

## QRW Programme

### Proteins

Thursday 7th – Friday 8<sup>th</sup> September, 2017

Rydges Hotel, Queenstown, New Zealand

### Thursday 7th September

| Time  | Details   | Location        |
|---|---|-----------------|
| 8.20am  | Welcome   | Queenstown Room |
| <b>Session 1 – Protein folding</b><br><b>Chaired by Laura Domigan (University of Auckland)</b>            |   |                 |
| 8.35am  | <b>Danny Hatters (P1)</b><br>University of Melbourne, Australia<br><i>Tracking how mutant Huntingtin assemblies into inclusions reveals a Pyrrhic victory for survival</i>    | Queenstown Room |
| 9.00am  | <b>Margie Sunde (P2)</b><br>University of Sydney, Australia<br><i>Viruses inhibit host cell necroptosis by forming decoy amyloid fibrils</i>                                  | Queenstown Room |
| 9.25am  | <b>Sarah Atkinson (P3)</b><br>Monash University, Australia<br><i>Recognition by host nuclear transport proteins drives viral protein disorder-to-order transition</i>         | Queenstown Room |
| 9.45am  | <b>Yuliana Tosaatmadja (P4)</b><br>Univeristy of Auckland, New Zealand<br><i>Understanding the mechanism of ester bond formation in bacterial adhesins</i>                    | Queenstown Room |
| 10.00am   | <b>Morning tea break</b>  | Trades Area     |
| <b>Session 2 – Toxins and Cellular Defence</b><br><b>Chaired by Chris Squire (University of Auckland)</b> |   |                 |
| 10.30am   | <b>Steve Almo (P5)</b><br>Albert Einstein College of Medicine, USA<br><i>New Strategies for Immunotherapy</i>   | Queenstown Room |
| 11.15am   | <b>Michelle Dunstone (P6)</b><br>Monash University, Australia<br><i>The evolution of MACPF/CDC toxins: multiple assembly pathways for multiple targets</i>                    | Queenstown Room |
| 11.40am   | <b>Monica Gerth (P7)</b><br>University of Otago, New Zealand<br><i>Scratched, then sniffed? Exploring the role of chemoreceptors in host invasion.</i>                        | Queenstown Room |
| 12.00pm   | <b>M Bostina (P8)</b><br>University of Otago, New Zealand<br><i>Architecture of a large DNA virus as revealed by cryo-electron microscopy.</i>                                | Queenstown Room |
| 12.15pm   | <b>Senthil Arumugam (P9)</b><br>Univeristy of New South Wales, Australia<br><i>Lattice light imaging of intracellular events – examples from endocytosis and trafficking.</i> | Queenstown Room |
| 12.30pm   | <b>Lunch Break</b>  | Trades Area     |

|             |  |                               |
|-------------|--|-------------------------------|
|             | <b>Session 3– Enzymes and pathways</b><br><b>Chaired by Jane Allison (Massey University)</b>   |                               |
| 1.30pm      | <b>Jon Sayers (P10)</b><br>University of Sheffield, UK<br><i>A fly-casting, thread, bend and barb mechanism ensures accurate cleavage of branched DNA molecules</i>  | Queenstown Room               |
| 2.15pm      | <b>James Murphy (P11)</b> <i>sponsored by Bio-Rad Laboratories Pty Ltd</i><br>The Walter and Eliza Hall Institute of Medical Research, Australia<br><i>Mechanistic studies of how the pseudokinase, MLKL, is activated and kills cells by necroptosis.</i> | Queenstown Room               |
| 2.35pm      | <b>Renwick Dobson (P12)</b><br>University of Canterbury, New Zealand<br><i>Tales of sugary delights</i>  | Queenstown Room               |
| 2.55pm      | <b>Charlie Bond (P13)</b><br>The University of Western Australia, Australia<br><i>Structural studies and gel- and filament-forming properties of paraspeckle RNA-binding proteins</i>  | Queenstown Room               |
| 3.15pm      | <b>J.L. Brewster (P14)</b><br>University of Otago, New Zealand<br><i>Insights into the multiple activities of a primordial-like enzyme from Thermotoga maritima.</i>   | Queenstown Room               |
|             | <b>Afternoon tea break</b>   | Trades Area                   |
|             | <b>Session 4 – Protein Structure</b><br><b>Chaired by Juliet Gerrard (University of Auckland)</b>  |                               |
| 4.00pm      | <b>Michael Landsberg (P15)</b> <i>sponsored by Bio-Strategy</i><br>University of Queensland, Australia<br><i>Structure of the Tersinia entomophaga ABC toxin complex at near-atomic resolution</i>   | Queenstown Room               |
| 4.25pm      | <b>Lawrence Lee (P16)</b><br>Univeristy of New South Wales, Australia<br><i>Uncovering mechanisms for the self-assembly of supramolecular protein structures with artificial DNA templates.</i>  | Queenstown Room               |
| 4.50pm      | <b>Angus Grey (P17)</b><br>University of Auckland, New Zealand<br><i>Visualising ocular lens function and dysfunction with protein imaging mass spectrometry</i>   | Queenstown Room               |
| 5.10pm      | <b>Rachel North (P18)</b><br>University of Canterbury, New Zealand<br><i>The structure and function of a bacterial sialic acid transporter</i>   | Queenstown Room               |
| 5.30-7.00pm | <b>Posters and mixer in trades area</b><br><i>Sponsored by Bio-Rad Laboratories Pty Ltd</i>  | Trades Area                   |
| 7.00pm      | <b>Joint dinner with Cell Signalling satellite at Rydges</b><br>Tickets are required   | Bazaar Restaurant,<br>Level 6 |

