15:00 – 18:00

REGISTRATION
Location: Ground Floor Foyer, ICC Sydney
MONDAY 24 SEPTEMBER 2018

From 08:00 onwards

REGISTRATION
Location: 2nd Floor Foyer

08:30 - 08:45

OPENING OF CONFERENCE
AND ACKNOWLEDGEMENT OF COUNTRY

Professor Liz Harry, University of Technology Sydney, NSW
ComBio2018 Conference Chair

Location: Pyrmont Theatre

Professor Leann Tilley, University of Melbourne, VIC
ASBMB President

Professor Sergey Shabala, University of Tasmania, TAS
ASPS President

Professor Sharad Kumar, University of South Australia, SA
ANZSCDB President

Professor Richard Harland, University of California, Berkeley, USA
ISD President

Dr Marian McKenzie, NZ Institute for Plant & Food Research,
New Zealand
NZSPB President

Dr Monica Gerth, Victoria University of Wellington, New Zealand
NZSBMB President
PLE-MON-01
Sorting of small RNAs into extracellular vesicles secreted by human cells

Schekman, R., Shurtleff, M., Temoche-Diaz, M., Yao, J., Qin, Y. and Lambowitz, A. (USA)

Professor Randy Schekman

Randy Wayne Schekman is a Nobel Prize-winning American professor of molecular and cell biology at the University of California, Berkeley. For the past four decades, Randy Schekman has been characterising the traffic drivers that shuttle cellular proteins as they move in membrane-bound sacs, or vesicles, within a cell. His detailed elucidation of cellular travel patterns has provided fundamental knowledge about cells and has enhanced understanding of diseases that arise when bottlenecks impede some of the protein flow. Schekman shared the 2013 Nobel Prize for Physiology or Medicine with James Rothman and Thomas C. Südhof for their ground-breaking work on cell membrane vesicle trafficking. Schekman is former Editor-in-chief of Proceedings of the National Academy of Sciences of the United States of America, and in 2011, he was announced as the Editor of eLife.
08:30 – 17:00

EDUCATION SCHOLAR’S WRITING ROOM
Location: C2 Boardroom, Level 2, ICC Sydney

The Education Scholars Writing Room is available for all three days of the conference. If you would like to write about your education work, you are welcome to spend time in the writing space with other like-minded writers. This is an ideal space to work on your teaching award applications, education grants, and Scholarship of Teaching and Learning paper writing. Please bring your laptop. Members of the Education Special Interest Group will be in attendance at the room for much of the conference.
09:35 – 10:50

SYMPOSIUM 1

RESEARCHING & PUBLISHING IN SCIENCE EDUCATION

Chairs: A/Prof Susan Rowland, University of Queensland, QLD
       Professor Janet Macaulay, Monash University, VIC

Location: Meeting Room C2.4

09:35  SYM-01-01
Assessment, Research, and Publication: Navigating the stages of education scholarship
Dolan, E.L. (USA)
09:35 – 10:50

SYMPOSIUM 2

CELL WALLS

Chairs: Professor Rachel Burton, University of Adelaide, SA
Professor Vincent Bulone, University of Adelaide, SA

Location: Meeting Room C2.1

09:35 SYM-02-01
Cotton seed fibre mutants provide insights into critical determinants of cell wall developmental processes

09:50 SYM-02-02
Marchantia: a simple model system to study cell wall biosynthesis

10:05 SYM-02-03
Identification of a novel polysaccharide in land plants and synthesis by members of the cellulose synthase-like F gene family

10:20 SYM-02-04
Phi thickenings in Brassica roots - an adaption to water stress?
Collings, D.A., Aleamotu'a, M. and McCurdy, D.W. (Australia)

10:35 SYM-02-05 NZSPB Michael McManus Award for Best Student Paper Lecture
Cold, antioxidant and osmotic pre-treatments maintain the structural integrity of meristematic cells and improve plant regeneration in cryopreserved kiwifruit shoot tips
Mathew, L., McLachlan, A., Jibran, R., Burritt, D.J. and Pathirana, R. (New Zealand)
09:35 – 10:50

**SYMPOSIUM 3**

**ORGANOGENESIS**

**Chairs:** Dr Leonie Quinn, Australian National University, ACT
A/Prof Craig Smith, Monash University, VIC

**Location:** Meeting Room C2.5

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation ID</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:35</td>
<td>SYM-03-01</td>
<td>TO BE ADVISED</td>
<td>Thompson, B. (Australia)</td>
</tr>
<tr>
<td>09:50</td>
<td>SYM-03-02</td>
<td>Requirement of DDX6 medicated P-body formation for the function of NANOS2 in male germ cell differentiation</td>
<td>Saga, Y. (Japan)</td>
</tr>
<tr>
<td>10:05</td>
<td>SYM-03-03</td>
<td>Unraveling common pathogenic pathway underlying the formation of hypoplastic left heart syndrome</td>
<td>Fonoudi, H., Bosman, A., Humphreys, D., Patrick, R., Blue, G., Hill, A., Ho, J., Winlaw, D. and Harvey, R. (Australia)</td>
</tr>
<tr>
<td>10:20</td>
<td>SYM-03-04</td>
<td>A highly selective mechanism to suppress retrotransposon expression in drosophila</td>
<td>Hayashi, R., Handler, D., Brandstaetter, S., Helmrath, S., Felder, A.K. and Brennecke, J. (Australia and Austria)</td>
</tr>
<tr>
<td>10:35</td>
<td>SYM-03-05</td>
<td>Elevated WNT signalling disrupts heart development and may underlie some cases of human heterotaxy</td>
<td>Diamand, K.E.M., Barratt, K.S., Alzahrani, A.S., Walsh, K., Ahmed, J.N. and Arkell, R.M. (Australia)</td>
</tr>
</tbody>
</table>
09:35 – 10:50

SYMPOSIUM 4

PROTEIN STRUCTURE

Chairs: Dr Alastair Stewart, Victor Chang Cardiac Research Institute, NSW Professor Alice Vrielink, University of Western Australia, WA

Location: Meeting Room C2.3

09:35 SYM-04-01
Structure of a cholinergic postsynaptic membrane
Unwin, P.N.T. (United Kingdom)

09:50 SYM-04-02
Structure of human telomerase
Rhodes, D. (Singapore)

10:05 SYM-04-03
Structural basis for importin Alpha 3 binding specificity of W proteins in hendra and nipah viruses
(Australia and USA)

10:20 SYM-04-04 Queensland Protein Group SIG Lecture
Regulation of fat mass and obesity-associated (FTO) function by protein ubiquitination
Widagdo, J., Zhu, T. and Anggono, V. (Australia)

10:35 SYM-04-05 Beckman Coulter Discovery Science Lecture
Structural basis of NAD+ cleavage activity by mammalian and plant TIR domains
Horsefield, S., Burdett, H., Zhang, X., Shi, Y., Manik, M.K., Gu, W., Chen, J., Ve, T., Dodds, P.N. and Kobe, B.
(Australia)
MONDAY 24 SEPTEMBER 2018

09:35 – 10:50

SYMPOSIUM 5

BRAIN BIOCHEMISTRY AND METABOLISM

Chairs: Professor Caroline Rae, Neuroscience Research Australia, NSW
A/Prof Vladimir Sytnyk, University of New South Wales, NSW

Location: Pyrmont Theatre

09:35 SYM-05-01
Mathematical modelling of amino acid transporter fluxes in astrocytes
Todd, A.C., Hulme, S.R., Broer, S. and Billups, B. (Australia)

09:50 SYM-05-02
Characterisation of impairments in glucose metabolism in models of neurological disease and treatments thereof
Borges, K. (Australia)

10:05 SYM-05-03
Metabolic dysfunction in motor neurone disease (MND): insights gained from studies in the lab and the clinic
Ngo, S.T. (Australia)

10:20 SYM-05-04
Sleep and cancer: a cell culture model of sleep apnoea alters gene expression in the hypoxic, inflammatory and circadian rhythm pathways
Martinez, C., Kerr, B., Kataria, N., Cistulli, P. and Cook, K.M. (Australia)

10:35 SYM-05-05
Copper(II) prevents neurokinin B functional amyloid formation and disassembles preformed fibrils
Jayawardena, B.M. and Jones, C.E. (Australia)
09:35 – 10:50
SYMPOSIUM 6

BIOINFORMATICS

Chairs: Dr Eleni Giannoulatou, Victor Chang Cardiac Research Institute, NSW
Dr Martin Smith, Garvan Institute of Medical Research, NSW

Location: Meeting Room C2.2

09:35 SYM-06-01
Tools for the detection and network contextualisation of protein methylation

09:50 SYM-06-02
Differential correlation across ranked samples for single cell RNA-sequencing data
Ghazanfar, S, Strbenac, D., Ormerod, J.T., Yang, J.Y.H. and Patrick, E. (Australia)

10:05 SYM-06-03
Modelling breast cancer progression using single-cell RNA-seq

10:20 SYM-06-04
Remapping our recent evolutionary history
Upton, K.R. (Australia)

10:35 SYM-06-05
Genomics for communicable diseases surveillance and control in Australia
Howden, B. (Australia)
SYMPOSIUM 7

GENETIC ENGINEERING

Chairs: A/Prof Marco Herold, Walter & Eliza Hall Institute of Medical Research, VIC
       Professor Peter Koopman, University of Queensland, QLD

Location: Meeting Room C2.6

09:35 SYM-07-01
Using machine learning to personalize CRISPR-Cas9 applications


09:50 SYM-07-02
Development of an optimized nicotiana benthamiana host line for transient expression of humanized IgG

**Leblanc, Z.**, Mortimer, C., Naim, F. and Waterhouse, P. (Australia)

10:05 SYM-07-03
Modelling cancer mutations using CRISPR/Cas9 genome editing


10:20 SYM-07-04
Mouse knockout of Nuclear factor I genes cause cortical malformations that persist into adulthood

**Bunt, J.**, Boogert, S., Lim, J.W.C., Huth, S.F., Dean, R.J., Bridges, C., Gronostajski, R.M. and Richards, L.J. (Australia and USA)
10:35 SYM-07-05
Keep calm and CRISPR: joining the genome editing revolution
Adikusuma, A., Piltz, S., White, M., Robertson, L., Dawson, R., Hughes, J. and Thomas, P.Q. (Australia)

10:50 – 11:15 MORNING TEA
Location: C2 FOYER
PLENARY 2

PLENARY LECTURE

Chair: Professor Robert Yang, University of New South Wales, NSW
Location: Pyrmont Theatre

PLE-MON-02
The phase of fat: Mechanisms and physiology of lipid storage
Farese, R.V. Jr and Walther, T.C. (USA)

Professor Tobias Walther

Professor Dr Tobias Walther is a German biochemist elucidating the mechanisms underlying lipid and membrane homeostasis. He is particularly interested in the processes of metabolic energy storage as fat in health and disease, for instance during obesity and the metabolic syndrome or in neurodegeneration. He received his PhD from the European Molecular Biology Laboratory in Heidelberg in 2002, working on nuclear pores in Iain Mattaj’s laboratory. He then trained with Professor Dr Peter Walter at the UCSF in San Francisco, USA, where he studied membrane biochemistry and cell biology. In 2006, he started his laboratory first at the Max Planck Institute of Biochemistry, Germany, then Yale University, USA. In July 2014, he moved to the Harvard School of Public Health and Medical School in Boston, USA, where he runs a laboratory on metabolism research with his scientific partner Robert Farese, Jr.
PLENARY 3

ANNALS OF BOTANY LECTURE

Chair: Professor Brent Kaiser, University of Sydney, NSW
Location: Meeting Room C2.3

PLE-MON-03
Making a pore: signalling and transcription factor control of stomatal differentiation
Torii, K.U. (USA and Japan)

Professor Keiko Torii

Professor Keiko Torii is an Investigator of Howard Hughes Medical Institute, and an Endowed Professor of Biology at the Department of Biology, University of Washington in Seattle, USA. Since 2013, she is also appointed as an Oversea Principal Investigator of the Institute of Transformative Biomolecules (WPI-ITbM), Nagoya University, Japan. She received her BS, MS and PhD from the University of Tsukuba, Japan. She has been at the University of Washington since 2000, where she takes an integrated approach to unravel the underlying principles of cell–cell interactions specifying fate decisions and developmental patterning in plants, with specific focus on stomatal development. Her group in WPI-ITbM harnesses synthetic chemistry to probe and manipulate signaling in plant development. Her awards include Elected Fellow of AAAS (2012), Elected Member of the Washington State Academy of Sciences (2012), ASPB Fellows Award (2015) and the Saruhashi Prize (2015) which honors a Japanese female scientist for scientific accomplishments and mentoring junior women scientists to break through obstacles.
PLE-NON-04

