



AUSTRALASIAN SOCIETY OF CLINICAL AND  
EXPERIMENTAL PHARMACOLOGISTS AND TOXICOLOGISTS

## ANNUAL SCIENTIFIC MEETING

*Innovation in therapeutics:  
Fundamental research to clinical impact*

**27–30 November 2018**

ADELAIDE CONVENTION CENTRE

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# POSTER PROGRAM

Wednesday 28 November 2018 09:30 – 10:25 and 12:30 – 13:25

| Clinical Pharmacology |   |
|-----------------------|---|
| 400                   | <b>The role of UGT enzymes in cytotoxic drug resistance in breast cancer cells and cancer stem cells</b><br>Mr Radwan Ansaar, Flinders University   |
| 401                   | <b>Tacrolimus dosing and monitoring in lung transplant patients</b><br>Dr Jane Carland, St Vincent's Hospital   |
| 402                   | <b>The effect of splitting a pill on dose accuracy: a systematic review</b><br>Miss Kanika Chaudhri, The George Institute for Global Health   |
| 403                   | <b>Does statin use affect cognition in older adults? A pilot N-of-1 deprescribing trial</b><br>Mr Alexander Clough, The University of Sydney  |
| 404                   | <b>How are we using immunosuppressant medicines in Australasian elderly renal transplant recipients?</b><br>Ms Amelia Cossart, The University of Queensland   |
| 405                   | <b>Supporting junior doctor prescribers' learning through self-assessment and feedback: positive impact of a mixed methods study</b><br>Dr Peter Donovan, Royal Brisbane and Women's Hospital   |
| 406                   | <b>The effect of the Wuzhi tablet on the metabolism of dabrafenib in human liver microsomes: a herb-drug interaction</b><br>Ms Alia Fahmy, The University of Sydney   |
| 407                   | <b>NMBA-mediated anaphylaxis: can sugammadex act as an antidote?</b><br>Ms Nithya Fernandopulle, The University of Melbourne  |
| 408                   | <b>Effect of chronic polypharmacy and the Drug Burden Index (DBI) on muscle function and structure in aged mice</b><br>Miss Gizem Gemikonakli, The University of Sydney   |
| 409                   | <b>Update of perpetrators in the pharmacokinetic interaction screening (PKIS) database</b><br>Miss Georgia Glass, Flinders University   |
| 410                   | <b>Tacrolimus dosing and monitoring: a retrospective cohort study</b><br>Ms Ranita Kirubakaran, University of New South Wales   |
| 411                   | <b>Predictive performance of tacrolimus precision dosing software in heart transplant</b><br>Ms Ranita Kirubakaran, University of New South Wales   |
| 412                   | <b>Vancomycin – effects of obesity on drug exposure and outcome with Guideline based dosing</b><br>Dr Mari Koyanagi, John Hunter Hospital   |
| 413                   | <b>Potential cytochrome-mediated drug interactions with cannabinoids</b><br>Dr Catherine Lucas, The University of Newcastle   |
| 414                   | <b>Combination therapy with an SGLT2 inhibitor as initial treatment for type 2 diabetes: a systematic review and meta-analysis</b><br>Dr Tamara Milder, St Vincent's Hospital   |
| 415                   | <b>Modulation of T-type Calcium Channels by Phytocannabinoids</b><br>Mrs Somayeh Mirlohi, Macquarie University  |
| 416                   | <b>Preferred language for communicating deprescribing decisions in the discharge summary: a qualitative study</b><br>Dr Brendan Ng, The University of Sydney  |
| 417                   | <b>Medication use in older inpatients with and without dementia</b><br>Miss Thu Jessica Nguyen, The University of Sydney  |
| 418                   | <b>Microsampling as an alternative collection method to venous blood to quantify capecitabine and its metabolites by LC-MS/MS</b><br>Ms Mirjana Radovanovic, University of Newcastle  |
| 419                   | <b>Investigation of the potentially beneficial CNS-activity of cystic fibrosis modulator drugs</b><br>Dr Elena Schneider-futschik, The University of Melbourne  |
| 420                   | <b>Comparison of vancomycin area-under-the-curve using one and two-compartment pharmacokinetic models</b><br>Ms Rashmi Shingde, St Vincent's Hospital   |
| 421                   | <b>Frailty and medication use in older inpatients: potentially inappropriate medications and polypharmacy</b><br>Ms Meggie Zhang, Kolling Institute of Medical Research, Royal North Shore Hospital and The University of Sydney          |
| 422                   | <b>Simultaneous determination of the phenotyping cocktail drugs and their cytochrome P450-specific probe metabolites in human plasma and urine by liquid chromatography/tandem mass spectrometry</b><br>Dr Mei Zhang, University of Otago |
| 423                   | <b>Association between drug burden index and geriatric syndromes in a large, single-centre general medicine cohort</b><br>Dr Christopher McMaster, Austin Health  |
| 424                   | <b>Vancomycin Therapeutic Drug Monitoring in Paediatrics</b><br>Dr Joanne Patel, John Hunter Hospital   |
| 425                   | <b>Using population pharmacokinetics to guide vancomycin dosing in high flux haemodialysis; analysis of data from the VANISH study</b><br>Dr Sam Salman, University of Western Australia  |

