Posters are available for viewing in Exhibition Halls 13 & 14 of the Melbourne Convention and Exhibition Centre from 10:45 on Monday, 28 September through to 14:00 on Wednesday, 30 September. All posters are on display for three days (Monday through to Wednesday).

Posters will be attended by the presenting author at 13:40 – 14:40 on Monday, 13:30 – 14:30 on Tuesday and at 13:00 – 14:00 on Wednesday.

**Cancer Biology**
Posters 001 – 035

POS-MON-001 13:40 - 14:40
Epigenetic silencing of Csk-homologous kinase (Chk) leads to over-activation of oncogenic Src-family kinases in colorectal carcinoma
Advani, G.A., Cheuh, A.C. and Cheng, H.C. (Australia)

POS-WED-002 13:00 - 14:00
In vitro anticancer activity evaluation of some plants from Faifa mountains, south west of Saudi Arabia
Alfaifi, M. (Saudi Arabia)

POS-WED-003 13:00 - 14:00
Genotoxic and cytotoxic effects of *Salvia officinalis* extracts on rat bone marrow
Alshehri, M. (Saudi Arabia)

POS-TUE-004 13:30 - 14:30
Structural basis of interleukin-3 superkine signalling
POS-WED-005 13:00 - 14:00
Sustained hedgehog signalling inhibits bone formation during development and maintains a primitive osteoblast phenotype in osteosarcoma
Cochrane, C.R., Carey, K., Jayasekara, S., Szczepny, A., Watkins, D.N. and Cain, J.E. (Australia)

POS-MON-006 13:40 - 14:40
The BHP2 protein - an evolutionary perspective on the intrinsic apoptotic pathway
Caria, S., Hall, C., Hinds, M. and Kvansakul, M. (Australia)

POS-TUE-007 13:30 - 14:30
The role of alpha 1-antitrypsin in lung cancer

POS-WED-008 13:00 - 14:00
Understanding how growth factors overcome the inhibition of BRAFV600E in melanoma cells
Chan, X.Y., Abdul Rashid, N.F. and Piva, T.J. (Australia and Singapore)

POS-MON-009 13:40 - 14:40
Three in one bullets: small molecule inhibitors of the beta-common receptor

POS-TUE-010 13:30 - 14:30
The role of SRC family kinases in CSF-1-induced macrophage motility and tumour invasion

POS-WED-011 13:00 - 14:00
A potential role for HSF-1 in chaperone mediated autophagy in maintaining the metastatic phenotype in breast cancer
POSTERS

POS-MON-012  13:40 - 14:40
Glioblastoma brain cancer invasion: How different subclasses move throughout the brain

POS-TUE-013  13:30 - 14:30
Probing the structure of a G protein-coupled receptor using small-angle x-ray scattering
Gunn, N.J. and Scott, D.J. (Australia)

POS-WED-014  13:00 - 14:00
Truncation and functionalization of a targeted therapeutic towards cancer cells
Henri, J.L., Duan, W. and Shigdar, S. (Australia)

POS-MON-015  13:40 - 14:40
Cbp-deficient mice have elevated viability signalling in Epo-responsive erythroid progenitors due to elevated lyn kinase activity, resulting in alterations to red blood cell development

POS-TUE-016  13:30 - 14:30
Investigating extracellular vesicles for prostate cancer biomarkers
Jankowski, H., Goldie, B., Brzozowski, J., Bond, D., Scarlett, C., Skelding, K. and Weidenhofer, J. (Australia and Japan)

POS-WED-017  13:00 - 14:00
Investigating the role of heparanase in breast cancer progression using the PyMT-MMTV model
Jayatilleke, K.M., White, J.H., Parker, B.S. and Hulett, M.D. (Australia)

