



**Australia Society for Biochemistry and Molecular Biology Conference 2019**  
**1 - 3 October 2019**  
**Esplanade Hotel Fremantle by Rydges**

**TUESDAY 1 OCTOBER 2019**

**Sirius Room**

Welcome to Country  
**Marie Taylors**

Official Welcome  
**Chief Scientist Professor Peter Klinken AC**

Conference Welcome  
**Nicolas Taylor - ASBMB 2019 Chair**

**Sirius Room**

**Symposium 1 - Gene Editing**

Editing in natural regulatory mutations to treat inherited blood disorders  
**Merlin Crossley**

Applications of CRISPR screening approaches to gene discovery  
**Kaylene Simpson**

Gene editing and systems approaches for elucidating mitochondrial protein function  
**Mike Ryan**

Gene editing of the multi-copy H2A.B3 gene and its importance for male fertility  
**Tanya Soboleva**

**Pleiades Room**

**Special Interest Group 1 Adelaide Protein Group**

Throwing a spanner in the cancer cell's signalling works  
**Joanna Woodcock**

UDP-glucuronosyltransferase (UGT) enzymes as dominant negative regulators and novel modulators of nuclear receptor signalling  
**Julie-Ann Hulin**

Unexpected genome editing outcomes from DNA cleavage induced by CRISPR-Cas9  
**Fatwa Adikusuma**

Solving the structural basis of PPARgamma antagonism to drive improved T2DM drug design  
**Rebecca Frkic**

**Morning Tea**

**Sirius Room**

**Plenary Session - Gene Editing**

AAV and CRISPR-Cas Molecular Therapeutics in Singapore  
**Wei Leong Chew**

Genome editing pinpoints single bases  
**Li Yang**

**Lunch**

**Sirius Room**

**Symposium 2 - Gene Editing**

Finding critical genes driving and mediating therapy resistance in cancer using CRISPR/Cas9 screening in vitro and in vivo.  
**Marco Herold**

Modelling genetic alteration in colorectal cancer and patient specific drug responses.  
**Susan Wood**

'Any Idiot can do it'. How easy a knockout or knockin mouse could be generated using CRISPR/Cas9 gene editing technology?  
**Gaetan Burgio**

Utilising gene-editing and stem cell technologies to understand human development, disease and regeneration.  
**Sara Howden**

**Pleiades Room**

**Special Interest Group 2 Queensland Protein Group**

A C-terminal fragment of chlorotoxin retains bioactivity and inhibits cell migration  
**Norelle Daly**

Intrinsically disordered sequences of cavin1 drive the formation of plasma membrane caveolae  
**Vikas Tillu**

Novel insights into the multifunctionality of the haemagglutinin-neuraminidase protein for drug discovery  
**Larissa Dirr**

A universal transmembrane adaptor for toll-like receptors promotes selective pro-inflammatory responses  
**Lin Luo**

**Afternoon Tea**

**Sirius Room**

**E/MCR Mini Symposium 1**

Characterization and redesign of pentatricopeptide repeat (PPR) RNA binding proteins  
**Kalia Bernath-Levin**

Kinetically distinct G protein signalling waves are transduced by the dopamine D2 receptor  
**Alastair Keen**

Identification of interactors and modulators of TDP-43 pathology as potential drug targets for ALS and FTD  
**Adam Walker**

Engineering potassium-activation into a potassium-independent thiolase  
**Andrew Marshall**

**Sirius Room**

**Poster Presentations**

Effects of ethanolic extracts of leaf, seed and fruit of Datura metel L. on kidney function of male albino rats  
**Chinedu Imo**

Oleoyl-lysophosphatidylinositol mimics as novel GLP-1 releasing agents  
**Silvano Paternoster**

Combination of nutraceutical compounds as a promising approach for Alzheimer's disease preventive therapy  
**Dona Jayatunga**

Specific Combinations of Presenilin 1 Protein Regions Are Required for Differential Cleavage of Amyloid Precursor Protein and Notch1 Receptor  
**Melissa Eccles**

Structural basis of nucleoside selectivity in Aspergillus fumigatus nucleoside diphosphate kinase  
**Stephanie Nguyen**

Towards introducing sgRNAs to Nicotiana tabacum plants expressing Cas9  
**Anindita Chakraborty**

Cell lineage specific opposing role of p120-catenin as an oncogene and tumor suppressor  
**Pamali Fonseka**

Plasma thiol proteins as biomarkers of oxidative stress  
**Nguyet (Marisa) Duong**

Assessing the relationship between non-canonical DNA structures, motifs and G-quadruplexes, at different stages of the cell cycle in breast cancer  
**Kelly Irving**

Questions

**Souther Cross Lobby**

Poster Session 1

6:00pm - 6:30pm



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**WEDNESDAY 2 OCTOBER 2019**