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| 426 | <b>Improving the understanding of an old drug to treat the youngest patients: population pharmacokinetics of pentoxifylline and its metabolites in critically ill, very pre-term infants</b><br>Dr Sam Salman, University of Western Australia  |
| 427 | <b>Designed with kids in mind: pharmacokinetic and clinical assessment of a novel, palatable paediatric oral formulation of midazolam</b><br>Dr Sam Salman, University of Western Australia   |
| 428 | <b>A population pharmacokinetic study of benzylpenicillin following benzathine benzylpenicillin administration in children and adolescents with rheumatic heart disease: new insights for improved secondary prophylaxis strategies</b><br>Dr Sam Salman, University of Western Australia |
| 429 | <b>Suboptimal prediction of serum vancomycin concentrations with Bayesian forecasting software using a 1-compartment model in haemodialysis patients</b><br>Dr Maurizio Stefani, St Vincent's Hospital  |

## Drug Discovery

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| 434 | <b>Concatenated <math>\gamma</math>-aminobutyric acid type A receptors: creating order in chaos</b><br>Assoc Prof Philip Kiaer Ahring, The University of Sydney   |
| 435 | <b>Elucidating the structural basis of bias at the adenosine A1 receptor</b><br>Dr Jo-Anne Baltos, Monash University  |
| 436 | <b>Investigating G protein-coupled receptor (GPCR) signalling using novel G protein biosensors</b><br>Prof Ross Bathgate, Florey Institute of Neuroscience and Mental Health  |
| 437 | <b>Expression of calcium pumps, channels and channel regulators in a model of therapy resistance in melanoma</b><br>Ms Chia Chua, The University of Queensland  |
| 438 | <b>Towards developing a high throughput assay for Glycine receptors</b><br>Mrs Morgane Mazzarino, The University of Sydney  |
| 439 | <b>Characterisation of fluorescent ligands for use with NanoBRET technology</b><br>Miss Natasha Dale, Harry Perkins Institute of Medical Research   |
| 440 | <b>Probing the binding and function of polyamines at the calcium-sensing receptor</b><br>Miss Jiayin Diao, Monash University  |
| 441 | <b>Exploring the structural basis of biased allosteric modulation of metabotropic glutamate receptor 5</b><br>Dr Karen Gregory, Monash Institute of Pharmaceutical Sciences   |
| 442 | <b>Development of novel automated epifluorescence microscopy based assays for calcium signalling in breast cancer cells</b><br>Miss Ellen Janke, The University of Queensland   |
| 443 | <b>Probing calcium sensing receptor negative allosteric modulator binding sites</b><br>Dr Tracy Josephs, Monash Institute of Pharmaceutical Sciences  |
| 444 | <b>How ZCZ011 compares to its analogues in modulating and activating cannabinoid CB1 receptor</b><br>Dr Marina Junqueira Santiago, Macquarie University   |
| 445 | <b>A structure-function approach to determine global and ligand-specific activation mechanisms in Class C G Protein-Coupled Receptors</b><br>Dr Andrew Keller, Monash University  |
| 446 | <b>Calcium sensing receptor negative allosteric modulators differentially stimulate parathyroid hormone release</b><br>Dr Katie Leach, Monash University  |
| 448 | <b>In vitro synergism of Wnt inhibitor niclosamide and pyrvinium in combination with chemotherapy in colorectal cancer DLD-1 and SW620 cells</b><br>Dr Johnson Liu, University of New South Wales                           |
| 449 | <b>Exploring subtype differences in <math>\alpha</math>1-adrenoceptor ligand residence time</b><br>Miss Samantha Miles, University of New South Wales   |
| 450 | <b>Inhibition of human breast cancer cells MCF-7 and MDA-MB-231 growth and proliferation by allyl isothiocyanate from cruciferous vegetables</b><br>Dr Suong Ngo, The University of Adelaide                                |
| 451 | <b>Measurement of ligand-receptor interactions and internalisation of the CXCR4 chemokine receptor using high affinity Nanoluciferase complementation</b><br>Assoc Prof Kevin Pflieger, The University of Western Australia |
| 452 | <b>Upregulation of cyclooxygenase-2 (COX-2) in MDA-MB-231 breast cancer cells by the arylurea-fatty acid CTU</b><br>Mr Md Khalilur Rahman, The University of Sydney   |
| 453 | <b>Cancer associated fibroblasts undergo a calcium channel switch</b><br>Dr Francisco Sadras, The University of Queensland  |
| 454 | <b>Automated epifluorescence microscopy based imaging of breast cancer cells with fixed cellular geometry</b><br>Ms Choon Leng So, The University of Queensland   |