POS-MON-018  13:40 - 14:40
Monitoring the progression of cell death and disassembly of dying cells by flow cytometry
Jiang, L.Z., Tixeira, R., Atkin-Smith, G.K., Paone, S., Caruso, S., Hulett, M.D. and Poon, I.K.H. (Australia)
POS-TUE-019  13:30 - 14:30
Metabolic regulation by autophagy during the TGFbeta1-induced epithelial-to-mesenchymal transition
Zada, S. and Kim, D.R. (Republic of Korea)

POS-WED-020  13:00 - 14:00
Structural basis for Ca$^{2+}$-mediated interaction of the perforin C2 domain with lipid membranes

POS-MON-021  13:40 - 14:40
p53 regulates the nuclear and mitochondrial cofactor Strap during DNA damage response
Maniam, S., Coutts, A. and La Thangue, N. (Malaysia and UK)

POS-TUE-022  13:30 - 14:30
Heparanase gene expression is regulated by the EWS-Fli1 fusion protein in ewing sarcoma
Mayfosh, A., Horan, C. and Hulett, M. (Australia)

POS-WED-023  13:00 - 14:00
Integrin activation through O-glycosylation of calnexin in cancer
McDowall, R., Nguyen, A., Gill, D., Humphries, M. and Bard, F. (Singapore and UK)

POS-MON-024  13:40 - 14:40
Chromatin-mediated regulation of T-cell development and function

POS-TUE-025  13:30 - 14:30
STED imaging reveals diverse tropomyosin in actin cables

POS-WED-026  13:00 - 14:00
Defining TRAIL induced mutations
Miles, M.A., Hall, N. and Hawkins, C.J. (Australia)
POS-MON-027  13:40 - 14:40
Characterisation of membrane proteins involved in zinc homeostasis in *Streptococcus pneumoniae*
La Porta, D., McDevitt, C. and Maher, M. (Australia)

POS-TUE-028  13:30 - 14:30
Exploration of FLICE inhibitory protein in the pathogenesis of MALT lymphoma
Butt, S.K., Nisar, L. and Anees, M. (Pakistan)

POS-WED-029  13:00 - 14:00
Do antioxidants confer protection to UV-irradiated melanocyte-derived cells?
Banjar, A., Feltis, B.N., Wright, P.F.A. and Piva, T.J. (Australia)

POS-MON-030  13:40 - 14:40
Polysaccharopeptide activates monocytes in resting human peripheral blood mononuclear cells: potential adjunct to cancer immunotherapy
Sekhon, B., Sze, D., Chan, W., Fan, K., Moore, D. and Roubin, R.H. (Australia)

POS-TUE-031  13:30 - 14:30
How can breast cancer with osseous metaplasia be benign?
Saad, E.S., Milley, K.M., Bacci, B., Nimmo, J.S., Richardson, S.J. and Danks, J.A. (Australia)

POS-WED-032  13:00 - 14:00
Identifying novel ZEB1 targets in epithelial-to-mesenchymal transition
Sandras, F., Pillman, K.A., Conn, S., Gregory, P.A. and Goodall, G.J. (Australia)

POS-MON-033  13:40 - 14:40
Peptide-cisplatin hybrids: targeted therapy for triple negative breast cancer
Shrestha, S., Smith, N.M., Evans, C.W., Sorolla, A., Blancafort, P. and Iyer, K.S. (Australia)

POS-TUE-034  13:30 - 14:30
Tyrosine phosphorylation profiling reveals the unique signalling network characteristics of breast cancer subtypes
Su, S.-P., Hochgräfe, F., Chan, H. and Daly, R.J. (Australia and Germany)
POS-WED-035  13:00 - 14:00  
Synergistic response of neuroblastoma to the combined treatment of anti-microtubule and anti-tropomyosin agents 
**Swain, A.**, Chen, D., Currier, M., Cripe, T., Kloss, N., Stehn, J., Hardeman, E. and Gunning, P. (Australia and USA)