Probing the structural details of ion-channel function using venom peptides

Mobli, M. (Australia)

A/Prof Mehdi Mobli

Associate Professor Mehdi Mobli is a Principal Research Fellow at the University of Queensland’s Centre for Advanced Imaging. His research group has a particular interest in understanding the mechanisms of ion channel function in health and disease. Ion channels have proven particularly recalcitrant to traditional drug discovery approaches and his group seeks to address this through improved understanding of the structure and function of these channels. Their approach is to use a range of biochemical and molecular biology approaches to stabilise different functional states of the channels in vitro, and then to assess the structure and function of these engineered channels using a range of advanced biophysical methods. In addition to making significant contributions in this general field, his group is also well known for technical and theoretical contributions to the field of nuclear magnetic resonance (NMR) spectroscopy. His group is developing new technologies to stabilise the ligand binding domain of ion channels so that they can be used as targets for high-throughput drug screening.
ASPS JAN ANDERSON LECTURE
(Including Presentation of Award)

Chair: Professor Sergey Shabala, University of Tasmania, TAS
ASPS President
Location: Meeting Room C2.3

PLE-MON-05
Plant-microbe symbioses: hormones and the art of self-control
Foo, E. (Australia)

Dr Eloise Foo

Dr Eloise Foo is an ARC Future Fellow at the University of Tasmania. Her research focuses on the role of plant hormones in regulating development and the interaction of plants with their biotic and abiotic environment. She is particularly interested in how plants use these signals to regulate the formation of beneficial symbioses with bacteria and fungi. She received her PhD at the University of Queensland in 2004 in the lab of Prof Christine Beveridge, where she described the role of the newest plant hormone, strigolactones in shoot branching. She then moved to Tasmania to take up a post-doc with Prof Jim Reid and A/Prof Jim Weller examining the role of hormones in the response of plants to light. She then established her own research group focusing on plant-microbe interactions, including the roles of the gibberellins, strigolactones, auxins, ethylene and brassinosteroids. She uses the model systems garden pea and tomato to understand the genes and signals that plants use to form alliances with nutrient acquiring microbes. She is particularly interested in the similarities and differences between the relationships plants have with nitrogen-fixing bacteria and phosphorous-acquiring mycorrhizal fungi.

12:45-13:45  LUNCH BREAK – lunch may be purchased at nearby cafés
SYMPOSIUM 8

APPLYING FOR A TEACHING AWARD

Chair: Dr Maurizio Costabile, University of South Australia, SA
Location: Meeting Room C2.4

13:45 SYM-08-01
Applying for a teaching award - interactive workshop
Costabile, M. (Australia)
SYMPOSIUM 9
DEVELOPMENTAL GENETICS OF HUMAN DISEASE

Chairs: Dr Gonzalo del Monte-Nieto, Victor Chang Cardiac Research Institute, NSW
Dr Megan Wilson, University of Otago, New Zealand

Location: Meeting Room C2.5

13:45 SYM-09-01
Dynamic cellular interplay in tissue regeneration
Rosenthal, N. (USA and United Kingdom)

14:00 SYM-09-02
Analysis of cardiac differentiation at single cell resolution reveals a requirement of hypertrophic signaling for HOPX transcription

14:15 SYM-09-03
The mechanosensor YAP drives cutaneous type 2 inflammation and eczema development
Mendoza-Reinoso, V., Corley, S., Lim, J.Y., Goh, L.F., Tong, P., Wilkins, M., Common, J.E., Roediger, B. and Beverdam, A. (Australia)

14:30 SYM-09-04
Reprogramming human iPSC into sensory neurons to study Rett syndrome
Sharmin, S., Lesperance, L.S., Wei, W., Piekna, A., Prescott, S.A. and Ellis, J. (Australia)

14:45 SYM-09-05
The integrated stress response in skeletal development and disease
Cheah, K.S.E. (China)
13:45 – 15:00

SYMPOSIUM 10

PROTEIN FOLDING AND AGGREGATION

Chairs:  A/Prof Danny Hatters, University of Melbourne, VIC
        Professor John Carver, Australian National University, ACT

Location:  Meeting Room C2.3

13:45  SYM-10-01
Aberrant protein folding and aggregation and increased vulnerability in motor neurons in ALS
Ooi, L. (Australia)

14:00  SYM-10-02
Dynamic structural properties of 14-3-3 zeta protein underpin its molecular chaperone action against amorphous protein aggregation

14:15  SYM-10-03
Structural capacitance in protein evolution and human diseases
Buckle, A.M. (Australia)

14:30  SYM-10-04
A biosensor based FLIM-FRET phasor approach to measure proteostasis capacity in cells
Moily, N.S., Hinde, E. and Hatters, D. (Australia)

14:45  SYM-10-05
Contribution of the residue at position 4 within classical nuclear localization signals to modulating interaction with importins and nuclear targeting
13:45 – 15:00

SYMPOSIUM 11

MUSCLE BIOCHEMISTRY AND METABOLISM

Chairs: Professor Matthew Watt, University of Melbourne, VIC  
Dr Emily Oates, University of New South Wales, NSW

Location: Pyrmont Theatre

13:45 SYM-11-01  
Metabolomic analysis of insulin resistance across different mouse strains and diets  

14:00 SYM-11-02  
Increased nuclear NAD⁺ biosynthesis alters skeletal muscle physiology  

14:15 SYM-11-03  
Metabolism regulates muscle stem cell self renewal by connecting the microenvironment and histone acetylation  

14:30 SYM-11-04  
Mitochondrial CoQ deficiency drives insulin resistance by increasing mitochondrial oxidants  

14:45 SYM-11-05  
Mitochondrial energy generation disorders: genes and mechanisms  
*Thorburn, D.R.* (Australia)
13:45 – 14:45

SYMPOSIUM 12

SYNTHETIC BIOLOGY

Chairs: Dr Dominic Glover, University of New South Wales, NSW
Professor Ian Paulsen, Macquarie University, NSW

Location: Meeting Room C2.1

13:45 SYM-12-01
The use of recombinant honeybee silk for rational design of advanced materials
Sutherland, T.D. and Rapson, T.D. (Australia)

14:00 SYM-12-02
Tissue engineered multicellular structures for aquatic detoxification
Pollak, N.M., Glass, N.R., Suzuki, K.G.H., Cooper-White, J.J. and Macdonald, J. (Australia and USA)

14:15 SYM-12-03
Measuring and modifying translation in escherichia coli through start codon and orthogonal tRNA engineering

14:30 SYM-12-04
Biomacromolecules within mollusk shells: gateway to biomimetic complex superstructures
Agbaje, O.B.A. and Jacob, D.E. (Australia)
13:45 – 15:00

SYMPOSIUM 13

NANOMEDICINES AND NANOSENSORS

Chairs: Dr Joshua McCarroll, Children’s Cancer Institute, NSW
        Professor Magdalena Plebanski, RMIT University, VIC

Location: Meeting Room C2.6

13:45 SYM-13-01
Using calcium phosphate lipid-coated nanoparticles to deliver antisense oligonucleotides to motor neurons in motor neurone disease

14:00 SYM-13-02
A strategy to protect the heart against doxorubicin induced cardiotoxicity

14:15 SYM-13-03
Liposome-based nanosensors for chemical and biological sensing
Chandrawati, R. (Australia)

14:30 SYM-13-04
Cellular nanovesicles: exosomes reduce primary tumor burden but accelerate metastasis
Samuel, M., Timpson, P., Parker, B. and Mathivanan, S. (Australia)

14:45 SYM-13-05
Emerging technologies for point-of-care diagnosis of soil-transmitted helminth infections
Soni, S.K., Ravindran, V.B., Traub, R. and Ball, A.S. (Australia)
13:45 – 15:00

SYMPOSIUM 14

STRUCTURE AT THE HOST-PATHOGEN INTERFACE 1

**Chairs:** A/Prof Margaret Sunde, University of Sydney, NSW
Professor Bostjan Kobe, University of Queensland, QLD

**Location:** Meeting Room C2.2

### 13:45 SYM-14-01
How autotransporter proteins modulate bacteria-host interactions
Paxman, J.J., Lo, A., Vo, J., Martinez Ortiz, C., Scembri, M.A. and **Heras, B.** (Australia)

### 14:00 SYM-14-02
Inflammasome assembly and activation mechanisms

### 14:15 SYM-14-03
Immunosuppressive activity of human CD52 via specific sialoforms

### 14:30 SYM-14-04
Tackling antimicrobial resistance (AMR) using single particle cryoem
**Belousoff, M.J.**, Yonath, A., Lupton, D. and Lithgow, T. (Australia and Israel)

### 14:45 SYM-14-05
*Haem* at the interface between pathogenic and commensal bacterial species in the human respiratory tract
Latham, R.D., Del Rey, M.T., Walshe, J., Brianna, A., Guss, J.M., Mackay, J.P., Tristram, S.G. and **Gell, D.A.** (Australia)
Gene editing approaches to develop anti-HIV therapies
Cannon, P. (USA)

Professor Paula Cannon

Paula Cannon is a Distinguished Professor in the Keck School of Medicine of the University of Southern California in Los Angeles. She studies genome engineering in hematopoietic stem cells, with an emphasis on developing therapies for HIV/AIDS. Dr Cannon earned her PhD from the University of Liverpool in the UK and did postdoctoral training at Harvard and Oxford Universities. In 2010, her team was the first to show that genome engineering could be used to knock out the CCR5 gene in human hematopoietic stem cells and produce an anti-HIV effect, which has now led to an ongoing clinical trial in HIV-infected individuals. She continues to develop new applications for genome engineering, with a goal of applying this technology to treat infectious and genetic diseases of the blood and immune systems.
PLENARY 07

NZSBMB CUSTOM SCIENCE LECTURE
(Including Presentation of Award)

Chair: Dr Monica Gerth, Victoria University of Wellington, New Zealand
NZSBMB President

Location: Meeting Room C2.3

PLE-MON-07
Real enzymes and how they've changed my view of life
Patrick, W.M. (New Zealand)

A/Prof Wayne Patrick

Wayne Patrick is an Associate Professor of Biochemistry at Victoria University of Wellington. His undergraduate training was at the University of Otago and his PhD was at the University of Cambridge – but that all feels like a long time ago now. Wayne’s research lies at the intersection of biochemistry and evolutionary biology. He and his group borrow tools from enzymology, synthetic biology, structural biology, directed evolution and microbiology to address fundamental evolutionary questions. They also use their evolutionary insights to engineer enzymes with new and improved properties. Questions that keep Wayne awake at night include "Where do new enzymes come from?", "Is it easy to invent new protein folds?", "Can we design enzymes that do what we want?" and "Will I ever run another decent half-marathon?".

15:50 – 16:20  AFTERNOON TEA
Location: C2 FOYER
16:20 – 17:35

SYMPOSIUM 15

INNOVATIVE PRACTICE IN BIOCHEMISTRY AND MOLECULAR BIOLOGY EDUCATION

Chairs: Dr Nirma Samarawickrema, Monash University, VIC
        Dr Maurizio Costabile, University of South Australia, SA

Location: Meeting Room C2.4

16:20 SYM-15-01 Shimadzu Education Award Lecture
Creating opportunities for student self-reflection on the development of graduate capabilities in a large first year molecular biology subject
Kuit, T. and Skropeta, D. (Australia)

16:45 SYM-15-02 ASPS Teaching Award Lecture
Flipping the laboratory in plant anatomy, biochemistry and global change biology
Loveys, B.R. (Australia)

17:10 SYM-15-03
Effect of context-based undergraduate biochemistry for health sciences (CUBHS) instruction on student perception of relevance, achievement and attitude
Fernandez, K., Overton, T., Thompson, C. and Samarawickrema, N. (Australia)

17:23 SYM-15-04
Embedding science communication skills in first year biology students using a multi-stage team project
Galea, A.M., LeBard, R. and Wilson, J.E. (Australia)
16:20 – 17:35

SYMPOSIUM 16

PLANT DEVELOPMENT

Chairs: A/Prof Mary Byrne, University of Sydney, NSW
A/Prof Marcus Heisler, University of Sydney, NSW

Location: Meeting Room C2.1

16:20 SYM-16-01
Shoot branching - role of strigolactones and interactions with other signals

Beveridge, C, Chabikwa, T., Kerr, S., Han, F., Fichtner, F., Lunn, J. and Barbier, F. (Australia and Germany)

16:35 SYM-16-02
Mix and Match: EPF/EPFL Peptide signaling in plant development

Torii, K. (USA and Japan)

16:50 SYM-16-03
Identification of regulatory pathways controlling cell differentiation during barley grain development

Aubert, M.K., Shirley, N.J., Houston, K., Burton, R.A. and Tucker, M.R. (Australia and United Kingdom)