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| 455 | <b>ZST316, a novel dimethylarginine dimethylaminohydrolase-1 (DDAH1) inhibitor, reduces angiogenic capacity in cultured endothelial cells</b><br>Ms Negara Tajbakhsh, Flinders University                    |
| 456 | <b>The AKT activator SC79 promotes Ca<sup>2+</sup> influx in MDA-MB-231 breast cancer cells</b><br>Ms Yin Yi Tan, The University of Queensland   |
| 457 | <b>The receptor-effector interactions underpinning adenosine A2B receptor signal transduction</b><br>Miss Bui San Thai, Monash University  |
| 458 | <b>Investigating potential functional crosstalk of co-located metabotropic glutamate receptor 5 and adenosine A1 receptors in primary neurons and glia</b><br>Miss Nguyen Hong Phuc Trinh, Monash University |
| 459 | <b>Exploration of tricyclic TSPO ligands to overcome binding sensitivity to the A147T TSPO polymorphism</b><br>Dr Eryn Werry, The University of Sydney   |

## Education

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| 471 | <b>Pharmacy intern vaccination training</b><br>Prof Peter Carroll, The University of Sydney  |
| 472 | <b>Delivery of flexible and effective curricula in pharmacology to diverse student cohorts</b><br>Dr Elvan Djouma, La Trobe University                               |
| 473 | <b>Relationship between entry requirements and academic outcomes in pharmacology for nursing students</b><br>Dr Sheila Doggrell, Queensland University of Technology |
| 474 | <b>Student attitudes towards pharmacology practicals</b><br>Dr Lynette Fernandes, University of Western Australia  |
| 475 | <b>Work integrated learning: interdisciplinary, project-based learning as a means of developing employability skills</b><br>Dr Joanne Hart, The University of Sydney |
| 476 | <b>Introducing project-based learning into the Pharmacology major at the University of Sydney: a case study</b><br>Dr Joanne Hart, The University of Sydney          |
| 477 | <b>Transforming education through cloud-based technologies for authentic and adaptive learning</b><br>Assoc Prof Tina Hinton, The University of Sydney               |
| 478 | <b>Design and development of a new oncology unit of study in the new integrated pharmacy curriculum</b><br>Dr Rebecca Roubin, The University of Sydney               |
| 479 | <b>Experiential training courses for medical technology and pharmaceutical translation</b><br>Ms Ruth Seeber, Accelerating Australia                                 |

## Pharmacoepidemiology

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| 486 | <b>Body mass impacts survival in non-small cell lung cancer patients</b><br>Assoc Prof Kellie Charles, The University of Sydney  |
| 487 | <b>Effect of early adverse events on response and survival outcomes of advanced melanoma patients treated with vemurafenib or vemurafenib plus cobimetinib: a pooled analysis of clinical trial data</b><br>Dr Ashley Hopkins, Flinders University |
| 488 | <b>The risk of head trauma associated with antipsychotic use among community dwellers with Alzheimer's disease</b><br>Dr Marjaana Koponen, University of Eastern Finland   |
| 489 | <b>Trajectories of work disability before and after opioid initiation for non-cancer pain: 10-year population-based study</b><br>Ms Samanta Lalic, Monash University   |
| 490 | <b>Prevalence and incidence of prescription opioid analgesic use in Australia</b><br>Ms Samanta Lalic, Monash University   |
| 491 | <b>Validation and implementation of three new medicines-related quality indicators in residential aged care facilities</b><br>Ms Leonie Picton, Monash University  |
| 492 | <b>The 'Talking about deprescribing' resource to facilitate conversations about medicines discontinuation in residential aged care</b><br>Ms Leonie Picton, Monash University  |
| 493 | <b>An assessment of the safety and quality of nurse-initiated and pro re nata (PRN) medication use in Victorian aged care services: a study protocol</b><br>Ms Leonie Picton, Monash University  |
| 494 | <b>Attitudes towards deprescribing: results of a nationally representative sample of older adults in the United States</b><br>Dr Emily Reeve, The University of Sydney; Dalhousie University   |
| 495 | <b>Proton pump inhibitor use in residential aged care services: does it pass the acid test?</b><br>Dr Janet Sluggett, Monash University  |