**EDUCATION**  
Posters 036 – 038

POS-MON-036  13:40 - 14:40  
Utilising inquiry based elearning modules for pre-lecture content delivery to facilitate active learning in the lecture theatre 
**Kuit, T.**, Fildes, K., Moscova, J., Schreiber, K. and Treweek, T. (Australia)

POS-MON-037  13:40 - 14:40  
Engaging science students in research in learning and teaching 
**Macaulay, J.O.**, Checkley, W., Samarawickrema, N.A. and Speed, C.J. (Australia)

POS-MON-038  13:40 - 14:40  
The learning strategies and metacognition of second year biochemistry and molecular biology students 
**Verkade, H.** and Lodge, J. (Australia)

**GLOBAL CHANGE BIOLOGY**  
Posters 039 – 048

POS-TUE-039  13:30 - 14:30  
High throughput screening of rumen methanogens in aiding the development of methane mitigation agents 

POS-WED-040  13:00 - 14:00  
Predicting wheat photosynthesis in a high CO₂ world under drought and heat 
**Chavan, S.G.**, Duursma, R.A. and Ghannoum, O. (Australia)
POSTERS

POS-MON-041  13:40 - 14:40
Enzyme encounter complex in the diaminopimelate pathway of cyanobacteria
Christensen, J.B., Panijkar, S. and Perugini, M.A. (Australia)

POS-TUE-042  13:30 - 14:30
Changes in frugivory network in response to seasonal climate
Darosci, A.A.B., Bruna, E., Blake, J.G., Soares-Silva, L.H. and Munhoz, C.B.R. (Brazil and USA)

POS-WED-043  13:00 - 14:00
Heat tolerance in diverse Okra (Abelmoschus esculentus (L.) Moench) germplasm
Hayamanesh, S., Keitel, C., Ahmad, N., Chattha, T. and Trethowan, R. (Australia)

POS-MON-044  13:40 - 14:40
Methods of biochar analysis for environmental applications

POS-TUE-045  13:30 - 14:30
Pituri: genus characterisation and phylogenetic assessment
Ryu, B., Ratsch, A., Godwin, I.D. and Steadman, K.J. (Australia)

POS-WED-046  13:00 - 14:00
Hormones involved in plant growth and defence responses are also involved in the control of secondary metabolite synthesis in sorghum
Sohail, M.N., Blomstedt, C.K. and Gleadow, R.M. (Australia)

POS-MON-047  13:40 - 14:40
Determining the molecular components of the apoptotic cell disassembly pathway
POSTERS

POS-TUE-048 13:30 - 14:30
Functional characterisation of estrogen receptor from the Sydney rock oyster *Saccostrea glomerata*: Transactivation potential on the vitellogenin gene promoter and estrogen dependence
Tran, T., Yu, R., O'Conner, W. and MacFarlane, G. (Australia)

INFECTION AND HOST
Posters 049 – 074

POS-WED-049 13:00 - 14:00
Role of GM-CSF-driven CCL17 production in rheumatoid arthritis

POS-MON-050 13:40 - 14:40
Structural characterization of sigma/anti-sigma complexes involved in iron homeostasis in *Pseudomonas aeruginosa*
Casas, G.P., Maher, M.J. and Lamont, I (Australia and New Zealand)

POS-TUE-051 13:30 - 14:30
Structure and biological activity of contryphan-Vc2

POS-WED-052 13:00 - 14:00
Investigating the role of the mediator complex in plant defence
Fallath, T.A., Kidd, B.N., Stiller, J., Kazan, K. and Schenk, P.M. (Australia)

POS-MON-053 13:40 - 14:40
The *Drosophila melanogaster* MACPF protein torso-like is required for the cellular immune response
POS-TUE-054 13:30 - 14:30
New points of modulation of IRAK3 function

POS-MON-055 13:40 - 14:40
Molecular basis of poxvirus early virion assembly and its inhibition by rifampicin
Garriga, D., Accurso, C., Headey, S., Germany-Partarrieu, M., Scanlon, M. and Coulibaly, F. (Australia)