Sirius Room		Pleiades Room	
Symposium 3 - RNA Biology		Presentations from Abstracts 1	
9:00am - 9:25am	Rapid translational responses to stress revealed by translation complex profile sequencing in yeast and mammalian cells <b>Nikolay Shirokhih</b>	FACS purification of cells with neurodegenerative disease-associated pathology for genome-wide CRISPR screening of regulators of protein aggregation <b>Rebecca San Gil</b>	
9:25am - 9:50am	Targeting minor class splicing for cancer therapy <b>Joan Heath</b>	CRISPR-edited mice with human microcephaly mutations reveal neocortical and ciliary defects responsible for abnormal brain growth. <b>Dominic Ng</b>	
9:50am - 10:15am	The TRIM-NHL protein NHL-2 is a co-factor in the nuclear and somatic RNAi pathways in <i>C. elegans</i> <b>Peter Boag</b>	Refining the model for ligand-dependent differential receptor: transducer coupling through single molecule studies <b>Sebastian Furness</b>	
10:15am - 10:40am	The integration of alternative polyadenylation with core metabolism <b>Traude Beliharz</b>	Structural and functional characterisation of the defensin NoD173 as a novel anticancer molecule <b>Mark Hulett</b>	
10:40am - 11:00am <b>Morning Tea</b>			
Sirius Room			
Plenary Session - RNA Biology			
11:00am - 11:45am	Lnc-ing RNA Processing and Function <b>Lingling Chen</b>		
11:45am - 12:30pm	Therapeutic vulnerabilities in cancer stem cells <b>Wai Leong Tam</b>		
12:30pm - 2:00pm <b>Lunch</b>			
Sirius Room		Pleiades Room	
Symposium 4 - RNA Biology		Special Interest Group 3 Sydney Protein Group	
2:00pm - 2:25pm	Interactions of Poly-C-binding protein 2 with the poliovirus type 1 IRES. <b>Jackie Wilce</b>	Calcium is an essential cofactor for metal efflux by the ferroportin transporter family <b>Chandrika Deshpande</b>	
2:25pm - 2:50pm	Multilayered control of exon acquisition permits the emergence of novel forms of regulatory control <b>Robert Weatheritt</b>	Rapid selection of structurally diverse and high affinity cyclic peptide bet bromodomain inhibitors <b>Karishma Patel</b>	
2:50pm - 3:15m	RNA exploits an exposed regulatory site to inhibit the enzymatic activity of the histone methyltransferase polycomb repressive complex 2 (PRC2) <b>Qi Zhang</b>	A mechanism for the extension and unfolding of parallel telomeric G-quadruplexes by human telomerase at single-molecule resolution <b>Bishnu Paudel</b>	
3:15pm - 3:40pm	Lonely Single-Stranded DNA seeks RNA <b>Tamas Fischer</b>	Transcription factors use different strategies to interact with Mediator <b>Emma Siernecki</b>	
3:40pm - 4:00pm <b>Afternoon Tea</b>			
Sirius Room			
ASBMB Awards Presnetations and Lectures			
4:00pm - 4:35pm	Cancer: Biology to Nanomedicine-based Diagnostics and Therapeutics <b>Maria Kavallaris</b> <b>ASBMB Lemberg Medal and Presentation</b>		
4:35pm - 5:10pm	New insights into inflammasome signalling and inhibition <b>Kate Schroder</b> <b>ASBMB Merck Medal Presentations and Lecture</b>		
5:10pm - 5:35pm	The role of extracellular vesicles in neurodegenerative diseases <b>Andrew Hill</b> <b>Beckman Coulter Discovery Science Award</b>		
5:35pm - 6:00pm	RNA targeting by CRISPR-Cas and anti-CRISPRs <b>Gavin Knott</b> <b>Boomerang Award</b>		
6:00pm - 6:25pm	Resistance is futile: Overcoming the rise of superbugs and noxious weeds <b>Tatiana Soares da Costa</b> <b>Eppendorf Edman Award Presentation and Symposium Lecture</b>		
6:25pm - 6:50pm	Act like a scientist! Drama in the lecture theatre <b>Terrence Mulhern</b> <b>Shimadzu Education Award Presentation and Symposium Lecture</b>		
6:50pm - 7:00pm	Fred Collins Award Fellowship Awards 50 Year Members Awards		
Sirius Room			
ASBMB Annual Meeting			
7:00pm - 8:00pm	ASBMB Annual Meeting		



