



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

TUESDAY 1 OCTOBER 2019

Sirius Room		Pleiades Room	
8:30am - 8:40am	Welcome to Country Marie Taylor		
8:40am - 8:50am	Official Welcome Chief Scientist Professor Peter Klinken AC		
8:50am - 9:00am	Conference Welcome Nicolas Taylor - ASBMB 2019 Chair		
Sirius Room		Pleiades Room	
Symposium 1 - Gene Editing		Special Interest Group 1 Adelaide Protein Group	
<i>Chairperson: Oliver Rackham</i>		<i>Chairpersons: Melissa Pitman and Briony Forbes</i>	
9:00am - 9:25am	Editing in natural regulatory mutations to treat inherited blood disorders Merlin Crossley	Throwing a spanner in the cancer cell's signalling works Joanna Woodcock	
9:25am - 9:50am	Applications of CRISPR screening approaches to gene discovery Kaylene Simpson	UDP-glucuronosyltransferase (UGT) enzymes as dominant negative regulators and novel modulators of nuclear receptor signalling Julie-Ann Hulin	
9:50am - 10:15am	Gene editing and systems approaches for elucidating mitochondrial protein function Mike Ryan	Unexpected genome editing outcomes from DNA cleavage induced by CRISPR-Cas9 Fatwa Adikusuma	
10:15am - 10:40am	Gene editing of the multi-copy H2A.B3 gene and its importance for male fertility Tanya Soboleva	Solving the structural basis of PPARgamma antagonism to drive improved T2DM drug design Rebecca Frkic	
10:40am - 11:00am Morning Tea			
Sirius Room			
Plenary Session - Gene Editing			
<i>Chairperson: Oliver Rackham</i>			
11:00am - 11:45am	AAV and CRISPR-Cas Molecular Therapeutics in Singapore Wei Leong Chew		
11:45am - 12:30pm	Genome editing pinpoints single bases Li Yang		
12:30pm - 2:00pm Lunch			
Sirius Room		Pleiades Room	
Symposium 2 - Gene Editing		Special Interest Group 2 Queensland Protein Group	
<i>Chairperson: Merlin Crossley</i>		<i>Chairpersons: Rebecca San Gil and Conan Wang</i>	
2:00pm - 2:25pm	Finding critical genes driving and mediating therapy resistance in cancer using CRISPR/Cas9 screening in vitro and in vivo. Marco Herold	A C-terminal fragment of chlorotoxin retains bioactivity and inhibits cell migration Norelle Daly	
2:25pm - 2:50pm	Modelling genetic alteration in colorectal cancer and patient specific drug responses. Susan Wood	Intrinsically disordered sequences of cavin1 drive the formation of plasma membrane caveolae Vikas Tillu	
2:50pm - 3:15m	'Any Idiot can do it'. How easy a knockout or knockin mouse could be generated using CRISPR/Cas9 gene editing technology? Gaetan Burgio	Novel insights into the multifunctionality of the haemagglutinin-neuraminidase protein for drug discovery Larissa Dirr	
3:15pm - 3:40pm	Utilising gene-editing and stem cell technologies to understand human development, disease and regeneration. Sara Howden	A universal transmembrane adaptor for toll-like receptors promotes selective pro-inflammatory responses Lin Luo	
3:40pm - 4:00pm Afternoon Tea			
Sirius Room			
E/MCR Mini Symposium 1			
<i>Chairperson: Aleksandra Filipovska</i>			
4:00pm - 4:15pm	Characterization and redesign of pentatricopeptide repeat (PPR) RNA binding proteins Kalia Bernath-Levin		
4:15pm - 4:30pm	Kinetically distinct G protein signalling waves are transduced by the dopamine D2 receptor Alastair Keen		
4:30pm - 4:45pm	Identification of interactors and modulators of TDP-43 pathology as potential drug targets for ALS and FTD Adam Walker		
4:45pm - 5:00pm	Engineering potassium-activation into a potassium-independent thiolase Andrew Marshall		
Sirius Room			
Poster Presentations			
<i>Chairperson: Dominic Ng</i>			
5:00pm - 5:06pm	Oleoyl-lysophosphatidylinositol mimics as novel GLP-1 releasing agents Silvano Paternoster		
5:06pm - 5:12pm	Combination of nutraceutical compounds as a promising approach for Alzheimer's disease preventive therapy Dona Jayatunga		
5:12pm - 5:18pm	Specific Combinations of Presenilin 1 Protein Regions Are Required for Differential Cleavage of Amyloid Precursor Protein and Notch1 Receptor Melissa Eccles		
5:18pm - 5:24pm	Structural basis of nucleoside selectivity in Aspergillus fumigatus nucleoside diphosphate kinase Stephanie Nguyen		
5:24pm - 5:30pm	Towards introducing sgRNAs to Nicotiana tabacum plants expressing Cas9 Anindita Chakraborty		
5:30pm - 5:36pm	Plasma thiol proteins as biomarkers of oxidative stress Nguyet (Marisa) Duong		
5:36pm - 5:42pm	Assessing the relationship between non-canonical DNA structures, Imotifs and G-quadruplexes, at different stages of the cell cycle in breast cancer Kelly Irving		
5:42pm - 6:00pm	Questions		
Souther Cross Lobby			
6:00pm - 6:30pm	Poster Session 1		