POS-TUE-056 13:30 - 14:30
Proteolysis of the anti-sigma factor, FpvR, of Pseudomonas aeruginosa
Heywood, A. and Lamont, I.L. (New Zealand)

POS-WED-057 13:00 - 14:00
Characterization of broad range phosphopantetheinyl transferases for heterologous expression of natural products
Liu, T., Mazmouz, R. and Neilan, B.A. (Australia)

POS-MON-058 13:40 - 14:40
Laboratory-directed evolution as a tool for anticipating insecticide resistance
Mabbitt, P.D., Correy, G.J., Fraser, N.J., Liu, J.-W., Oakeshott, J.G. and Jackson, C.J. (Australia)

POS-TUE-059 13:30 - 14:30
Engineered molecular circuits made from DNA that mimic graphics processing units with fluorescent visual displays

POS-WED-060 13:00 - 14:00
Structural and kinetic analysis of Aspergillus fumigatus thioredoxin reductase, a potential antifungal drug target
Marshall, A.C. and Bruning, J.B. (Australia)

POS-MON-061 13:40 - 14:40
Killing fungal pathogens - determining the mode of action of an antifungal defensin
POSTERS

POS-TUE-062  13:30 - 14:30
Transcriptome profiling of a calcifying coral colony with low endosymbiont density
Perseke, M., Wei, J., Huang, X., Guo, M., Yan, Y., Huang, Y. and Quin, Q. (China)

POS-WED-063  13:00 - 14:00
The role of biotin protein ligase in regulating biotin-related gene expression in *Staphylococcus aureus*
Satiaputra, J., Eijkelkamp, B., Shearwin, K., Booker, G. and Polyak, S. (Australia)

POS-MON-064  13:40 - 14:40
Structural and functional characterization of glutathione reductase from *Streptococcus e*
Sikanyika, M., McDevitt, C.A. and Maher, M.J. (Australia)

POS-TUE-065  13:30 - 14:30
Unveiling a new dogma for defining allosteric inhibition of an essential bacterial enzyme

POS-WED-066  13:00 - 14:00
New insights into the specificity of protein biotinylation

POS-MON-067  13:40 - 14:40
Dissecting the N-end rule pathway of protein degradation in *Mycobacterium smegmatis*
Tan, J.L., Kleifield, O., Dougan, D.A. and Truscott, K.N. (Australia)

POS-TUE-068  13:30 - 14:30
Investigation into the mechanism of *Mycobacterium tuberculosis* dethiobiotin synthetase inhibitor fragments using NMR based techniques
Salaemae, W., Thompson, A.P., Booker, G.W., Wegener, K.L. and Polyak, S.W. (Australia)
POSTERS

POS-WED-069 13:00 - 14:00
Engineering the immunity repressor CI from bacteriophage 186 to improve temperature-dependent regulation
Truong, J., Dodd, I. and Shearwin, K. (Australia)

POS-MON-070 13:40 - 14:40
Genome-wide analysis of microRNA-mRNA interactions in THP-1 derived human macrophage cells in response to Coxiella burnetii infection

POS-TUE-071 13:30 - 14:30
Structural and biochemical studies of antigen 43 homologues from pathogenic Escherichia coli strains

POS-WED-072 13:00 - 14:00
PSKR1 is a guanylate cyclase with a role in necrotrophic sensitivity
Wheeler, J.I., Mulyera, V. and Irving, H.R. (Australia)

POS-MON-073 13:40 - 14:40
Detection of Ornithobacterium rhinotracheale (ORT) in Australian poultry
Williamson, S.L., Harris, T. and Pavic, T. (Australia)

POS-TUE-074 13:30 - 14:30
Essential role of SPECT1 and SPECT2 in establishing Plasmodium falciparum liver stage malaria
Yang, A.S.P., O'Neill, M.T., Lopaticki, S., Allison, C., Jennison, C. and Boddey, J. (Australia)