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**THURSDAY 3 OCTOBER 2019**

Sirius Room		Pleiades Room	
Symposium 5 - Drug Discovery		Presentations from Abstracts 2	
9:00am - 9:25am	Towards antimicrobial agents that disrupt disulfide bond formation in bacteria <b>Maria Halili</b>	RaPID peptide library screening for the discovery of selective and high affinity bromodomain inhibitors <b>Joel Mackay</b>	
9:25am - 9:50am	Class Acts - unpicking PI3K function with isoform selective inhibitors <b>Philip Thompson</b>	Understanding signaling bias at the Insulin Receptor <b>Briony Forbes</b>	
9:50am - 10:15am	Understanding the molecular heterogeneity of pancreatic cancer: from mechanism to therapy <b>Marina Pajic</b>	Polycistronic miRNA processing regulates the good and the bad of self-renewal <b>Minna-Liisa Anko</b>	
10:15am - 10:40am	Profiling receptor molecular pharmacology <b>Kevin Pflieger</b>	Visualizing movements in E. coli F1Fo ATP synthase indicates how the F1 and Fo motors are coupled <b>James Walshe</b> SPG Travel Award Winner	
10:40am - 11:00am <b>Morning Tea</b>			
Sirius Room			
Plenary Session - Drug Discovery			
11:00am - 11:45am	Sirtuin Inhibition in Cancer: A Therapeutic Strategy <b>Oon Chern Ein</b>		
11:45am - 12:30pm	Structure-guided Fragment-based Drug Discovery for Cancer and Tuberculosis: Fighting the Emergence of Resistance <b>Tom Blundell</b>		
12:30pm - 2:00pm <b>Lunch</b>			
Sirius Room		Pleiades Room	
Symposium 6 - Drug Discovery		Special Interest Group 4 Melbourne Protein Group	
2:00pm - 2:25pm	Development of first-generation inhibitors of the Class II PI3K, PI3KC2 $\alpha$ , as novel anti-thrombotics <b>Justin Hamilton</b>	Trefoil factors mediate wound healing and mucus viscosity through crosslinking glycoproteins presenting the GlcNAc- $\alpha$ -1,4-Gal glycotope <b>Michael Jarva</b>	
2:25pm - 2:50pm	Molecular targeted therapy for childhood cancer: neuroblastoma as a model <b>Murray Norris</b>	Structural Studies of the M5 Muscarinic Acetylcholine Receptor <b>Ziva Vuckovic</b>	
2:50pm - 3:15pm	Rapid flow cytometry screen to identify novel MND drug leads <b>Mark Wilson</b>	Palmitoyl-CoA regulates Drp1 and mitochondrial fission by a structural motif shared amongst metabolic enzymes <b>William Smiles</b>	
3:15pm - 3:40pm	Eradicating Metastatic Prostate Cancer Through the Systematic Identification of Synergistic Drug Combinations <b>Gail Risbridger</b>	Harnessing cellular degradation using small molecule Proteolysis-Targeting Chimeras (PROTACs) <b>Michael Roy</b>	
3:40pm - 4:00pm <b>Afternoon Tea</b>			
Sirius Room			
E/MCR Mini Symposium 2			
4:00pm - 4:15pm	Understanding the assembly of mammalian complex II <b>Hanmiao Zhan</b>		
4:15pm - 4:30pm	Structural Basis for CD96 Immune Receptor Recognition of Nectin-like Protein-5, CD155 <b>Gabrielle Watson</b>		
4:30pm - 4:45pm	LncRNA REG1CP promotes tumorigenesis through an enhancer complex to recruit FANCD1 helicase for REG3A transcription <b>Hamed Yari</b>		
4:45pm - 5:00pm	Synthetic biology tools for Aspergillus nidulans as a heterologous host for drug discovery <b>Indra Roux</b>		
Sirius Room			
Poster Presentations			
5:00pm - 5:06pm	$\beta$ III-tubulin promotes activation of the PI3K/AKT survival pathway in non-small cell lung cancer by modulating expression of the tumor suppressor PTEN <b>Simon Brayford</b>		
5:06pm - 5:12pm	The Adaptor Protein Alix is Involved in the Interaction Between the Ubiquitin Ligase NEDD4-1 and its Targets, ABCG1 and ABCG4 <b>Amjad Alrosan</b>		
5:12pm - 5:18pm	Developing a FRET based RNA biosensor. <b>Brady Johnston</b>		
5:18pm - 5:24pm	Development of a Paraspeckle Biosensor to Sense Cellular Stress <b>Finn McCluggage</b>		
5:24pm - 5:30pm	Investigating the RNA Binding Specificity of Drosophila Behaviour/Human Splicing Proteins <b>Yee Seng Chong</b>		
5:30pm - 5:36pm	Exploring three KH domains of hnRNPK in complex with single-stranded nucleic acids <b>Brian Le</b>		
5:36pm - 5:42pm	Structural studies of SFPO and SFPO/NONO-nucleic acid complexes <b>Heidar Koning</b>		
5:42pm - 5:48pm	Identifying and Characterising Catalytically Active RNA Editing Factors from Plants <b>Farley Kwok van der Giezen</b>		
5:48pm - 5:54pm	The effects of Millimetre Waves in Human Astrocytes <b>Nicholas Lawler</b>		
5:54pm - 6:00pm	Assessing the relationship between RNA G-quadruplexes and the RNA-binding protein, FUS, in an in vitro model of Alzheimer's <b>Uditi Bhatt</b>		
Souther Cross Lobby			
6:00pm - 6:30pm	Poster Session 2		
Resort Pool			
6:30pm - 8:30pm	Conference Dinner		