17:05 SYM-16-04
An apocarotenoid retrograde signal post-transcriptionally controls protein levels, plastid biogenesis and plant development during extended periods of darkness


17:20 SYM-16-05
Investigating the functions and interactions of FLAs in secondary cell walls

Ma, Y., Zeng, W., Bacic, A. and Johnson, K.L. (Australia and China)
16:20 – 17:35

SYMPOSIUM 17

MECHANOBIOLOGY

Chairs: Dr Sara Baratchi, RMIT, University, VIC
Dr Joshua Chou, University of Technology Sydney, NSW

Location: Meeting Room C2.6

16:20 SYM-17-01
Self-assembling hydrogel substrates for neural networks
Martin, A.D. (Australia)

16:35 SYM-17-02
Understanding force sensing mechanisms in mechanosensitive Piezo channels
Cox, C.D., Bavi, N. and Martinac, B. (Australia)

16:50 SYM-17-03
Specialisation of the glioma cytoskeleton for navigating the soft tissue environment of the brain
O’Neill, G.M. (Australia)

17:05 SYM-17-04
 Newly identified molecular mechanism of glucocorticoid action in arthritis

17:20 SYM-17-05
Role of Arp2/3 in blebbing migration of T lymphocytes in vivo
SYMPOSIUM 18

MOLECULAR MACHINES

Chairs: Professor Nick Dixon, University of Wollongong, NSW
Dr Matthew Belousoff, Monash University, VIC

Location: Meeting Room C2.3

16:20 SYM-18-01
Cryo-EM studies of E. coli ATP synthase
Sobti, M., Smits, C., Wong, A.S.W., Ishmukhametov, R.,
Stock, D., Sandin, S. and Stewart, A.G. (Australia, Singapore
and United Kingdom)

16:35 SYM-18-02
The Tumbleweed: construction of a synthetic protein motor
Davies, R., Bromley, E., Niman, C., Blab, G., Woolfson, D.,
Zuckermann, M., Forde, N., Linke, H. and Curmi, P.
(Australia, United Kingdom, Sweden, The Netherlands and
Canada)

16:50 SYM-18-03
Nanoscale DNA origami tools to study molecular machines
Wickham, S. (Australia)

17:05 SYM-18-04
Nanoscale imaging of protein secretion systems used by
bacteria and their viruses
Hay, I.D. and Lithgow, T. (Australia)

17:20 SYM-18-05
The nucleosome remodelling and deacetylase (NuRD)
complex has an asymmetric, dynamic and modular
architecture
Silva, A.P.G., Low, J.K.K., Tabar, M.S., Torrado, M., Webb,
S.R., Parker, B.L., Schmidberger, J.W., Brillault, L.,
Landsberg, M.J. and Mackay, J.P. (Australia)
SYMPOSIUM 19

ADVANCED IMAGING

Chairs: Dr Renee Whan, University of New South Wales, NSW
       A/Prof Louise Cole, University of Technology Sydney, NSW

Location: Meeting Room C2.5

16:20 SYM-19-01
Detection of fluorescently labelled proteins by electron microscopy
Ariotti, N., Rae, J., Ferguson, C., Hall, T.E. and Parton, R.G. (Australia)

16:35 SYM-19-02
Chloroplast volume is underestimated from two-dimensional cross sections
Harwood, R.H. and Barbour, M.B. (Australia)

16:50 SYM-19-03
Modulation of Rok membrane dissociation rate triggers Rok planar polarisation during morphogenesis
Sidor, C.M., Stevens, T.J., Boulanger, J., Bailey, M.J., Prehoda, K.E., Harris, T.J. and Roeper, K. (UK, USA and Canada)

17:05 SYM-19-04
Adaptive optics and active PSF shaping enable super resolution fluorescence microscopy in tissues

17:20 SYM-19-05
Microstructure imaging from macro resolution MRI
Bourne, R. and Panagiotaki, E. (Australia and United Kingdom)
16:20 – 17:35

SYMPOSIUM 20

STRUCTURE AT THE HOST-PATHOGEN INTERFACE 2

Chairs: Dr David Jacques, University of New South Wales, NSW
        Dr Dave Gell, University of Tasmania, TAS

Location: Meeting Room C2.2

16:20 SYM-20-01
Grouper iridovirus mediated inhibition of apoptosis
Banjara, S., Mao, J., Ryan, T.M., Caria, S. and Kvansakul, M. (Australia)

16:35 SYM-20-02
Role of dynamic cooperativity in the mechanism of the
Plasmodium falciparum M17 aminopeptidase
Drinkwater, N., Yang, W., Riley, B.T., Malcolm, T.R.,
Buckle, A.M. and McGowan, S. (Australia)

16:50 SYM-20-03
Super resolution: a closer look at the Plasmodium falciparum
virulence complex
Looker, O., Blanch, a., McMillan, P., Liu, B., Dixon, M. and
Tilley, L. (Australia)

17:05 SYM-20-04
Fine mapping of adult plant leaf rust resistance gene Lr49 in
wheat
Baranwal, D., Bariana, H. and Bansal, U. (Australia)

17:20 SYM-20-05
Mechanisms of ligand sensing in the newly characterized,
dominant family of prokaryotic receptors
Roujeinikova, A. (Australia)
17:45 – 19:00

SYMPOSIUM 21

WRITING A TEACHING GRANT

Chairs: Dr Tracey Kuit, University of Wollongong, NSW
       A/Prof Susan Rowland, University of Queensland, QLD

Location: C2 Boardroom

17:45 SYM-21-01
Writing a teaching grant
Rowland, S. and Kuit, T. (Australia)
17:45 – 19:00

SYMPOSIUM 22

PLANT GENE EDITING

Chairs: Dr Steve Jobling, CSIRO, ACT
A/Prof Parwinder Kaur, University of Western Australia, WA

Location: Meeting Room C2.1

17:45 SYM-22-01
Improving CRISPR-Cas9 mediated gene editing in plants

18:00 SYM-22-02
Revealing the role of SEPALLATA-like genes in determining cereal inflorescence architecture using genome editing approach

18:15 SYM-22-03
CRISPR/Cas9-mediated disruption of the rice OsVIT1 and OsVIT2 genes to improve grain iron density
O'Brien, M., Kielnhofer, E.O.F., Eftekhari, F.N. and Johnson, A.A.T. (Australia)

18:30 SYM-22-04
Streamlining CRISPR delivery to plants

18:45 SYM-22-05
Creating synthetic gene regulatory circuits in plants
Khan, A., Kidd, B. and Lister, R. (Australia)
17:45 – 19:00

SYMPOSIUM 23

NEURAL DEVELOPMENT

Chairs:  Professor Lisa Foa, University of Tasmania, TAS
         Dr Victoria Garside, ARMI, Monash University, VIC

Location:  Meeting Room C2.5

17:45  SYM-23-01  
A molecular dissection of neural induction
Trevers, K., Lu, H.C., Anderson, C., Strobl, A.C.,
Palinkasova, B., Filipkova, L., Perez-Campos, L., Moncaut,
N., de Almeida, I.M. and Stern, C.D. (United Kingdom)

18:15  SYM-23-02  
14-3-3zeta modulates non canonical Shh signalling to control
cortical interneuron development
Greenberg, Z., Ramshaw, H., Xu, X. and Schwarz, Q.  
(Australia)

18:30  SYM-23-03  
Getting connected: the role of Sez6 family proteins in
excitatory synapse development and maintenance
Munro, K.M., Nash, A.N., Teng, K.S.-L., Carrodus, N.L.,
Barwood, J.M., Fuller, S.J., Eroglu, Ç., Takeshima, H., Power,
J. and Gunnersen, J.M. (Australia, USA and Japan)

18:45  SYM-23-04  ANZSCDB Emerging Leader Award Lecture  
Autism-like social interaction deficits can be prevented in
mice haploinsufficient for the sulfate transporter Slc13a4 by
postnatal administration of N-acetylcysteine
Zhang, Z., Dawson, P., Simmons, D. and Piper, M.  
(Australia)
17:45 – 19:00

SYMPOSIUM 24

ION CHANNELS AND TRANSPORTERS

Chairs: Dr Charles Cox, Victor Chang Cardiac Research Institute, NSW
           A/Prof Andrew Moorhouse, University of New South Wales, NSW

Location: Meeting Room C2.6

17:45 SYM-24-01
Visualizing functional ion channels at the cell surface

18:00 SYM-24-02
High throughput phenotyping of hERG channel mutations
Ng, C.A., Perry, M.D. and Vandenberg, J.I. (Australia)

18:15 SYM-24-03
Control of cell migration and shape by dual water and ion conducting aquaporin channels
Yool, A.J., Pei, J.V. and Kourghi, M. (Australia)

18:30 SYM-24-04
New insights into the post-translational regulation of ABC lipid transporters

18:45 SYM-24-05
Enhancing KCC2 as a novel strategy for treating seizures
17:45 – 19:00

SYMPOSIUM 25

FRONTIERS IN DRUG DESIGN

Chairs: Dr Lorna Wilkinson-White, University of Sydney, NSW
        Professor Rachel Codd, University of Sydney, NSW

Location: Meeting Room C2.3

17:45  SYM-25-01
      Understanding the biosynthesis of the glycopeptide antibiotics
      Cryle, M.J. (Australia)

18:00  SYM-25-02
      Peptide-inspired inhibitors of C-mannosyltransferases
      Goddard-Borger, E.D. (Australia)

18:15  SYM-25-03
      DNA-based inhibitors of the human APOBEC3B DNA cytosine deaminase
      Barzak, F., Kvach, M.V., Harjes, S., Jameson, G.B., Aihara, H., Harris, R.S., Filichev, V.V., Harki, D.A. and Harjes, E.
      (New Zealand, and USA)

18:30  SYM-25-04
      Genetic incorporation of unnatural amino acids into single chain variable fragments for generation of stable antibody-imaging probe conjugates for cancer imaging
      Subas Satish, H.P., Howard, C.B., Huda, P., Fletcher, N. and Thurecht, K. (Australia)

18:45  SYM-25-05
      Structural variants of a liver fluke derived granulin peptide potently stimulate wound healing
      Dastpeyman, M., Bansal, P.S., Wilson, D., Sotillo, J., Brindley, P.J., Loukas, A., Smout, M.J. and Daly, N.L.
      (Australia and USA)
17:45 – 19:00

SYMPOSIUM 26

LIPID BIOCHEMISTRY AND METABOLISM

Chairs: Professor Robert Yang, University of New South Wales, NSW
Dr Kim Bell-Anderson, University of Sydney, NSW

Location: Pyrmont Theatre

17:45 SYM-26-01
Mechanisms controlling metabolism by regulating protein turnover
Walther, T. (USA)

18:00 SYM-26-02
Using an omics approach to identify novel regulators of hepatic lipid metabolism
Drew, B.G., Parker, B.L., Seldin, M., Keating, M.F., Meikle, P.J., Tarling, E.J., Lusis, A.J., James, D.J., De Aguiar Vallim, T.Q. and Calkin, A.C. (Australia and USA)

18:15 SYM-26-03
The role of mitochondrial phosphatidylethanolamine synthesis in regulating skeletal muscle lipid homeostasis
Bruce, C.R. (Australia)

18:30 SYM-26-04
The E3 ubiquitin ligase MARCH6 is boosted by cholesterol
Sharpe, L.J., Howe, V. and Brown, A.J. (Australia)

18:45 SYM-26-05
Tackling lipid diversity in membranes; the effect on membrane and protein functions
Poger, D., Corbett, M.S.P. and Mark, A.E. (Australia)
17:45 – 19:00

SYMPOSIUM 27

SINGLE MOLECULE/CELL TECHNIQUES

Chairs: Dr Elizabeth Hinde, University of Melbourne, VIC
        A/Prof Sarah Ellis, Peter MacCallum Cancer Centre, VIC

Location: Meeting Room C2.4

17:45 SYM-27-01
Understanding spatial and temporal control of GPCR signalling using high resolution imaging
Halls, M.L. (Australia)

18:00 SYM-27-02
Protein dynamics and kinetics of genome-wide occupancy of the SOX18 transcription factor

18:15 SYM-27-03
Probing mechanisms for force-sensing in mechanosensitive ion channels with artificial droplet bilayer systems
Jaggers, O., Ridone, P., Xiao, B., Martinac, B. and Baker, M.A.B. (Australia and China)

18:30 SYM-27-04
Metal starvation triggers CetZ1-dependent cell shape changes in haloarchaea
De Silva, R.T., Ithurbide, S. and Duggin, I.G. (Australia)

18:45 SYM-27-05
SCF-bTrCP mediates the degradation of Cep68 intercentrosomal linker protein to control the disassembly of the pericentriolar material in mitosis
Pagan, J., Jones, M. and Pagano, M. (Australia and USA)
17:45 – 19:00