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| 496 | <b>Multiple antihypertensive use and the risk of mortality in residents of aged care services: a prospective cohort study</b><br>Dr Edwin Tan, Monash University                                   |
| 497 | <b>Use of HMG-Co-A-reductase inhibitors (statins) and risk of fall-related hospital admissions in residents of aged care facilities: a case-control study</b><br>Miss Kate Wang, Monash University |
| 498 | <b>Treatment initiation for Type 2 Diabetes in Australia: Are the guidelines being followed?</b><br>Mr Stephen Wood, Monash University   |

### Inflammation/respiratory

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| 504 | <b>Dynorphin 3-14 modulation of peptidoglycan induced TNF-alpha release in macrophages</b><br>Miss Margaret Perona, The University of Queensland                                       |
| 505 | <b>SOD off (or on?): mitotronics - powering inflammation and immunity</b><br>Mr Tim Shaw, The Peter Doherty Institute  |
| 506 | <b>The use of non-steroidal anti-inflammatory drugs in an Australian elite athlete population</b><br>Assoc Prof Alison Shield, University of Canberra                                  |
| 507 | <b>SMRT is essential for phospholipase D dependent glucocorticoid insensitivity</b><br>Prof Alastair Stewart, The University of Melbourne  |
| 508 | <b>SULPHASALAZINE (SSZ, Salazopyrin), an enigmatic drug for chronic inflammation: some insights from antibacterial assays in vitro</b><br>Prof Michael Whitehouse, Griffith University |
| 509 | <b>Mechanism of human mast cell activation by polymyxins</b><br>Miss Stephanie Zhang, The University of Melbourne  |

**Thursday 29 November 2018 09:30 – 10:25 and 12:30 – 13:25**

### Cardiovascular

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| <b>430</b> | <b>Systematic review with meta-analysis: risk of adverse cardiovascular events with proton pump inhibitors independent of clopidogrel</b><br>Dr Riley Batchelor, Monash University |
| <b>431</b> | <b>The impact of diabetes on cardiac remodelling and the hexosamine biosynthesis pathway (HBP) in the human heart</b><br>Mr David Nash, Baker Heart and Diabetes Institute         |
| <b>432</b> | <b>Therapeutic role of rAAV6-BMP7 to limit diabetic cardiomyopathy in type 2 diabetic mice</b><br>Miss Nimna Perera, Baker Heart and Diabetes Institute                            |
| <b>433</b> | <b>The effect of long-term polypharmacy on cardiovascular functions and cardiac fibrosis in aged mice</b><br>Ms Trang Tran, The University of Sydney                               |

### Drug Disposition and Response

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| <b>460</b> | <b>Mechanistic population in vitro-in vivo pharmacokinetic model of the effect of omeprazole on itraconazole pharmacokinetics</b><br>Dr Ahmad Abuhelwa, University of South Australia            |
| <b>461</b> | <b>Physiologically-based pharmacokinetic modelling of hyperforin to predict drug interactions with St John's wort</b><br>Mr Jeffry Adiwidjaja, The University of Sydney                          |
| <b>462</b> | <b>Role of MRGPRX2 and evidence of biased agonism in drugs that cause non-IgE mediated mast cell activation</b><br>Ms Nithya Fernandopulle, The University of Melbourne                          |
| <b>463</b> | <b>Stable isotope-labelled morphine to study in vivo central and peripheral morphine glucuronidation and brain transport in tolerant mice</b><br>Dr Yannick Goumon, CNRS UPR3212                 |
| <b>464</b> | <b>The magnitude and time-course of hepatic and intestinal Cytochrome P450 3A4 induction and de-induction</b><br>Ms Asha Kapetas, Flinders University  |
| <b>465</b> | <b>Quantification of serum levels of 8 drugs (11 metabolites) commonly taken by older people with polypharmacy</b><br>Dr John Mach, NSLHD  |
| <b>466</b> | <b>Characterising the functions of UDP-glucuronosyltransferase (UGT) 2B15 and 2B17 in breast cancer cells</b><br>Mr Quinn Martin, Flinders University  |
| <b>467</b> | <b>Computational prediction of the sites of metabolism (SOM) of protein kinase inhibitors</b><br>Dr Pramod Nair, Flinders University   |
| <b>468</b> | <b>Understanding variability in circulating extracellular nanovesicles: implications for biomarker analyses</b><br>Ms Lauren Newman, Flinders University   |
| <b>469</b> | <b>Detection of hepatic cytochromes P450 protein in plasma derived extracellular nanovesicles (exosomes)</b><br>Mr Warit Ruanglertboon, Flinders University                                      |
| <b>470</b> | <b>Identification of the caffeine to trimethyluric acid ratio as a dietary biomarker to characterise variability in Cytochrome P450 3A4 activity</b><br>Miss Madelé Van Dyk, Flinders University |