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WEDNESDAY 2 OCTOBER 2019

Sirius Room		Pleiades Room	
Symposium 3 - RNA Biology		Presentations from Abstracts 1	
<i>Chairpersons: Minni Anko and Tamas Fischer</i>		<i>Chairperson: Jaqueline Wilce</i>	
9:00am - 9:25am	Rapid translational responses to stress revealed by translation complex profile sequencing in yeast and mammalian cells Nikolay Shirokhih	9:00am - 9:25am	FACS purification of cells with neurodegenerative disease-associated pathology for genome-wide CRISPR screening of regulators of protein aggregation Rebecca San Gil
9:25am - 9:50am	Targeting minor class splicing for cancer therapy Joan Heath	9:25am - 9:50am	CRISPR-edited mice with human microcephaly mutations reveal neocortical and ciliary defects responsible for abnormal brain growth. Dominic Ng
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> Peter Boag	9:50am - 10:15am	Refining the model for ligand-dependent differential receptor: transducer coupling through single molecule studies Sebastian Furness
10:15am - 10:40am	The integration of alternative polyadenylation with core metabolism Traude Beliharz	10:15am - 10:40am	Structural and functional characterisation of the defensin NoD173 as a novel anticancer molecule Mark Hulett
10:40am - 11:00am Morning Tea			
Sirius Room			
Plenary Session - RNA Biology			
<i>Chairperson: Archa Fox</i>			
11:00am - 11:45am	Lnc-ing RNA Processing and Function Lingling Chen <i>Georgina Sweet Travel Support</i>		
11:45am - 12:30pm	Therapeutic vulnerabilities in cancer stem cells Wai Leong Tam		
12:30pm - 2:00pm Lunch			
Sirius Room		Pleiades Room	
Symposium 4 - RNA Biology		Special Interest Group 3 Sydney Protein Group	
<i>Chairpersons: Traude Beilharz and Chen Davidovich</i>		<i>Chairperson: Tara Christie</i>	
2:00pm - 2:25pm	Interactions of Poly-C-binding protein 2 with the poliovirus type I IRES. Jackie Wilce	2:00pm - 2:25pm	Calcium is an essential cofactor for metal efflux by the ferroportin transporter family Chandrika Deshpande
2:25pm - 2:50pm	Multilayered control of exon acquisition permits the emergence of novel forms of regulatory control Robert Weatheritt	2:25pm - 2:50pm	Rapid selection of structurally diverse and high affinity cyclic peptide bromodomain inhibitors Karishma Patel
2:50pm - 3:15m	RNA exploits an exposed regulatory site to inhibit the enzymatic activity of the histone methyltransferase polycomb repressive complex 2 (PRC2) Qi Zhang	2:50pm - 3:15m	A mechanism for the extension and unfolding of parallel telomeric G-quadruplexes by human telomerase at single-molecule resolution Bishnu Paudel
3:15pm - 3:40pm	Lonely Single-Stranded DNA seeks RNA Tamas Fischer	3:15pm - 3:40pm	Transcription factors use different strategies to interact with Mediator Emma Sierecki
3:40pm - 4:00pm Afternoon Tea			
Sirius Room			
ASBMB Awards Presentations and Lectures			
<i>Chairperson: Joel McKay</i>			
4:00pm - 4:35pm	Cancer: Biology to Nanomedicine-based Diagnostics and Therapeutics Maria Kavallaris ASBMB Lemberg Medal and Presentation		
4:35pm - 5:10pm	New insights into inflammasome signalling and inhibition Kate Schroder ASBMB Merck Medal Presentations and Lecture		
5:10pm - 5:35pm	The role of extracellular vesicles in neurodegenerative diseases Andrew Hill Beckman Coulter Discovery Science Award		
5:35pm - 6:00pm	RNA targeting by CRISPR-Cas and anti-CRISPRs Gavin Knott Boomerang Award		
6:00pm - 6:25pm	Resistance is futile: Overcoming the rise of superbugs and noxious weeds Tatiana Soares da Costa Eppendorf Edman Award Presentation and Symposium Lecture		
6:25pm - 6:50pm	Act like a scientist! Drama in the lecture theatre Terrence Mulhern Shimadzu Education Award Presentation and Symposium Lecture		
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	
<i>Chairperson: Maria Kavallaris</i>	
9:00am - 9:25am	Towards antimicrobial agents that disrupt disulfide bond formation in bacteria Maria Halili
