebrafish. Development. 2018 Jan 3;145(1). pii: dev156521. doi: 10.1242/dev.156521.

Bhatia N, Heisler MG. Self-organizing periodicity in development: organ positioning in plants. Development. 2018 Feb 8;145(3). pii: dev149336. doi: 10.1242/dev.149336. Review.

Sztal TE, McKaige EA, Williams C, Ruparelia AA, Bryson-Richardson RJ. Genetic compensation triggered by actin mutation prevents the muscle damage caused by loss of actin protein. PLoS Genet. 2018 Feb 8;14(2):e1007212. doi: 10.1371/journal.pgen.1007212. eCollection 2018 Feb.

Kim EJY, Anko ML, Flensberg C, Majewski IJ, Geng FS, Firas J, Huang DCS, van Delft MF, Heath JK. BAK/BAX-Mediated Apoptosis Is a Myc-Induced Roadblock to Reprogramming. Stem Cell Reports. 2018 Feb 13;10(2):331-338. doi: 10.1016/j.stemcr.2017.12.019.

Boucher D, Monteleone M, Coll RC, Chen KW, Ross CM, Teo JL, Gomez GA, Holley CL, Bierschenk D, Stacey KJ, Yap AS, Bezbradica JS, Schroder K. Caspase-1 self-cleavage is an intrinsic mechanism to terminate inflammasome activity. J Exp Med. 2018 Mar 5;215(3):827-840. doi: 10.1084/jem.20172222.

Boyle ST, Kular J, Nobis M, Ruszkiewicz A, Timpson P, Samuel MS. Acute compressive stress activates RHO/ROCK-mediated cellular processes. Small GTPases. 2018 Feb 17:1-17. doi: 10.1080/21541248.2017.1413496.

Szot JO, Cuny H, Blue GM, Humphreys DT, Ip E, Harrison K, Sholler GF, Giannoulatou E, Leo P, Duncan EL, Sparrow DB, Ho JWK, Graham RM, Pachter N, Chapman G, Winlaw DS, Dunwoodie SL. A Screening Approach to Identify Clinically Actionable Variants Causing Congenital Heart Disease in Exome Data. Circ Genom Precis Med. 2018 Mar; 11(3):e001978. doi: 10.1161/CIRCGEN.117.001978.

Mendoza-Reinoso V, Beverdam A. Epidermal YAP activity drives canonical WNT16/β-catenin signaling to promote keratinocyte proliferation in vitro and in the murine skin. Stem Cell Res. 2018 Mar 10;29:15-23. doi: 10.1016/j.scr.2018.03.005.

Okolicsanyi RK, Oikari LE, Yu C, Griffiths LR and Haupt LM (2018) Heparan Sulfate Proteoglycans as Drivers of Neural Progenitors Derived from Human Mesenchymal Stem Cells. Front. Mol. Neurosci. 11:134. Accepted Apr 2018. doi: 10.3389/fnmol.2018.00134

Blanchoud S, Rutherford K, Zondag L, Gemmell NJ, Wilson MJ. De novo draft assembly of the Botrylloides leachii genome provides further insight into tunicate evolution. Sci Rep. 2018 Apr 3;8(1):5518. doi: 10.1038/s41598-018-23749-w.

Chen KW, Lawlor KE, von Pein JB, Boucher D, Gerlic M, Croker BA, Bezbradica JS, Vince JE, Schroder K. Cutting Edge: Blockade of Inhibitor of Apoptosis Proteins Sensitizes Neutrophils to TNF- but Not Lipopolysaccharide-Mediated Cell Death and IL-1 $\beta$  Secretion. J Immunol. 2018 Apr 16. pii: ji1701620. doi: 10.4049/jimmunol.1701620.

### **ANZSCDB State Meeting Reports**

#### 10th Melbourne Cell and Developmental Biology Meeting

This annual meeting is a hub for the cell and developmental biology community in Victoria and offers opportunities for students and ECRs as well as new and established group leaders to present their best work and establish new connections.

The program this year featured 16 talks selected from abstracts ranging in topic from embryogenesis to stem cell differentiation, ciliopathies and signalling, complemented by outstanding plenaries from ANZSCDB President's medallists — Prof. Melissa Little (awarded 2015) and Prof. Peter Currie (awarded 2017). Melissa Little spoke about the development of kidney organoids and their potential applications in disease modelling and regenerative medicine. Peter Currie, a self-declared 'movie guy', presented his stunning work on the live imaging of stem cell interactions during muscle regeneration in zebrafish.

We are proud to announce that presentations at the meeting were balanced for gender and career stage, and represented a range of tertiary institutions around Victoria. In keeping with previous years, the quality of abstract submissions was high. In total there were 107 registrants, 30 poster presentations, and 16 talks selected from abstracts. Prizes were awarded for best student and ECR talks and posters. Danni Ratnayake (ARMI) took out the student talk prize with her presentation on stem cell-macrophage interactions in muscle regeneration, and Lucas Dent (Peter Mac) won the ECR talk prize with his presentation on Pix/Git mechanosensors in epithelial morphogenesis. If we had presented a fashion award, Gary Hime would have won it with his pink polo shirt / tan suit combo. Honourable mentions for the talks go to student Akram Zamani (UoM), and postdoc Sam Manning (Peter Mac). Thanks to our talk judges Dagmar Wilhelm, and Rob Bryson-Richardson for their efforts on the day. Poster prizes were awarded to students Meg McFetridge (Monash) and Mustafa Hamimi (ARMI) and postdoc Kieran Short (Monash). Thanks to our poster judges Gary Hime, Kynan Lawlor, Ian Smyth and Bert de Groef.

Finally, thanks to ANZSCDB and our sponsors The Department of Anatomy and Neuroscience (UoM), The Australian Regenerative Medicine Institute (Monash), Eppendorf, The Centre for Stem Cell Systems (UoM), ThermoFisher Scientific, Genesearch, and Scientific Equipment.

The MCDB Organising committee 2017, Alex Combes, Seb Dworkin, Cristina Keightley, and Ben Rollo

(photos overleaf)







Top: Prize winners Lucas Dent, Danni Ratnayake, Meg McFetridge & Mustafa Hamimi.

Middle: Conference organisers L to R Ben Rollo, Alex Combes, Cristina Keightley and Seb Dworkin with Peter Currie (centre).

Bottom: Social catch up after the meeting.

#### Keeping up to date

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

Please engage with us via social media for society news and updates and tag us in your work-related posts.

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

Please send items to Michael Samuel, the society Secretary.

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.

The Secretary would like to thank **Sarah Boyle** for assisting with the assembly of this newsletter.



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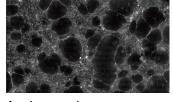
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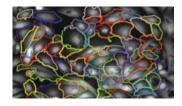
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