| <b>Friday 8th September</b>  |  |                        |
|--|--|------------------------|
| <b>Time</b>  | <b>Details</b>   | <b>Location</b>        |
| <b>Session 5 – - Membrane proteins</b><br><b>Chaired by Jack Flanagan (University of Auckland)</b> |  |                        |
| <b>8.40am</b>  | <b>Ross Bathgate (P19)</b><br>University of Melbourne, Australia<br><i>Using engineered thermostabilized G protein-coupled receptors for interrogation of ligand selectivity and drug screening using NMR</i>  | <b>Queenstown Room</b> |
| <b>9.05am</b>  | <b>Lisa Martin (P20)</b><br>Monash University, Australia<br><i>Dual activity of cytochrome P450c17 - regulation of cortisols and androgens</i>   | <b>Queenstown Room</b> |
| <b>9.30am</b>  | <b>Brian Monk (P21)</b><br>University of Otago, New Zealand<br><i>Structure-function analysis of the antifungal target sterol 14<math>\alpha</math>-demethylase</i>  | <b>Queenstown Room</b> |
| <b>9.50am</b>  | <b>Jane Allison (P22)</b><br>Massey University, New Zealand<br><i>Energetic and structural factors controlling membrane association and activity of wild-type and oncogenic H1047R PI3K<math>\alpha</math></i> | <b>Queenstown Room</b> |
| <b>10.00am</b>   | <b>Morning Tea</b>   | <b>Trades Area</b>     |
| <b>Session 6 – Cell Signalling</b><br><b>Chaired by Peter Shepherd (University of Auckland)</b>    |  |                        |
| 10.30am  | <b>John Burke (P23)</b><br>University of Victoria, Canada<br><i>Exploring the structure and dynamics of phosphoinositide kinases and their role in disease</i>   | <b>Queenstown Room</b> |
| 11.10am  | <b>Peter Mace (P24)</b><br>University of Otago, New Zealand<br><i>Apoptosis Signal-regulating Kinases–linking redox stress to MAPK signalling</i>  | <b>Queenstown Room</b> |
| 11.35am  | <b>Catherine Day</b><br>University of Otago, New Zealand<br><i>Building chains – characterisation of ubiquitin chain assembly by TRAF proteins</i>   | <b>Queenstown Room</b> |
| 12.00pm  | <b>Denise Wootten</b><br>Monash University<br><i>Novel insights into class B GPCR activation and signalling</i>  | <b>Queenstown Room</b> |
| <b>12.30pm</b>   | <b>Lunch</b>   | <b>Trades Area</b>     |

| <b>Session 7 – Protein engineering and evolution<br/>Chaired by Monica Gerth (University of Otago)</b> |  |                        |
|--|--|------------------------|
| 1.20pm   | <b>Gerard Manning (P25)</b><br>Genentech, USA<br><i>Decoding the functions of kinases and phosphatases with bioinformatics - from a billion years of evolution to modern cancer genome sequencing.</i> | <b>Queenstown Room</b> |
| 2.05pm   | <b>Ashley Buckle (P26)</b><br>Monash University, Australia<br><i>Protein engineering of next generation monobodies</i>   | <b>Queenstown Room</b> |
| 2.30pm   | <b>Wayne Patrick (P27)</b> <i>sponsored by Mediray</i><br>University of Otago, New Zealand   | <b>Queenstown Room</b> |
| 2.50pm   | <b>Chris Squire (P28)</b><br>University of Auckland, New Zealand<br><i>Protein superglue from bacteria.</i>  | <b>Queenstown Room</b> |
| 3.10pm   | Afternoon tea break  | <b>Trades Area</b>     |
| <b>Session 8 – Infectious diseases<br/>Chaired by Peter Mace (University of Otago)</b>                 |  |                        |
| 3.40pm   | <b>Shaun Lott (P29)</b><br>University of Auckland, New Zealand<br><i>The structure and function of KstR, the major regulator of cholesterol catabolism in Mycobacterium tuberculosis</i>               | <b>Queenstown Room</b> |
| 4.00pm   | <b>Yoshio Nakatani (P30)</b><br>University of Otago, New Zealand<br><i>Targeting NDH-2, an essential bacterial respiratory enzyme for development of novel antibiotics</i>                             | <b>Queenstown Room</b> |
| 4.20pm   | <b>Ivanhoe Leung (P31)</b><br>University of Auckland, New Zealand<br><i>Targeting isocitrate lyase for the treatment of latent tuberculosis</i>  | <b>Queenstown Room</b> |
| 4.35pm   | <b>Ghader Bashiri (P32)</b><br>University of Auckland, New Zealand<br><i>Molecular insights into cofactor F<sub>420</sub> biosynthesis uncover a revised pathway</i>                                   | <b>Queenstown Room</b> |
| 4.50pm   | <b>Dave Ackerley (P33)</b><br>Victoria University, New Zealand<br><i>Engineering bacterial nitroreductases for biomedical research applications</i>  | <b>Queenstown Room</b> |