METABOLIC AND CARDIOVASCULAR
Posters 075 – 099

POS-WED-075 13:00 - 14:00
Using western blotting to measure thiol oxidation of signal transduction proteins caused by reactive oxygen and nitrogen species (RONs)
POSTERS

POS-MON-076  13:40 - 14:40
A rhenium-based molecular probe, ReZolve-L1, acts as a PH biosensor for the fluorescent detection of lipids in live cells

POS-TUE-077  13:30 - 14:30
Spatio-temporal control of intracellular calcium dynamics by IP3 signaling in beating adult rat ventricular myocytes
Bass, G.T., Roderick, H.L., Rajagopal, V. and Crampin, E.J. (Australia and Belgium)

POS-WED-078  13:00 - 14:00
Does renal sympathetic denervation decrease sympathetic nerve activity?
Cole, A., Nankervis, S., Chew, H., Myers, M., Charchar, F. and Wang, Y. (Australia)

POS-MON-079  13:40 - 14:40
Directed evolution of Vitreoscilla hemoglobin to improve the growth of Escherichia coli under limited oxygen conditions
Cu, T.V. and Ollis, D.L. (Australia)

POS-TUE-080  13:30 - 14:30
Investigating the regulation of mitophagy in the yeast, Saccharomyces cerevisiae
Dawson, K., Boglev, Y., Youngs, K., May, A., Devenish, R. and Prescott, M. (Australia)

POS-WED-081  13:00 - 14:00
Trafficking of lysosomal multi-pass transmembrane protein HGSNAT to the exosome and lysosome
Fedele, A.O., Isenmann, S., Kamei, M. and Hopwood, J.J. (Australia)

POS-MON-082  13:40 - 14:40
Regulating mitochondrial quality control by activating AMPK prevents and reverses drug-induced mitochondrial and cellular damage in hepatocytes
Haydar, G., Kang, S., Farrell, G., Arias, I., Lippincott-Schwartz, J. and Fu, D. (Australia and USA)

POS-TUE-083  13:30 - 14:30
A multivariate statistical framework for analysing "omics" data
Gao, S., Mutter, S. and Makinen, V. (Australia and Finland)
POSTERS

POS-WED-084  13:00 - 14:00
Mitochondrial protein import: Characterising the human TIMM22 translocase

POS-WED-085  13:00 - 14:00
Macrophage necroptosis is induced by atherogenic ligands and promotes atherosclerotic lesion vulnerability
Karunakaran, D., Geoffrion, M., Wei, L., Gan, W., Richards, L., Shangari, P., Maegdefessel, L., Sad, S., Ruddy, T. and Rayner, K. (Canada)

POS-MON-086  13:40 - 14:40
A new player in macrophage polarisation

POS-TUE-087  13:30 - 14:30
Spontaneous mutation in Zfp-binding region of TNF gene causes chronic polyarthritis and heart valve disease

POS-WED-088  13:00 - 14:00
Quaternary structure and dynamics of the Type 2 diabetes target: Fructose 1,6-Bisphosphatase
Nelson, T.G. and Perugini, M.A. (Australia)

POS-MON-089  13:40 - 14:40
Mechanism of compound 2 (C2), a small-molecule activator of AMP-activated protein kinase (AMPK)

POS-TUE-090  13:30 - 14:30
Dual action drug that activates or inhibits AMPK depending on the beta subunit isoform
Scott, J.W., Oakhill, J.S., Galic, S., Langendorf, C.L., Steinberg, G.R., Birnberg, N. and Kemp, B.E. (Australia, Canada and USA)
POS-WED-091  13:00 - 14:00
Heparanase is cells of the vasculature and atherosclerosis
Paone, S., Thomas, S., Glaros, E., Dang, L. and Hulett, M. (Australia)

POS-MON-092  13:40 - 14:40
Characterization of the Gly45Asp variant of cytochrome P450 1A1 using recombinant expression
Lee, S.H. and Ryu, D.Y. (Republic of Korea)