**SYMPOSIUM 28**

**VIRUSES**

**Chairs:** A/Prof Fasseli Coulibaly, Monash University, VIC
Professor David Tscharke, Australian National University, ACT

**Location:** Meeting Room C2.2

---

**17:45 SYM-28-01**
Non-canonical TGF-β/Smad signalling enhances cell-to-cell spread during vaccinia virus infection

_Gowripalan, A., McKenzie, C.D. and Newsome, T.P._
(Australia)

---

**18:00 SYM-28-02**
Uncoupling PKR activation and translational arrest during norovirus infection

_Fritzlar, S., Chao, Y.W., Aktepe, T.E. and Mackenzie, J.M._
(Australia)

---

**18:15 SYM-28-03**
Subcellular trafficking of host RNA helicase DDX3X modulates innate antiviral signalling and parainfluenza virus immunity

_and Borg, N.A. (Australia)_

---

**18:30 SYM-28-04**
Biological control of rabbits in Australia - an ongoing co-evolutionary arms race

_Hall, R.N. and Strive T. (Australia)_

---

**18:45 SYM-28-05**
Capsid dependent evasion of innate immune sensing in macrophages distinguishes pandemic HIV-1(M) and non-pandemic HIV-1(O)

_Jacques, D.A., Hilditch, L., Rasaiyaah, J., James, L.C. and Towers, G.J. (Australia and UK)_

---

19:00 – 20:30  **WELCOME MIXER**

**Location:** _THE GALLERY_
PLENARY LECTURE

Chair: Dr Kate Poole, University of New South Wales, NSW
Location: Meeting Room C2.3

PLE-TUE-08
The cell biology and biochemistry of microtubule nucleation
Brouhard, G.J. (Canada)

A/Prof Gary Brouhard

Gary Brouhard is an Associate Professor of Biology at McGill University in Montréal, Québec. Dr Brouhard earned his PhD in Biomedical Engineering from the University of Michigan and received postdoctoral training in biophysics at the Max Planck Institute for Molecular Cell Biology and Genetics in Dresden, Germany. The Brouhard lab’s contributions have centered on the workings of microtubule-associated proteins (MAPs), the proteins that cells use to build their microtubules, break them down, and rebuild them again. We view MAPs as intricate molecular machines; the lab discovers how these machines work and how they break down in disease.
PLENARY LECTURE

Chair: Professor Alaina Ammit, University of Technology
Sydney, NSW
Location: Pyrmont Theatre

PLE-TUE-09
Mechanosensing at the surface: signaling mechanisms in mammalian touch
Lumpkin, E.A. (USA)

A/Prof Ellen Lumpkin

Ellen A Lumpkin is an Associate Professor of Physiology and Cellular Biophysics and of Somatosensory Biology (in Dermatology) at Columbia University. Lumpkin’s research focuses on genes, cells and neural signals that give rise to the sensations of touch, pain and itch. Dr Lumpkin is Co-director of the Thompson Family Foundation Initiative in Chemotherapy-induced Peripheral Neuropathy and Sensory Neuroscience. She was previously a Sandler Fellow at UC San Francisco and an Assistant Professor of neuroscience, physiology and molecular biophysics, and molecular and human genetics at Baylor College of Medicine.
09:20 – 10:35

SYMPOSIUM 29

PLANT ENERGY

Chair: Dr Ricarda Jost, La Trobe University, VIC
Location: Meeting Room C2.1

09:20 SYM-29-01
Dynamics of tissue-specific genome regulatory programs in the germinating barley seed

09:35 SYM-29-02
Regulation shoot anion loading via the AtSLAH1-AtSLAH3 complex
Qiu, J. and Gilliham, M. (Australia)

09:50 SYM-29-03
A novel mitochondrial LYR protein is required for complex I assembly in Arabidopsis
Ivanova, A., Gille-Hill, M., Branca, R., Kmiec, B., Teixeira, P. and Murcha, M.W. (Australia and Sweden)

10:05 SYM-29-04
Diurnal variation in thermal acclimation of leaf respiration in rice

10:20 SYM-29-05
Reactive oxygen species contribute to sugar signalling and growth in Arabidopsis
Roman, A., Deng, D., Eastmond, H., Arshad, W., Davey, J., James, S., Ashton, P.D., Graham, I.A. and Haydon, M.J. (Australia and United Kingdom)
SYMPOSIUM 30

STEM CELLS IN ORGAN REGENERATION

Chair: Dr Robyn Meech, Flinders University of South Australia, SA
A/Prof Helen Abud, Monash Biomedicine Discovery Institute, VIC

Location: Meeting Room C2.5

09:20 SYM-30-01
Modeling gene expression variability to understand stem cell regulation
Mar, J.C. (Australia)

09:35 SYM-30-02
Liver regenerative medicine - towards cell and organoid therapies
Yap, K. (Australia)

09:50 SYM-30-03
How: The long and short of intestinal stem cells
Qi, J., Dominado, N., Savva, E., Casagrande, F., Siddall, N.A. and Hime, G.R. (Australia)

10:05 SYM-30-04
The role of the prorenin receptor in male fertility

10:20 SYM-30-05
β-catenin drives distinct transcriptional networks in regenerative and non-regenerative cardiomyocytes
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors and Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:35</td>
<td>SYM-31-02</td>
<td>Epigenetic and transcriptional regulation of IL-4 induced CCL17 production in human monocytes and murine macrophages</td>
<td>Lupancu, T., Hsu, A., Lee, M., Fleetwood, A., Cook, A., Hamilton, J. and Achutan, A. (Australia)</td>
</tr>
<tr>
<td>09:50</td>
<td>SYM-31-03</td>
<td>Mitochondrial function during mammalian oocyte development: going beyond bioenergetics</td>
<td>Adhikari, D., Liu, J., Alzubaidi, U., Zhang, Q.H., Yuen, W.S., Robker, R.L. and Carroll, J. (Australia)</td>
</tr>
<tr>
<td>10:05</td>
<td>SYM-31-04</td>
<td>TLR4 as an inflammatory key to severe dengue disease</td>
<td>Modhiran, N., Vajjhala, P.R., Watterson, D., Young, P.R. and Stacey, K.J. (Australia)</td>
</tr>
<tr>
<td>10:20</td>
<td>SYM-31-05</td>
<td>Cell death and autoinflammation</td>
<td>Lawlor, K.E., Feltham, R., Yabal, M., Jost, P.J. and Vince, J.E. (Australia and Germany)</td>
</tr>
</tbody>
</table>
09:20 – 10:35

**SYMPOSIUM 32**

**MOLECULAR INTERACTIONS**

**Chairs:** Dr Mihwa Lee, La Trobe University, VIC  
Dr Minna-Liisa Anko, Monash University, VIC

**Location:** Meeting Room C2.3

09:20 **SYM-32-01**  
Combating antibiotic resistance: structural and biophysical studies of a colistin resistance enzyme involved in endotoxin modification  
Vrielink, A., Anandan, A., Evans, G.L., Condic-Jurkic, K., O'Mara, M.L. and Kahler, C.M. (Australia)

09:35 **SYM-32-02**  
Circular RNAs in epithelial to mesenchymal transition (EMT)  
Goodall, G.J. (Australia)

09:50 **SYM-32-03**  
Homodimerization regulates an endothelial specific signature of the SOX18 transcription factor  

10:05 **SYM-32-04 Sydney Protein Group SIG Lecture**  
Ordered LIM domains tune association rates of disordered partners to regulate transcription factor complex formation  
Robertson, N.O., Smith, N.C., Manakas, A., Mahjuob, M., McDonald, G., Kwan, A.H. and Matthews, J.M. (Australia)

10:20 **SYM-32-05**  
Molecular architecture of an *E. faecalis* antitermination protein bound to RNA  
Walshe, J.L., Patel, K. and Ataide, S.F. (Australia)
SYMPOSIUM 33

BONE BIOCHEMISTRY AND METABOLISM

Chairs: Professor Rebecca Mason, University of Sydney, NSW
        Professor Michael Rogers, Garvan Institute of Medical Research, NSW

Location: Pyrmont Theatre

09:20 SYM-33-01
Regulation of expression of vitamin D hydroxylases
Morris, H. (Australia)

09:35 SYM-33-02
Bone regulation of energy and glucose metabolism
Brennan-Speranza, T.C., Liu, X., Brock, K. and Levinger, I.
(Australia)

09:50 SYM-33-03
The mevalonate pathway in bone biology
Munoz, M. and Rogers, M.J. (Australia)

10:05 SYM-33-04
Epigenetic regulation of prostate cancer metastasis to the bone
Wilkinson, E.J., Malley, R., Dickinson, J.L. and Holloway, A.F. (Australia)

10:20 SYM-33-05
Splicing factor SRSF3 as a novel regulator of oncogenic miRNAs
Ratnadiwakara, M., Jarde, T., Engel, R., Oliva, J., McMurrick, P.J., Abud, H.E. and Anko, M.L. (Australia)
09:20 SYM-34-01
Systematic functional identification of cancer drug resistance genes
Lau, M.T. and Neely, G.G. (Australia)

09:50 SYM-34-02
Genomic heterogeneity in colorectal primary and liver metastases samples

10:05 SYM-34-03
miR-496 expression is altered in oropharyngeal cancers by HPV16 E6
Mason, D., Zang, X., Monteiro, Marquest, T., Gama-Carvalho, M. and Tran, N. (Australia and Portugal)

10:20 SYM-34-04
Genomic approaches to improve indigenous health
09:20 – 10:35

SYMPOSIUM 35

ANTIBIOTIC RESISTANCE AND NEW ANTIMICROBIALS

Chairs: Dr Mark Blaskovich, University of Queensland, QLD
Professor Liz Harry, University of Technology Sydney, NSW

Location: Meeting Room C2.2

09:20 SYM-35-01
Clinical bacteriophage therapy in the 21st century
Morales, S. (Australia)

09:35 SYM-35-02
Structure, function, and biosynthetic origin of octapeptin antibiotics active against extensively drug-resistant gram-negative bacteria

09:50 SYM-35-03
In search of new antibiotics that exploit the cell wall deficient L-form lifestyle
Max, D.O., Lazenby, J.J. and Whitchurch, C.B. (Australia)

10:05 SYM-35-04
Structural and kinetic characterisation of class III biotin protein ligases; novel anti fungal drug targets
Novel structural properties of a haemophore-like protein offer an avenue for targeted elimination of *Porphyromonas gingivalis*


---

**10:35 – 11:20 MORNING TEA AND POSTER TEASERS**

**10:45 – 11:15**

Selected poster presenters will deliver ‘Poster Teasers’ in the Exhibition Hall Meeting Room prior to the poster session commencing at 13:30.

**Poster Teaser Co-ordinators:**
- Dr Amy Bottomley, University of Technology Sydney, NSW
- Dr Peta Bradbury, Woolcock Institute of Medical Research, NSW
- Dr Arne Ittner, University of New South Wales, NSW
- Dr Heloisa Milioli, Garvan Institute of Medical Research, NSW

**Location:** THE GALLERY
I am a developmental biologist with a long-standing interest in how cell in developing embryos control the decision to divide or to differentiate in coordination with cell cycle events, and how this coordination is subverted in cancer cells. I undertook a PhD in sperm chromatin biology at the University of Cambridge and followed this with two postdocs at Harvard Medical School, exploring the role of cyclin-dependent kinases and other cell cycle regulators in control of cellular differentiation. I moved back to Cambridge in 1998 to start my own lab as a Lecturer in the Department of Oncology, University of Cambridge, and I am now Professor and Deputy Head of Department in Oncology, as well as a member of the Cambridge Stem Cell Institute. My lab continues to use multiple systems, and in particular *Xenopus* eggs and embryos, mammalian ES and cancer cells, 3D organoids and genetically engineered mice, to understand regulation of proliferation versus differentiation at the biochemical, epigenetic and tissue level.
Functional genomics of symbiotic nitrogen fixation in legumes

Udvardi, M., Roy, S., Liu, W., Nova Franco, B., Espinoza, M., Kang, Y., Torres-Jerez, I. and Huertas, R. (USA)