9:25am - 9:50am	Class Acts - unpicking PI3K function with isoform selective inhibitors Philip Thompson
9:50am - 10:15am	Understanding the molecular heterogeneity of pancreatic cancer: from mechanism to therapy Marina Pajic
10:15am - 10:40am	Profiling receptor molecular pharmacology Kevin Pflieger
RaPID peptide library screening for the discovery of selective and high affinity bromodomain inhibitors Joel Mackay	
Understanding signaling bias at the Insulin Receptor Briony Forbes	
Polycistronic miRNA processing regulates the good and the bad of self-renewal Minna-Liisa Anko	
Visualizing movements in E. coli F1Fo ATP synthase indicates how the F1 and Fo motors are coupled James Walshe SPG Travel Award Winner	
10:40am - 11:00am Morning Tea	
Sirius Room	
Plenary Session - Drug Discovery	
<i>Chairperson: Marco Falasca</i>	
11:00am - 11:45am	Sirtuin Inhibition in Cancer: A Therapeutic Strategy Oon Chern Ein
11:45am - 12:30pm	Structure-guided Fragment-based Drug Discovery for Cancer and Tuberculosis: Fighting the Emergence of Resistance Tom Blundell <i>Grimwade Medal</i>
12:30pm - 2:00pm Lunch	
Sirius Room	
Symposium 6 - Drug Discovery	
<i>Chairperson: Charlie Bond</i>	
2:00pm - 2:25pm	Development of first-generation inhibitors of the Class II PI3K, PI3KC2 α , as novel anti-thrombotics Justin Hamilton
2:25pm - 2:50pm	Molecular targeted therapy for childhood cancer: neuroblastoma as a model Murray Norris
2:50pm - 3:15pm	Rapid flow cytometry screen to identify novel MND drug leads Mark Wilson
3:15pm - 3:40pm	Eradicating Metastatic Prostate Cancer Through the Systematic Identification of Synergistic Drug Combinations Gail Risbridger
Trefol factors mediate wound healing and mucus viscosity through crosslinking glycoproteins presenting the GlcNAc- α -1,4-Gal glycotope Michael Jarva	
Structural Studies of the M5 Muscarinic Acetylcholine Receptor Ziva Vuckovic	
Palmitoyl-CoA regulates Drp1 and mitochondrial fission by a structural motif shared amongst metabolic enzymes William Smiles	
Harnessing cellular degradation using small molecule Proteolysis-Targeting Chimeras (PROTACs) Michael Roy	
3:40pm - 4:00pm Afternoon Tea	
Sirius Room	
E/MCR Mini Symposium 2	
<i>Chairperson: Nicolas Taylor</i>	
4:00pm - 4:15pm	Understanding the assembly of mammalian complex II Hanmiao Zhan
4:15pm - 4:30pm	Structural Basis for CD96 Immune Receptor Recognition of Nectin-like Protein-5, CD155 Gabrielle Watson
4:30pm - 4:45pm	LncRNA REG1CP promotes tumorigenesis through an enhancer complex to recruit FANCD1 helicase for REG3A transcription Hamed Yari
4:45pm - 5:00pm	Synthetic biology tools for Aspergillus nidulans as a heterologous host for drug discovery Indra Roux
Sirius Room	
Poster Presentations	
<i>Chairperson: Emma Sierecki</i>	
5:00pm - 5:06pm	β III-tubulin promotes activation of the PI3K/AKT survival pathway in non-small cell lung cancer by modulating expression of the tumor suppressor PTEN Simon Brayford
5:06pm - 5:12pm	Developing a FRET based RNA biosensor. Brady Johnston
5:12pm - 5:18pm	Development of a Paraspeckle Biosensor to Sense Cellular Stress Finn McCluggage
5:18pm - 5:24pm	Investigating the RNA Binding Specificity of Drosophila Behaviour/Human Splicing Proteins Yee Seng Chong
5:24pm - 5:30pm	Exploring three KH domains of hnRNPK in complex with single-stranded nucleic acids Brian Le
5:30pm - 5:36pm	Structural studies of SFPQ and SFPQ/NONO-nucleic acid complexes Heidar Koning
5:36pm - 5:42pm	Identifying and Characterising Catalytically Active RNA Editing Factors from Plants Farley Kwok van der Giezen
5:42pm - 5:48pm	The effects of Millimetre Waves in Human Astrocytes Nicholas Lawler
5:48pm - 5:54pm	Assessing the relationship between RNA G-quadruplexes and the RNA-binding protein, FUS, in an in vitro model of Alzheimer's Uditi Bhatt
5:54pm - 6:00pm	Questions
Souther Cross Lobby	
Poster Session 2	
Resort Pool	
6:30pm - 8:30pm Conference Dinner	