POS-TUE-093  13:30 - 14:30
The residues are crucial for binding and activation of Rhizobium etli pyruvate carboxylase by acetyl CoA
Sirithanakorn, C., Jitrapakdee, S. and Attwood, P.V. (Australia)

POS-WED-094  13:00 - 14:00
Investigating shear stress induced intracellular calcium signalling of mammalian cells in microfluidics
Soffe, R., Baratchi, S., Tang, S.-Y., McIntyre, P., Mitchell, A. and Khoshmanesh, K. (Australia)

POS-MON-095  13:40 - 14:40
Sub-chronic effects of Centella asiatica extract on blood pressure of normotensive and hypertensive rats
Srisawat, R. and Intharachatorn, T. (Thailand)

POS-TUE-096  13:30 - 14:30
A novel transcription factor in eosinophils

POS-WED-097  13:00 - 14:00
Rat and human CYP24A1 metabolises 20,23-dihydroxyvitamin D3 via a multicatalytic pathway analogous to the vitamin D degradation pathway
Tieu, E.W., Li, W., Kim, T.-K., Ma, D., Slominski, A.T. and Tuckey, R.C. (Australia and USA)

POS-MON-098  13:40 - 14:40
α-Actinin-3 deficiency is associated with altered glycogen metabolism
POSTERS

POS-TUE-099  13:30 - 14:30
Digital expression explorer: a user-friendly repository of uniformly processed RNA-seq data
Ziemann, M., Kaspi, A., Lazarus, R. and El-Osta, A.
(Australia)

NEUROSCIENCE
Posters 100 – 113

POS-WED-100  13:00 - 14:00
DNA damage and repair regulates nuclear translation factors in C9ORF72 patients and in neuronal cell lines in amyotrophic lateral sclerosis (ALS)/motor neuron disease (MND)
Farg, M.A., Don, E., Soo, K.Y. and Atkin, J.D. (Australia)

POS-MON-101  13:40 - 14:40
Genome-wide regulation of gene expression by the inner mitochondrial membrane protein-like 2
Gokoolparsad, A., Fang, J., Lin, P., Nguyen, M., Clarke, R., Eapen, V. and Voineagu, I. (Australia)

POS-TUE-102  13:30 - 14:30
Towards understanding the disease-associated conformation of human apoE4

POS-WED-103  13:00 - 14:00
Gender specific brain stem neurodegeneration during selenium deficiency: implications of thyroid hormone and testosterone action in growth and development
Kremer, P.M., Pitts, M.W., Hashimoto, A., Byrns, C. and Berry, M.J. (USA)

POS-MON-104  13:40 - 14:40
The Drosophila melanogaster phospholipid flippase dATP8B is required for odorant receptor function
POSTERS

POS-TUE-105  13:30 - 14:30
Enteric neural cells from Hirschsprung Disease patients form ganglia in aneuronal colon muscle tissue

POS-WED-106  13:00 - 14:00
ALS-associated mutant FUS inhibits macroautophagy which is restored by overexpression of Rab1
Soo, K.Y., Sultana, J., King, A., Atkinson, R., Warraich, S.T., Sundaramoorthy, V., Blair, I., Farg, M.A. and Atkin, J.D. (Australia)

POS-MON-107  13:40 - 14:40
The role of small G-protein Arl5b in the recruitment of adaptor protein complex 4 at the trans-Golgi network

POS-TUE-108  13:30 - 14:30
CANCELLED

POS-WED-109  13:00 - 14:00
Biophysical characterization of TIA-1 nucleic acid interactions
Waris, S., Sivakumaran, A., Beckham, S., Cruz-Gallardo, I., Diaz Moreno, I., Wilce, M. and Wilce, J. (Australia and Spain)

POS-WED-110  13:00 - 14:00
Molecular evolution of the primate P2X7 receptor to a low functional form in modern humans
Wiley, J.S., Breen, J., Gu, B.J., Arriola, L. and Cooper, A. (Australia)