Dr Michael Udvardi

Michael Udvardi is the Chief Scientific Officer of the Noble Research Institute, Oklahoma, USA. Dr Udvardi earned his PhD from the Australian National University in 1989. He is primarily interested in how plants obtain nitrogen for growth, either as mineral nitrogen from the soil or from atmospheric di-nitrogen via symbiotic nitrogen fixation in bacteria. He has contributed to our understanding of symbiotic nitrogen fixation in legumes, especially of transport and metabolism in root nodules, using biochemical, molecular, genetic and genomic methods. He was amongst the first to characterise ammonium and nitrate transporters in plants. Recently, his group has expanded its work on plant nitrogen to include associative nitrogen fixation, as well as nitrogen recycling during shoot senescence, in perennial plants. His group also has interests in plant acclimation and adaptation to abiotic stress, including drought and salinity. He was part of a large international team that sequenced and analysed the Medicago truncatula genome and is now involved in efforts to sequence the related alfalfa (Medicago sativa) genome. He is part of an international team that is trying to develop synthetic nitrogen-fixing symbioses in plants. Dr Udvardi was Elected Fellow of the American Association for Advancement of Science in 2012.
Professor Jamie Rossjohn is an ARC Australian Laureate Fellow, Head of the Infection and Immunity Program within the Biomedicine Discovery Institute, Monash University, and Professor of Structural Immunology at the School of Medicine, Cardiff University, UK. At Monash, the focus of Rossjohn’s laboratory has been on defining the key molecular interactions underlying receptor recognition events that underpin immunity, both from the aspect of protective immune control and with regard to autoimmunity. Rossjohn has used structural biology to explain how the T cell receptor recognises human leukocyte antigen (HLA) molecules in the context of viral immunity and aberrant T cell reactivity. Rossjohn’s research on the immune system, how the body reacts to infection and what happens when the immune system fails has led to a sustained advancement of knowledge in the field of immunity. His work has been generously supported by the Cancer Council, the NHMRC and the ARC, including the current Centre of Excellence in Advanced Molecular Imaging.
Dr Caitlyn Byrt (University of Adelaide) works on identifying and characterising genes and mechanisms influencing food crop productivity in dry and saline environments. Recently her team discovered a subset of plant water channels (aquaporins) that can transport both water and ions. This is a pivotal discovery in relation to resolving the mechanisms important in salt and water co-transport and ion uptake in plant roots. Aquaporin function is important in diverse fields such as agriculture, medicine and water purification biotechnology. Dr Byrt is investigating factors that influence the ability of plant cells to rapidly adjust solute transport across membranes, which is essential to functions such as rapid cell expansion during growth and to tolerating changes in water availability and soil salinity. Dr Byrt’s research has revealed the identity and function of sodium transport genes that are being used globally to increase the grain yield of wheat on saline soils.
Investigating how genetic and environmental factors disrupt mammalian embryogenesis

Dunwoodie, S.L. (Australia)

Professor Sally Dunwoodie gained a PhD researching the genetics of muscle development, at the Children’s Medical Research Institute, University of Sydney. She undertook postdoctoral training in embryology at the National Institute for Medical Research in London. There she identified numerous genes necessary for normal mammalian embryogenesis. Whilst at the Victor Chang Institute, Sally has defined genetic causes of congenital vertebral defects with diagnostic genetic tests now available worldwide. Currently, she is embracing some of the newest genomic technologies to identify disease-causing mutations in hundreds of families with heart defects, among others. She is also exploring the impact that environmental factors and gene-environment interaction have on embryogenesis. She has received awards including the Australian and New Zealand Cell and Developmental Biology Emerging Leader Award in 2008, finalist in the NSW Premier’s Woman of the Year Award in 2016, and the NSW Premier’s Prize for Excellence in Medical Biological Science in 2017. Sally Dunwoodie heads the Embryology Laboratory and the Chain Reaction Program in Congenital Heart Disease Research at the Victor Chang Cardiac Research Institute in Sydney. She is a Professor in the Faculties of Medicine and Science at the University of New South Wales.
ASBMB AWARD PRESENTATIONS

Chair: Professor Leann Tilley, University of Melbourne, VIC
ASBMB President

Location: Pyrmont Theatre

BECKMAN COULTER DISCOVERY SCIENCE AWARD PRESENTATION
To: Professor Bostjan Kobe, University of Queensland, QLD

EPPENDORF EDMAN AWARD PRESENTATION
To: Dr Rajesh Ghai, University of Queensland, QLD

SHIMADZU EDUCATION AWARD PRESENTATION
To: Dr Tracey Kuit, University of Wollongong, NSW

BIOPLATFORMS AUSTRALIA AWARD PRESENTATION
To: Dr Simon Cobbold, University of Melbourne, VIC

FRED COLLINS FELLOWSHIP AWARD PRESENTATION
To: Miss Louise Sternicki, University of Adelaide, SA

ASBMB FELLOWSHIP AWARD PRESENTATIONS
To: Dr Hafna Ahmed, CSIRO, ACT
Ms Jess Bridgford, Walter & Eliza Hall Institute, VIC
Dr Kha Phan, La Trobe University, VIC

PRESENTATIONS OF CERTIFICATES TO LONG STANDING MEMBERS OF THE ASBMB
To: Professor Tony Burgess
Dr Christopher Driver
Dr Ross Fernley
Dr Ronald Hill
A/Prof Ross Lilley
Dr Margaret Smith
12:55 – 13:15

ASPS & NZSPB AWARD PRESENTATIONS

Location: Meeting Room C2.1

ASPS-FPB BEST PAPER AWARD PRESENTATION
To: Dr Getnet Adem, University of Tasmania, TAS
Chair: Professor Sergey Shabala, University of Tasmania, TAS
ASPS President

ASPS TEACHER’S AWARD PRESENTATION
To: Dr Beth Loveys, University of Adelaide, SA
Chair: Professor Sergey Shabala, University of Tasmania, TAS
ASPS President

NZSPB MICHAEL MCMANUS AWARD FOR BEST STUDENT POSTER PRESENTATION
To: Ms Liya Mathew, NZ Institute for Plant and Food Research, New Zealand
Chair: Dr Marian McKenzie, NZ Institute for Plant & Food Research, New Zealand
NZSPB President
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:55 – 13:00</td>
<td><strong>ANZSCDB EMERGING LEADER AWARD PRESENTATION</strong></td>
</tr>
<tr>
<td>To:</td>
<td>A/Prof Michael Piper, University of Queensland, QLD</td>
</tr>
<tr>
<td>Chair:</td>
<td>Professor Sharad Kumar, University of South Australia, SA</td>
</tr>
<tr>
<td>Location:</td>
<td>Meeting Room C2.3</td>
</tr>
<tr>
<td>13:00 – 13:30</td>
<td><strong>INTERNATIONAL SOCIETY OF DIFFERENTIATION (ISD) BUSINESS MEETING</strong></td>
</tr>
<tr>
<td>Chair:</td>
<td>Professor Richard Harland, University of California, Berkeley, USA</td>
</tr>
<tr>
<td>Location:</td>
<td>Meeting Room C2.3</td>
</tr>
<tr>
<td>13:15 – 14:30</td>
<td><strong>LUNCH / EXHIBITION / POSTERS</strong></td>
</tr>
<tr>
<td>Location:</td>
<td>THE GALLERY</td>
</tr>
<tr>
<td>13:30 – 14:30</td>
<td><strong>POSTER SESSION A</strong></td>
</tr>
<tr>
<td>Location:</td>
<td>THE GALLERY</td>
</tr>
</tbody>
</table>
14:30 – 15:45

SYMPOSIUM 36

CAREER DEVELOPMENT FORUM 1

Chairs: Dr Amy Bottomley, University of Technology Sydney, NSW
       Dr Peta Bradbury, Woolcock Institute of Medical Research, NSW
       Dr Arne Ittner, University of New South Wales, NSW
       Dr Heloisa Milioli, Garvan Institute of Medical Research, NSW

Location: Pyrmont Theatre

14:30 SYM-36-01
Support networks for EMCRs
Bowden, N. (Australia)

14:45 SYM-36-02
How to make valuable connections between academia and industry
Oliver, B. (Australia)

15:00 SYM-36-03
Shameless self-promotion: how to create a public profile
Bouveret, R. (Australia)

15:15 SYM-36-04
Creating useful mentor relationships
Georgousakis, M. (Australia)

15:30 SYM-36-05
Governance and policy: why sustaining links with government is important to your future
Phillips, P. (Australia)
14:30 – 15:45

SYMPOSIUM 37

PHOTOSYNTHESIS AND ASSIMILATE PARTITIONING

Chairs: A/Prof Oula Ghannoum, Western Sydney University, NSW
Dr Lucas Cernusak, James Cook University, QLD

Location: Meeting Room C2.1

14:30 SYM-37-01
How plastic are the C4 subtypes? Investigating the plasticity of C4 grasses through exposure to low light and low carbon dioxide
Watson-Lazowski, A., Sagun, J., Koller, F., Papanicolaou, A. and Ghannoum, O. (Australia)

14:45 SYM-37-02
Profiling of thylakoid complexes from the mesophyll and bundle sheath cells of C4, C3 and C2 Panicum grasses by BN/page and LC/MS

15:00 SYM-37-03
Strategies for improving photosynthetic electron transport in C4 plants
Ermakova, M., Furbank, R. and von Caemmerer, S. (Australia)

15:15 SYM-37-04
Understanding aquaporins as potential enhancers of photosynthesis and plant performance

15:30 SYM-37-05
Exploration of seasonal change of thermal tolerance and proteins in three Australian desert plants
14:30 – 15:45

SYMPOSIUM 38
ORGANOIDS

Chairs: Dr Alex Combes, University of Melbourne & MCRI, VIC
       A/Prof Jeremy Crook, University of Wollongong, NSW

Location: Meeting Room C2.5

14:30 SYM-38-01
Precision medicine in a dish
Palmieri, M., Hirokawa, Y., Leong, E., Burgess, A. and
Sieber, O. (Australia)

14:45 SYM-38-02
'NextGen' human brain organoids using 3D printed gelatin
methacrylate
Tomaskovic-Crook, E., Zhang, B., Bourke, J.L., Gu, Q.,
Kapsa, R.M., Wallace, G.G. and Crook, J.M. (Australia)

15:00 SYM-38-03
Screening in human cardiac organoids identifies a requirement
for the mevalonate pathway in cardiomyocyte proliferation
Hudson, M.E. (Australia)

15:15 SYM-38-04
Neuregulin1 is a key niche signal that supports intestinal stem
cell proliferation
Jarde, T., Rossello, F., Kurian Arackal, T., Flores, T., Giraud,
M., Prasko, M., Nefzger, C.M., Abe, S., Polo, J.M. and Abud,
H.E. (Australia and Japan)

15:30 SYM-38-05
Notch1Nrg1 control of cardiac jelly dynamics defines the
building plan for trabeculation
del Monte-Nieto, G., Ramialison, M., Adam, A.A.S., Wu, B.,
Aharonov, A., Bourke, L.M., Harten, S.K., Tzahor, E., Zhou,
B. and Harvey, R.P. (Australia and USA)
14:30 – 15:45

SYMPOSIUM 39

MEMBRANE ORGANIZATION AND RECEPTOR SIGNALLING

Chairs:  Dr Michelle Halls, Monash University, VIC
         A/Prof Brett Collins, University of Queensland, QLD

Location:  Meeting Room C2.6

14:30  SYM-39-01
Control of receptor function through membrane embedded sequences
Call, M.J. (Australia)

14:45  SYM-39-02
Towards capturing an atomic view of the activation of P-Rex oncogenes at the membrane

15:00  SYM-39-03
How are signals to developing T cells coordinated at the membrane?
Russell, S., Charnley, M. and Allam, A. (Australia)

15:15  SYM-39-04
Annexin A6 depletion rescues cholesterol egress in NPC1 mutant cells via formation of endosome-ER membrane contact sites

15:30  SYM-39-05
Retromer is required for the retrograde sorting of cation-independent mannose 6-phophate receptor into a subset of endosome transport carriers
Cui, Y., Carosi, J., Yang, Z., Kerr, M., Sargeant, T. and Teasdale, R. (Australia)
SYMPOSIUM 40

PROTEOMICS AND SYSTEMS BIOLOGY

Chairs: Professor Marc Wilkins, University of New South Wales, NSW
       A/Prof Vera Ignjatovic, Murdoch Children’s Research Institute, VIC

Location: Meeting Room C2.3

14:30 SYM-40-01
Unanticipated proteolysis diversifies targets of immunity
Purchell, A.W. (Australia)

14:45 SYM-40-02 Yeast SIG Lecture
Dissecting the subcellular secretory glycoproteome with mass spectrometry proteomics
Zacchi, L.F., Phung, T. and Schulz, B.L. (Australia)

15:00 SYM-40-03
Multi-omic profiling of the liver in a rat model of type 2 diabetes

15:15 SYM-40-04
Good and bad fat: discovering key distinguishing features with multifactorial proteomics data

15:30 SYM-40-05
Glycocin F: a bacteriostatic, glycosylated bacteriocin
Bisset, S.W., Amso, Z., Yang, S.H., Brimble, M.A., Patchett, M.L. and Norris, G.E. (New Zealand)
14:30 – 15:45

SYMPOSIUM 41

INNATE IMMUNITY

Chairs: Dr Jaclyn Pearson, Hudson Institute of Medical Research, VIC
Dr Gregor Ebert, Walter & Eliza Hall Institute of Medical Research, VIC