### Neuro- and Behavioural Pharmacology

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| <b>480</b> | <b>Characterisation of alcohol-seeking behaviour in galanin receptor-3 knockout mice</b><br>Miss Shannyn Genders, La Trobe University                            |
| <b>481</b> | <b>Paracetamol entry into the developing brain</b><br>Miss Yifan Huang, The University of Melbourne  |
| <b>482</b> | <b>Neuroactive constituents of GABA-enriched oolong tea compared to regular oolong tea</b><br>Prof Graham Johnston, The University of Sydney                     |
| <b>483</b> | <b>MDMA-induced hyperthermia: the effects of minocycline on brain hyperthermia at high ambient temperature</b><br>Mr Stefan Musolino, The University of Adelaide |
| <b>484</b> | <b>Oxytocin and vasopressin inhibit hyper-aggressive behaviour in mice via actions at the V1A receptor</b><br>Mr Oliver Tan, The University of Sydney            |

## Pharmacogenomics

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|-----|---|
| 499 | <b>Effects of cytokines, toll-like receptors and signal transduction receptor gene polymorphisms on acute rejection in kidney transplant patients</b><br>Ms Rong Hu, The University of Adelaide   |
| 500 | <b>A narrative review of key stakeholder perspectives on the translation of pharmacogenomics into clinical practice</b><br>Ms Priya Iyer, The University of Queensland  |
| 501 | <b>Pharmacogenomic considerations for the treatment of neonatal severe hyperparathyroidism (NSHPT) and familial hypocalciuric hypercalcaemia (FHH)</b><br>Dr Katie Leach, Monash University   |
| 502 | <b>Aboriginal Australians have higher frequencies of variant alleles for drug efflux transporters and lower frequencies for uptake transporters compared to Europeans: implications for drug efficacy and toxicity</b><br>Prof Andrew Somogyi, The University of Adelaide |

## Toxicology

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| 510 | <b>Toxicity of herbal phytochemicals; the role of cytochrome induction</b><br>Miss Susan Britza, University of Adelaide  |
| 511 | <b>The effects of chronic polypharmacy and deprescribing on the livers of aged mice</b><br>Miss Lydia Conti, The University of Sydney  |
| 512 | <b>Evaluation of an early 20th century Afghan herbalist's preparations</b><br>Miss Rachael Farrington, The University of Adelaide  |
| 513 | <b>Using single-ended transition state searching to mechanistically assess chemical skin sensitisation potential</b><br>Mr Davy Guan, The University of Sydney                           |
| 514 | <b>Using deep learning to improve chemical representation in skin sensitisation Quantitative Structure Activity Relationship (QSAR) models</b><br>Mr Davy Guan, The University of Sydney |
| 515 | <b>Strain-specific Ames mutagenicity modelling using multitask deep learning</b><br>Mr Raymond Lui, The University of Sydney   |
| 516 | <b>Comparing molecular featurisation strategies for logP prediction</b><br>Mr Raymond Lui, The University of Sydney  |
| 517 | <b>A fatal case of toxic leukoencephalopathy from organic solvent abuse</b><br>Dr Joanne Patel, John Hunter Hospital   |

## Urogenital and Gastrointestinal

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| 518 | <b>Mechanisms underlying purinergic P2X7 receptor antagonism in maintaining urothelial barrier function against acrolein-induced inflammation and cytotoxicity</b><br>Miss Zhinoos Taidi, University of New South Wales |
| 519 | <b>Differential expression of thromboxane synthase in human colon; upregulation in Crohn's disease and with age</b><br>Miss Lixin Zhang, University of New South Wales  |