Location: Meeting Room C2.2

14:30 SYM-41-01
Understanding early toll-like receptor signalling through Myddosome examination
De Nardo, D., Balka, K.R., Cardona Gloria, Y., Rao, V.R., Latz, E. and Masters, S.L. (Australia, Germany and USA)

14:45 SYM-41-02
Macrophage migration inhibitory factor is required for NLRP3 inflammasome activation
Lang, T., Lee, J.P.W., Deen, N.S. Morand, E.F. and Harris J. (Australia)

15:00 SYM-41-03
WNT signalling and host control of bacterial pathogens

15:15 SYM-41-04
Phosphatidylinositol 4,5-bisphosphate: an emerging cell death mediator and immune regulator
Phan, T.K., Lay, F.T., Jarva, M., Kvansakul, M. and Hulett, M.D. (Australia)

15:30 SYM-41-05
Inflammasome signalling in the host defense against infectious disease
Man, S. (Australia)

15:45 – 16:15  AFTERNOON TEA / EXHIBITION / POSTERS

Location: THE GALLERY
16:15 – 17:30
**SYMPOSIUM 42**

**CAREER DEVELOPMENT FORUM 2**

**Chairs:** Dr Amy Bottomley, University of Technology Sydney, NSW  
Dr Peta Bradbury, Woolcock Institute of Medical Research, NSW  
Dr Arne Ittner, University of New South Wales, NSW  
Dr Heloisa Milioli, Garvan Institute of Medical Research, NSW

**Location:** Pyrmont Theatre

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker, Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:15</td>
<td>SYM-42-01</td>
<td>Magnifying the career path after PhD</td>
<td>Le, S. (Australia)</td>
</tr>
<tr>
<td>16:30</td>
<td>SYM-42-02</td>
<td>Navigating the impact of career disruption</td>
<td>Caldon, C.E. (Australia)</td>
</tr>
<tr>
<td>16:45</td>
<td>SYM-42-03</td>
<td>Spinning out: tales from a university start up</td>
<td>Burke, C. (Australia)</td>
</tr>
<tr>
<td>17:00</td>
<td>SYM-42-04</td>
<td>TO BE ADVISED</td>
<td>Delerue, F.H.P. (Australia)</td>
</tr>
<tr>
<td>17:15</td>
<td>SYM-42-05</td>
<td>TO BE ADVISED</td>
<td>Chapman, N. (Australia)</td>
</tr>
</tbody>
</table>
TUESDAY 25 SEPTEMBER 2018

16:15 – 17:30

SYMPOSIUM 43

PLURIPOTENCY AND REGENERATIVE MEDICINE

Chairs: A/Prof Mirella Dottori, University of Wollongong, NSW
Dr Vashe Chandrakanthan, University of New South Wales, NSW

Location: Meeting C2.5

16:15 SYM-43-01
Defining initial molecular mechanisms of human cataract information using light-focusing micro-lenses
Umala Dewi, C., Kabir, M.D.H., Murphy, P., Ho, J. and O'Connor, M.D. (Australia)

16:30 SYM-43-02
Mouse and human microglial phenotypes in Alzheimer's disease are controlled by plaque phagocytosis through HIF1α

16:45 SYM-43-03
Human pluripotent stem cell models of heart development and disease
Elliott, D.A. (Australia)

17:00 SYM-43-04
Regulation of the skeletal muscle stem cell niche
Tajbakhsh, S. (France)

17:15 SYM-43-05
Advances in kidney organoid generation; insights gained through novel human iPS cell reporter line approaches and gene expression profiling
Vanslambrouck, J.M., Howden, S.E., Wilson, S., Tan, K.S., Soo, J. and Little, M.H. (Australia)
16:15 – 17:30

SYMPOSIUM 44

MOLECULAR MODELING AND DYNAMICS

Chairs: Dr Megan O’Mara, Australian National University, ACT  
        Dr David Poger, University of Queensland, QLD  

Location: Meeting C2.3

16:15 SYM-44-01
Computational studies of immune stimulating complex (ISCOM) structure  
Chalmers, D.K. (Australia)

16:30 SYM-44-02
The effect of H$_3$O$^+$ on membrane structure and hydrogen bonding in phospholipid bilayers  
Deplazes, E., Cranfield, G.C., Sarami, F., Poger, D. and Cornell, B. (Australia)

16:45 SYM-44-03
Understanding the dynamic substrate binding mechanism of human herparanase  
Ahmed, F.H., Marsavelski, A., Mohamed, A.E., Jamieson, E., Correy, G. and Jackson, C.J. (Australia and Croatia)

17:00 SYM-44-04
Dynamin structure and function hinging on Ryngos  
Cardoso, D., Abdel-Hamid, M., Mccluskey, A. and Robinson, P. (Australia)

17:15 SYM-44-05
Super-resolution imaging of subcellular remodelling by viral proteins  
16:15 – 17:30

SYMPOSIUM 45

MEMBRANE PROTEIN STRUCTURE AND FUNCTION

Chairs: Professor Ian Paulsen, Macquarie University, NSW
Dr Ingrid Gelissen, University of Sydney, NSW

Location: Meeting Room C2.1

16:15 SYM-45-01
The structural basis for selective metal ion import
McDevitt, C.A. (Australia)

16:30 SYM-45-02
Exploring the physiological substrates of the prototypical pace family efflux pump Acel

16:45 SYM-45-03
Progesterone receptor membrane component 1: a conserved eukaryotic protein with multiple and stratified disease-relevant functions in cell and organismal biology

17:00 SYM-45-04
Members of the chloride intracellular ion channel protein family demonstrate catalyse protein deglutathionylation

17:15 SYM-45-05
How does P-glycoprotein bind so many drugs?
Callaghan, R. (Australia)
16:15 – 17:30

SYMPOSIUM 46

FUNCTIONAL GENOMICS

Chairs: Professor Deborah Marsh, University of Sydney, NSW
Professor Vanessa Hayes, Garvan Institute of Medical Research, NSW

Location: Meeting Room C2.4

16:15 SYM-46-01
Chromatin interactome mapping identifies target genes at breast cancer risk signals
Sivakumaran, H., Beesley, J., Marjaneh, M.M., Chenevix-Trench, G., French, J.D. and Edwards, S.L. (Australia)

16:30 SYM-46-02
Succinate dehydrogenase and hereditary paraganglioma syndromes: linking Krebs cycle dysfunction to cancer
Clifton-Bligh, R. (Australia)

16:45 SYM-46-03
Regulatory small RNA networks and bacterial pathogenesis
Tree, J.J. (Australia)

17:00 SYM-46-04
TINC: a method to dissect transcriptional complexes at single locus resolution

17:15 SYM-46-05
Defining tissue specific protein-protein interactomes in vivo and in disease
Werner, H., Chojnowski, A., Sobota, R., Burke, B. and Stewart, C.L. (Singapore)
16:15 SYM-47-01
Harnessing the self-assembly of proteins from diverse organisms to build functional materials
Glover, D. (Australia)

16:45 SYM-47-02
Cybernose and cybertongue technologies: a microfluidic sensing platform

17:00 SYM-47-03
Yeast 2.0 and beyond: building the world's first synthetic eukaryote
Paulsen, I.T. and The Australian Team for Yeast 2.0

17:15 SYM-47-04
Whole genome sequencing identifies clinically actionable variants in families with CHD
A panel with broad expertise in the Australian funding landscape will discuss their view on important aspects of ECR grant writing.

The workshop will be held as a panel discussion addressing questions from the audience.

The panel members are:

**Chair:** Lars Ittner (Macquarie University/UNSW Sydney, NSW)
Jocelyn Widagdo (Queensland Brain Institute)
Jose Polo (Monash University, VIC)
Nikolas Haass (University of Queensland, QLD)
Kate Poole (University of New South Wales, Sydney, NSW)
17:35 – 18:50

SYMPOSIUM 49

STOMATA FUNCTION AND PLANT HYDRAULICS

Chairs: Dr Helen Bramley, University of Sydney, NSW
Dr Florian Busch, Australian National University, ACT

Location: Meeting Room C2.1

17:35 SYM-49-01
Reliable interpretation of water-use efficiency in chickpea from d^{13}C of leaf tissue
Barbour, M.M. and Lockhart, E. (Australia)

17:50 SYM-49-02
Molecular and evolutionary conservation of Abscisic acid and blue light signalling in stomatal regulation
Cai, S., Chen, G., Franks, P. and Chen, Z.H. (Australia and China)

18:05 SYM-49-03
Non-invasive imaging of hydraulic function in leaves, stems and roots
Choat, B., Peters, J.M.R., Gauthey, A., Carins-Murphy, M.R., Rodriguez-Dominguez, C.M. and Brodribb, T.J. (Australia)

18:20 SYM-49-04
Phosphorylation of plant plasma membrane aquaporins regulates ion channel function
McGaughey, S.A., Qiu, J., Groszmann, M., Tyerman, S.D. and Byrt, C.S. (Australia)

18:35 SYM-49-05
Estimating stomatal and biochemical limitations during photosynthetic induction
Deans, R.M., Busch, F.A. and Farquhar, G.D. (Australia)
TUESDAY 25 SEPTEMBER 2018

17:35 – 18:50

SYMPOSIUM 50

MATRIX

Chairs:  Dr Thomas Cox, Garvan Institute of Medical Research, NSW
Dr Kathryn Stok, University of Melbourne, VIC

Location: Meeting Room C2.6

17:35  SYM-50-01
Ciliary signalling and the extracellular matrix

17:50  SYM-50-02
Compressive forces activate RHO/ROCK-mediated cellular processes characteristic of disease states
Boyle, S.T., Kular, J., Nobis, M., Timpson, P. and Samuel, M.S. (Australia)

18:05  SYM-50-03
A new class of bioactive nanoparticles for capable of spontaneous, linker-free multifunctionalisation

18:20  SYM-50-04
Fibroblast activation protein in steatosis

18:35  SYM-50-05
Closer to nature in vitro: organ-specific extracellular matrix-based three dimensional models of cancer
Nadort, A., Iqbal, S., Parker, L., Packer, N., Goldys, E. and Guller, A. (Australia)
SYMPOSIUM 51

GENOME REPLICATION AND STABILITY

Chairs: Dr Liza Cubeddu, University of Western Sydney, NSW
       A/Prof Ian Grainge, University of Newcastle, NSW

Location: Meeting Room C2.4

17:35 SYM-51-01
The bacterial replisome: design principles for a dynamic molecular machine

17:50 SYM-51-02
FANCM suppresses ALT activity by modulating BLM-TOP3A-RMI complex activity at telomerers
Pickett, H.A. (Australia)

18:05 SYM-51-03
Protecting the genetic code
Richard, D.J., Adams, M., Cubeddu, L., Gamsjaeger, R., Bolderson, E., Leong, V., Burgess, J., Pacquet, N. and O'Byrne, K. (Australia)

18:20 SYM-51-04
Single molecule super-resolution mapping of the spatiotemporal organization of DNA double strand break repair
Whelan, D.R., Lee, W.T.C., Yin, Y., Fenyo, D. and Rothenberg, E. (Australia and USA)

18:35 SYM-51-05
Histone FLIM-FRET microscopy reveals spatiotemporal regulation of chromatin organization by the DNA damage response
Lou, J., Scipioni, L., Gaus, K., Gratton, E., Cesare, A. and Hinde, E. (Australia)
17:35  SYM-52-01  Use of Volta Phase Plate single particle cryo-electron microscopy for determination of active state G protein-coupled receptor structure  
Wootten, D., Liang, L., Khoshouei, M., Glukhova, A., Draper Joyce, C., Christopoulos, A. and Sexton, P.M.  
(Australia)

18:05  SYM-52-02  Structural basis of TIR-domain assembly formation in MyD88/MAL-dependent TLR4 signaling  
Ve, T., Vajjhala, P.R., Hedger, A., Croll, T., Dimaio, F., Horsefield, S., Landsberg, M.J., Stacey, K.J., Egelman, E.H. and Kobe, B. (Australia, UK and USA)

18:20  SYM-52-03  Investigating the architecture of a bacteriophage using cryo-EM, SAXS, and X-ray crystallography  

18:35  SYM-52-04  Biophysical approaches to the study of heteromeric amyloid fibrils involved in viral inhibition of necroptosis  
Pham, C.L.L., Strange, M., O'Carroll, A., Shanmugam, N., Sierecki, E., Gambin, Y., Steain, M. and Sunde, M.  
(Australia)
How is electrical signal generated? Structural and mechanistic investigations of Na, channels

Yan, N. (China)

Dr Nieng Yan received her BS degree from Tsinghua University, Beijing, China, in 2000. She then pursued her PhD in the Department of Molecular Biology at Princeton University under the supervision of Professor Yigong Shi. She was the regional winner of the Young Scientist Award (North America) in 2005 for her thesis on the structural and mechanistic study of programmed cell death. She continued her postdoctoral training at Princeton University, focusing on the structural characterisation of intramembrane proteases. In 2007, she joined the faculty of School of Medicine, Tsinghua University. Her lab has mainly focussed on the structural and functional study of membrane transport proteins exemplified by the glucose transporters and Nav/Cav channels. She returned to Princeton University as the founding Shirley M Tilghman Professor of Molecular Biology in 2017. Dr Yan was an HHMI international early career scientist in 2012–2017, Cheung Kong Scholar, recipient of the 2015 Protein Society Young Investigator Award and the 2015 Beverley & Raymond Sackler International Prize in Biophysics, and the Alexander M Cruickshank lecturer at the 2016 Membrane Transport Proteins GRC.
Professor Paula Jameson received her PhD in Plant Physiology in 1983, from the University of Canterbury. Following academic appointments at the University of Otago (1981-1993) and Massey University (1993-2004), she was appointed the inaugural Head of the School of Biological Sciences at the University of Canterbury (2004-2014), where she is currently Professor of Biology. Her research has spanned many aspects of the plant life cycle. She has focused predominantly on plants of horticultural and agronomic importance, as well as on New Zealand’s own native species. Her particular focus has been on the varied roles the hormone group, the cytokinins, play in plant growth and development, and in plant-microbe interactions. Paula served as President of the NZSPB (1986-7) and as a Council member (1984-2000). She was awarded Life Membership of the Society in 1992 and, in 2012, Fellowship of the New Zealand Institute of Agricultural and Horticultural Science.
ISD BRACHET LECTURE
(Including Presentation of Award)

Chair: Professor Richard Harland, University of California, Berkeley, USA
ISD President

Location: Meeting Room C2.5

PLE-WED-17
An expanding job description for the Zinc finger transcriptional repressor Blimp1/Prdm1
Robertson, E.J. (United Kingdom)

Professor Elizabeth Robertson

Since 2004, I have been a Professor of Developmental Biology at the University of Oxford. I originally trained with Martin Evans in Cambridge where, working together with Allan Bradley, we were the first to show that embryonic stem cells reliably colonised the mouse germ line. I started my own lab at Columbia University, New York, in the late 1980s where we published the first example of germ line transmission of an induced mutation engineered via homologous recombination in ES cells. After moving to Harvard in the early 1990s, we worked extensively on the TGFβ growth factor nodal, uncovering numerous roles for this signaling pathway in axis specification and definitive endoderm formation in the early mouse embryo. Most recently, we have been working on key downstream transcription factors, attempting to provide new mechanistic insights into how these networks execute different functions according to their cellular context in the embryo.
09:20 – 10:35

SYMPOSIUM 53

ROOT AND SOIL INTERACTIONS

Chairs: Professor Ulrike Mathesius, Australian National University, ACT
        Dr Megan Shelden, University of Adelaide, SA

Location: Meeting Room C2.1

09:20 SYM-53-01
Functional genomics of symbiotic nitrogen fixation in legumes
Udvardi, M., Roy, S., Liu, W., Nova Franco, B., Espinoza, M., Kang, Y., Torres-Jerez, I. and Huertas, R. (USA)

09:35 SYM-53-02
Aluminium activated malate transporters facilitate GABA transport in plants
Ramesh, S.A., Gilliham, M. and Tyerman, S.D. (Australia)

09:50 SYM-53-03
Organic anion exudation from roots influences mineral nutrition, root microbiome composition and root architecture
Ryan, P.R. (Australia)

10:05 SYM-53-04
From small RNA to metabolites - how eucalypts meet up with ectomycorrhizal fungi

10:20 SYM-53-05
Tissue-specificity of sodium transport and sequestration reveals the role of the root meristem as a tentative salt sensor
Wu, H.H., Shabala, L. and Shabala, S. (Australia and USA)
SYMPOSIUM 54

EPIGENETICS AND TRANSCRIPTIONAL CONTROL IN REGENERATIVE AND DEVELOPMENTAL BIOLOGY

Chairs: Dr Tony Cesare, Children’s Medical Research Institute, NSW
Dr Jens Bunt, University of Queensland, QLD

Location: Meeting Room C2.5

09:20 SYM-54-01
Differentiation states in the origin evolution and treatment of childhood leukaemia
Enver, T. (United Kingdom)

09:35 SYM-54-02
Role of Elk1 in congenital and late onset cardiac disease: at the heart of the matter

09:50 SYM-54-03
Control of Drosophila MYC transcription, cell growth and developmental patterning by the single stranded DNA binding protein Psi

10:05 SYM-54-04
Exploring the function of NkxUS, a novel heart-associated lncRNA
Altekoester, A., Schonrock, N., Wu, J., Kesteven, S. and Harvey, R.P. (Australia and Germany)

10:20 SYM-54-05
Developmental disorders of histone modification
Voss, A. (Australia)
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:20</td>
<td>SYM-55-01</td>
<td>Neural and dendritic activity during sensory-based behaviour</td>
<td>Palmer, L.M. (Australia)</td>
</tr>
<tr>
<td>09:35</td>
<td>SYM-55-02</td>
<td>Neuropeptide F receptor acts in the Drosophila prothoracic gland to regulate body size and developmental timing</td>
<td>Kannangara, J.R., Henstridge, M.A., Parsons, L.M., Kondo, S., Mirth, C.K. and Warr, C.G. (Australia and Japan)</td>
</tr>
<tr>
<td>10:05</td>
<td>SYM-55-04</td>
<td>The role of Cdx2 and HNF4α in Barrett's metaplasia</td>
<td>Colleypriest, B.J., Burke, Z.D., Griffiths, L.P., Slack, J.M.W. and Tosh, D. (United Kingdom and USA)</td>
</tr>
<tr>
<td>10:20</td>
<td>SYM-55-05</td>
<td>Morphogenesis of the semicircular canal ducts of the zebrafish inner ear</td>
<td>Whitfield, T.T. (United Kingdom)</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Title</td>
<td>Presenters</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>09:20</td>
<td>SYM-56-01</td>
<td>Understanding and engineering microbial sensors</td>
<td>Gerth, M.L. (New Zealand)</td>
</tr>
<tr>
<td>09:50</td>
<td>SYM-56-03</td>
<td>Using evolution to guide the engineering of PPR proteins as customizable RNA processing tools</td>
<td>Bernath-Levin, K., Colas Des Francs Small, C., Gutmann, B., Honkanen, S., McDowell, R., Melonek, J., Pereira Vincis Sanglard, L., Royan, S., Sun, Y. and Small, I.D. (Australia)</td>
</tr>
<tr>
<td>10:05</td>
<td>SYM-56-04</td>
<td>Dihydriclopicolinate synthase is absent in fungi</td>
<td>Desbois, S., John, U.P. and Perugini, M.A. (Australia)</td>
</tr>
</tbody>
</table>
09:20 – 10:35

SYMPOSIUM 57

THE METABOLIC HALLMARK OF CANCER

Chairs: A/Prof Anneke Blackburn, Australian National University, ACT
A/Prof Lisa M. Butler, University of Adelaide, SA

Location: Meeting Room C2.3

09:20 SYM-57-01
Crosstalk between oncogenic signalling pathways reprograms lipid metabolism in cancer
Brown, K. (Australia)

09:35 SYM-57-02
Dynamic ‘omics redefines how insulin signalling choreographs glucose metabolism
Krycer, J., Yugi, K., Fazakerley, D., Humphrey, S., Quek, L., Hirayama, A., Soga, T., Kuroda, S. and James, D. (Australia and Japan)

09:50 SYM-57-03
Transcriptional reprogramming of metabolism by Yap and c-Myc in liver cancer
Cox, A.G. (Australia)

10:05 SYM-57-04
Neutral cholesterol ester hydrolase 1 (nCEH1) regulates extracellular LDL-cholesterol metabolism to influence prostate cancer progression

10:20 SYM-57-05
Non-canonical ubiquitination sites direct degradation of the shortest known cholesterol-dependent degron
Chua, N.K. and Brown, A.J. (Australia)
09:20 – 10:35

SYMPOSIUM 58

PARASITES

Chairs: A/Prof Justin Boddey, Walter & Eliza Hall Institute of Medical Research, VIC
Dr Adele Lehane, Australian National University, ACT

Location: Meeting Room C2.4

09:20 SYM-58-01
Exploiting differential metabolism in parasite life cycles to limit the spread of drug resistance

Goodman, C.D., Buchanan, H.D. and McFadden, G.I. (Australia)

09:35 SYM-58-02
Improving anti-malarial treatment of P.vivax by leveraging short and long read DNA sequencing technologies

Charnaud, S.C., Munro, J.E., Quah, Y.W., Bahlo, M. and Mueller, I. (Australia and France)

09:50 SYM-58-03
Immune responses in scabies: insights from a porcine model

Mounsey, K. (Australia)

10:05 SYM-58-04
Rational design of a multi-target antimalarial compound with \textit{in vivo} activity


10:20 SYM-58-05 Bioplatforms Australia Award Lecture
Defining the metabolic network of the malaria parasite reveals an essential lipid regulator

10:35 – 11:20  MORNING TEA AND POSTER TEASERS

10:45 – 11:15  Selected poster presenters will deliver ‘Poster Teasers’ in the Exhibition Hall Meeting Room prior to the poster session commencing at 12:55.

Poster Teaser Co-ordinators:
Dr Amy Bottomley, University of Technology Sydney, NSW
Dr Peta Bradbury, Woolcock Institute of Medical Research, NSW
Dr Arne Ittner, University of New South Wales, NSW
Dr Heloisa Milioli, Garvan Institute of Medical Research, NSW

Location:  THE GALLERY
11:20 – 12:35

SYMPOSIUM 59

PHENOTYPING AND MODELING

Chairs: Dr Trevor Garnett, University of Adelaide, SA
        Dr Xavier Sirault, CSIRO, ACT

Location: Meeting Room C2.1

11:20 SYM-59-01
An integrated sensing pipeline to map the genetic loci associated with canopy radiation use efficiency in sorghum

11:35 SYM-59-02
Understanding the genetic basis of CO2 responsiveness under controlled conditions: design challenges in the genomics era

11:50 SYM-59-03
Phenomics capability development at AgResearch for better pasture and forage production
Ghamkhar, K. (New Zealand)

12:05 SYM-59-04
Raiders of the Vavilov ark: sleuthing new photosynthetic traits from the past

12:20 SYM-59-05
Tackling the physiological phenotyping bottleneck with low-cost, enhanced-throughput gas exchange and ceptometry
Salter, W.T., Gilbert, M.G., Merchant, A. and Buckley, T.N. (Australia and USA)
11:20 – 12:35

SYMPOSIUM 60

CELL FATE DECISIONS AND CELLULAR DIFFERENTIATION

Chairs:  Dr Robin Hobbs, Monash University, VIC
A/Prof Thomas Fath, Macquarie University, NSW

Location: Meeting Room C2.5

11:20 SYM-60-01
Impact of signalling activity on the allocation of germ layer progenitors: insights from the spatial transcriptome of gastrula-stage embryo
Tam, P.P.L. (Australia)

11:35 SYM-60-02
Exploiting heparan sulfate proteoglycans-growth factor interactions to direct mesenchymal stem cell neurogenesis
Yu, C., Okolicsanyi, R.K., Griffiths, L.R. and Haupt, L.M. (Australia)

11:50 SYM-60-03
Elucidating the impact of APP in DS pathogenesis using stem cell models

12:05 SYM-60-04
From servant to master: the ribosome's instructive role in hematopoietic cell fate determination
Chahal, A.S., Mitchell, N., Zaytseva, O., George, A., Hannan, R.D. and Quinn, L.M. (Australia)

12:20 SYM-60-05
Inner ear organoids derived from human pluripotent stem cells: comparisons to human foetal inner ear
SYMPOSIUM 61

CELL ARCHITECTURE

Chairs: A/Prof Geraldine O’Neill, Children’s Hospital at Westmead, NSW
Dr Senthil Arumugam, University of New South Wales, NSW

Location: Meeting Room C2.6

11:20 SYM-61-01
The companion of cellulose SYNTHASE 1 controls microtubule dynamics through a Tau-like mechanism to confer salt tolerance in plants
Kesten, C., Wallmann, A., Oschkinat, H. and Persson, S. (Australia and Germany)

11:35 SYM-61-02
Development of three-dimensional culture models to study cancer development and metastasis

11:50 SYM-61-03
An unbiased chemical screen of actin organisation enables drug discovery and mechanistic analyses of the cytoskeleton

12:05 SYM-61-04
Actin polymerization alters nuclear architecture in response to DNA replication stress to maintain genome stability
Lamm-Shalem, N., Masamsetti, V.P., Biro, M. and Cesare, A.J. (Australia)
Asymmetrical disassembly of apoptotic cells and the mechanisms underpinning this process

### SYMPOSIUM 62

**MEMBRANE FUNCTIONS**

**Chairs:** A/Prof Matthew Call, Walter & Eliza Hall Institute of Medical Research, VIC  
Professor Renae Ryan, University of Sydney, NSW

**Location:** Meeting Room C2.2

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:35</td>
<td>SYM-62-02 <em>Eppendorf Edman Award Lecture</em></td>
<td>Structural insights into the architecture and membrane interactions of the conserved COMMD proteins</td>
<td>Healy, M., Hospenthal, M., Hall, R., Chilton, M., Chandra, M., Chen, K., Cullen, P., Lott, S., Collins, B. and Ghai R. (Australia, New Zealand and UK)</td>
</tr>
<tr>
<td>11:50</td>
<td>SYM-62-03</td>
<td>T cell receptor clustering: a mechanism of signal transduction</td>
<td>Gaus, K. (Australia)</td>
</tr>
<tr>
<td>12:05</td>
<td>SYM-62-04</td>
<td>Defining allosteric binding sites and biased agonism of class C G protein-coupled receptors</td>
<td>Gregory, K.J. (Australia)</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Title</td>
<td>Presenters</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>11:50</td>
<td>SYM-63-03</td>
<td>Preclinical characterisation of JAK1/JAK2 inhibitors for treatment of type 1 diabetes</td>
<td>Trivedi, P.M., Scott, N.A., Jenkins, M.R., Brodnicki, T.C., Kay, T.W. and Thomas, H.E.</td>
</tr>
<tr>
<td>12:05</td>
<td>SYM-63-04</td>
<td>The role of trafficking regulator of GLUT4 1 (TRARG1) in GLUT4 trafficking</td>
<td>Duan, X., Krycer, J.R., Cooke, K.C., Yang, G., James, D.E. and Fazakerley, D.J.</td>
</tr>
</tbody>
</table>
11:20 – 12:35

SYMPOSIUM 64

GENE REGULATION

Chairs: Professor Merlin Crossley, University of New South Wales, NSW
        Professor Peter Lewis, University of Newcastle, NSW

Location: Meeting Room C2.4

11:20 SYM-64-01 RNA Network SIG Lecture
A-to-I RNA editing - not all events are created equal
Heraud-Farlow, J.E. (Australia)

11:35 SYM-64-02
Modulation of epigenetic plasticity in cancer cells: from
signaling pathways to engineered proteins
Blancafort, P. (Australia)

11:50 SYM-64-03
Single molecule investigation of lesion hand-off during
transcription coupled repair
Ho, H.N., van Oijen, A.M. and Ghodke, H. (Australia)

12:05 SYM-64-04
Mechanistic differences in DNA binding behaviour of
Isl1/Lhx3 homeodomains in transcriptional complexes
Smith, N.C., Stokes, P.H. and Matthews, J.M. (Australia)

12:20 SYM-64-05
Transposon-derived transcription factor binding sites and
promoter activities in breast cancer
Jiang, J. and Upton, K.R. (Australia)

12:35 – 13:55 LUNCH / EXHIBITION / POSTERS
Location: THE GALLERY
WEDNESDAY 26 SEPTEMBER 2018

12:55 – 13:55

ANNUAL GENERAL MEETINGS

<table>
<thead>
<tr>
<th>Locations</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASBMB</td>
<td>Meeting Room C2.4</td>
<td></td>
</tr>
<tr>
<td>ASPS</td>
<td>Meeting Room C2.2</td>
<td></td>
</tr>
<tr>
<td>ANZSCDB</td>
<td>Meeting Room C2.6</td>
<td></td>
</tr>
<tr>
<td>NZSPB</td>
<td>Meeting Room C2.5</td>
<td></td>
</tr>
</tbody>
</table>

12:55 – 13:55 POSTER SESSION B
Location: THE GALLERY

13:55 – 14:10 PASSPORT DRAW
Location: THE GALLERY
14:10 – 15:25

SYMPOSIUM 65

FORESTS AND TREES

Chairs: Dr Andrew Merchant, University of Sydney, NSW
Dr Antanas Spokevicius, University of Melbourne, VIC

Location: Meeting Room C2.1

14:10 SYM-65-01
Farming mallee eucalypts for valuable natural products
Woodrow, I.E., Fernando, S., Humphries, J. and Goodger, J.Q.D. (Australia)

14:25 SYM-65-02
Precision landscape regeneration for food, ecosystem and climate security
Borevitz, J.O. (Australia)

14:40 SYM-65-03
Applying genomics to conservation: investigating climate adaptation in Eucalyptus microcarpa and implications for restoration
Jordan, R., Prober, S., Dillon, S. and Hoffmann, A. (Australia)

14:55 SYM-65-04
Responses of isotope discrimination and intercellular relative humidity to vapour pressure deficit in wildtype and abscisic acid insensitive populus X canescens

15:10 SYM-65-05
Regulating tree vigour to optimise the long-term productivity of walnut (Juglans regia L.) orchards
Simpson, J.E., Lang, M.D. and Lewis, J. (Australia)
14:10 – 15:25

SYMPOSIUM 66

CANCER CELL BIOLOGY AND SIGNALLING

Chairs: Dr Nikki Verrills, University of Newcastle, NSW
Dr Erinna Lee, Olivia Newton-John Cancer Research Institute, VIC

Location: Meeting Room C2.6

14:10 SYM-66-01
Separating the Fgf signaling requirements of clock oscillation from wavefront activity during somitogenesis
Lewandoski, M., Kageyama, R. and Anderson, M. (USA and Japan)

14:25 SYM-66-02
Treatment of solid tumours by co-targeting Bcl-2 pro-survival proteins
Lee, E.F., Harris, T., Tran, S., Evangelista, M., Herold, M.J. and Fairlie, W.D. (Australia)

14:40 SYM-66-03
MEF2C phosphorylation is required for chemotherapy resistance in acute myeloid leukemia
Brown, F.C. and Kentsis, A. (USA and Australia)

14:55 SYM-66-04
Exploiting tumour acidity for polymer based drug delivery
Whitty, E.G., Castignolles, P., Gaboireau, M. and Callaghan, R. (Australia)

15:10 SYM-66-05 Adelaide Protein Group SIG Lecture
Dual sphingosine kinase and Bcl-2 inhibition exhibits synergistic cell death in acute myeloid leukemia
14:10 SYM-67-01
MCL-1 inhibition provides a new way to suppress breast cancer metastasis and increase sensitivity to dasatinib

14:25 SYM-67-02
Exploring bacterial resistance with antibiotic-derived fluorescent probes
Blaskovich, M.A.T. (Australia)

14:40 SYM-67-03
Targeting multifactorial resistance mechanisms associated with microtubule proteins in cancer cells
Kavallaris, M. (Australia)

14:55 SYM-67-04
Dichloroacetate at clinically achievable concentrations can reduce pPDH and reverse the glycolytic phenotype in multiple myeloma cells
Tian, D.D. and Blackburn, A.C. (Australia)

15:10 SYM-67-05
Functional analysis of a campylobacter jejuni nutrient transport protein using proteomics and metabolomics
14:10 – 15:25

SYMPOSIUM 68

EPIGENETICS

Chairs: Professor David Tremethick, Australian National University, ACT
Dr Alyson Ashe, University of Sydney, NSW

Location: Meeting Room C2.4

14:10 SYM-68-01
The roles of H3.3 and ATRX abnormalities in driving alternative lengthening of telomeres and chromatin aberrations in cancers
Udugama, M., Voon, H.P., Hii, L. and Wong, L.H. (Australia)

14:25 SYM-68-02
Investigating the role of de novo DNA methylation in regulating liver metabolism
Youngson, N.A., Prates, K.V., Yao, S., McRae, A.F. and Morris, M.J. (Australia)

14:40 SYM-68-03
Single-cell epigenomics for analysis of heterogeneous and rare cell populations
Lee, H.J. (Australia)

14:55 SYM-68-04
miRNA:miRNA interactions in Head and Neck Squamous Cell Carcinoma
Hill, M. and Tran, N. (Australia)

15:10 SYM-68-05
Unlocking female ES cells for research
Keniry, A.J., Jansz, N. and Blewitt, M.E. (Australia)
14:10 – 15:25
SYMPOSIUM 69

ANTIBODIES AND VACCINES

Chairs: A/Prof Daniel Christ, Garvan Institute of Medical Research, NSW
Dr Nyssa Drinkwater, Monash University, VIC

Location: Meeting Room C2.2

14:10  SYM-69-01
Developing the next-gen therapeutic monoclonal antibodies: new insights by targeting and manipulating human FcR: antibody dependant functions
**Hogarth, P.M., Chenoweth, A.M., Wines, B.D., Trist, H.M. and Esparon, S.E. (Australia)**

14:40  SYM-69-02
Germinal center antibody mutation trajectories are determined by rapid self/foreign discrimination

14:55  SYM-69-03
Interrogating human B cell immunity to inform universal influenza vaccine design
**Wheatley, A.K. (Australia)**

15:10  SYM-69-04
Pathogen sensing by the intracellular antibody receptor, TRIM21, is regulated by B-box autoinhibition and ring phosphorylation
PLENARY LECTURE

Chair: A/Prof Michael Samuel, Centre for Cancer Biology, SA
Location: Meeting Room C2.3

PLE-WED-18
Extrinsic and intrinsic force regulates cancer progression, aggression and treatment
Weaver, V. and Colleagues (USA)

Dr Valerie Weaver

Dr Weaver is Director of the Center for Bioengineering and Tissue Regeneration in the Department of Surgery, and is a Professor in the Departments of Surgery, Anatomy and Bioengineering and Therapeutic Sciences at UCSF. Dr Weaver has over 20 years of experience in leading interdisciplinary research in oncology, including leadership of significant program projects including the Bay Area Physical Sciences and Oncology program and the UCSF Tumor Microenvironment Brain Program that merge approaches in the physical/engineering sciences with cancer cell biology and emphasise the role of the tumour microenvironment. Dr Weaver has been recognised for her research and leadership through receipt of awards including the DOD BCRP Scholar Award (2005), the DOD BCRP Scholar Expansion Award (2013) and the ASCB WICB Mid-Career Award for Excellence in Research (2014). Her research program focuses on the contribution of force, cell-intrinsic as well as extracellular matrix, to breast, pancreatic and glioblastoma tumour development and treatment.
PLENARY 19

PLENARY LECTURE

Chair: A/Prof Anne Voss, Walter & Eliza Hall Institute of Medical Research, VIC
Location: Meeting Room C2.1

PLE-WED-19

A GADD45α-ING1-C/EBP axis regulates energy homeostasis and organismal aging
Schäfer, A., Mekker, B., Mallick, M., Vastolo, V., Sebastian, D., Karaulanov, E. and Niehrs, C. (Germany)

Professor Christof Niehrs

Christof Niehrs is Scientific Director at the Institute of Molecular Biology (IMB), Mainz, and head of the division Molecular Embryology at the German Cancer Research Center Heidelberg (DKFZ). He studied biochemistry at the Freie Universität Berlin and received his PhD (1990) working with Wieland Huttner at EMBL Heidelberg characterising tyrosylprotein sulfotransferase. As postdoc, he worked with Eddy De Robertis at UCLA, studying homeobox genes in *Xenopus* development. Since 1994, he has been head of the Division of Molecular Embryology at DKFZ, where he studies Wnt signaling. In 2010, he was appointed founding director of the IMB, where he focusses on epigenetic gene regulation. His laboratory has made important discoveries concerning Spemann organizer function, regulation of Wnt signalling and DNA demethylation. He has received national and international awards and is member of various learned societies.
16:25 – 16:45

**CLOSING CEREMONY**
**COMBIO2020 PRESENTATION**
&
**SOCIETY AWARD PRESENTATIONS**

**Location:** Meeting Room C2.3

---

Professor Liz Harry, University of Technology Sydney, NSW
ComBio2018 Conference Chair

A/Prof Jackie Wilce, Monash University, VIC
ComBio2020 Conference Chair

Professor Leann Tilley, University of Melbourne, VIC
ASBMB President

Professor Sergey Shabala, University of Tasmania, TAS
ASPS President

Professor Sharad Kumar, University of South Australia, SA
ANZSCDB President

Professor Richard Harland, University of California, Berkeley, USA
ISD President

Dr Marian McKenzie, NZ Institute for Plant & Food Research, New Zealand
NZSPB President

Dr Monica Gerth, Victoria University of Wellington, New Zealand
NZSBMB President

---

16:45 – 18:00

**CLOSING DRINKS**

**Location:** C2 Foyer