POS-MON-111  13:40 - 14:40
Distribution of transient receptor potential melastatin-8-containing nerve fibers in rat oral and craniofacial structures
Yajima, T., Sato, T. and Ichikawa, H. (Japan)

POS-TUE-112  13:30 - 14:30
Identification of novel interactors of WD40-repeat protein 62 (WDR62) by biotin proximity labelling
Yeap, Y.Y.C., Bogoyevitch, M.A. and Ng, D.C.H. (Australia)
Neural crest/glia cells are necessary for axon elongation during ENS development

**Zhang, D.** and **Newgreen, D.** (Australia)

**PLANT CELL BIOLOGY**
**Posters 114 – 154**

**POS-MON-114 13:40 - 14:40**
Complementation of a *Pectin Methylesterase Inhibitor (PMEI)* mutant with a synthetic *PMEI* encoding gene

**Allen, P.J.,** Li, S.F. and Parish, R.W. (Australia)

**POS-TUE-115 13:30 - 14:30**
Investigation of phytohormone roles in barley grown under salinity stress

**Cao, D.,** Lutz, A., Hill, C.B. and Roessner, U. (Australia)

**POS-WED-116 13:00 - 14:00**
Metabolic feedback regulation by RNA structural switches in plants

**Aryal, R.,** Holland, S., Watkins, J., Shashikanth, M., Pogson, J.P. and **Cazzonelli, C.I.** (Australia)

**POS-MON-117 13:40 - 14:40**
Improving Rubisco biogenesis - improving crop yields

**Conlan, B.F.,** Birch, R. and Whitney, S. (Australia)

**POS-TUE-118 13:30 - 14:30**
Plasmodesmata in rice and *Setaria*: A comparison of symplastic transport mechanism in C3 and C4 crops


**POS-WED-119 13:00 - 14:00**
Two intracellular Na⁺/H⁺ antiporters are required for auxin mediated root development in *Arabidopsis thaliana*

**Dragwidge, J.M.,** Ford, B.A., Ashnest, J. and Gendall, T.
Intracellular NHX-type sodium-proton antiporters are required for seed storage protein processing and protein storage vesicle formation

A recombinantly expressed, functional asparaginyl endopeptidase preferentially processes linear peptides to backbone-cyclised products

Morphological and genomic characterisation of key domestication traits in yellow lupin
Iqbal, M.M., Erskine, W., Berger, J. and Nelson, M.N. (Australia)

A new model system for the study of in planta cyclotide biosynthesis
Jia, H., Jackson, M.A., Chan, L.Y., Gilding, E.K. and Craik, D.J. (Australia)

Control of (1-3, 1-4) betaglucan structure and solubility
Jobling, S.A. (Australia)

A glycosyltransferase from Nicotiana pollen mediates (1,5)-α-L-arabinan synthesis

Natural confetti from Bougainvillea floral bracts
Lehmann, F.L. (Australia)

Machine learning approaches for the prediction of leaderless secretory proteins in Arabidopsis thaliana
Lonsdale, A. (Australia)
POS-TUE-128  13:30 - 14:30
Using metabolomics to understand salt tolerance mechanisms in transgenic barley
Lui, V., Hill, C.B., Roy, S.J. and Roessner, U. (Australia)

POS-WED-129  13:00 - 14:00
What regulates synthesis of a highly cellulosic secondary cell wall? Insights from transcriptomics reveal specialized transcription factors

POS-MON-130  13:40 - 14:40
Influence of metabolite content and texture on flavour perception and consumer acceptance of potato

POS-TUE-131  13:30 - 14:30
Proteases: A new frontier in preventing haziness in white wines
McRae, J.M., Schmidt, S. Warnock, N. and Smith, P.A. (Australia)

POS-WED-132  13:00 - 14:00
Investigating the role of mRNA secondary structure and RNA-binding proteins in plant post-transcriptional regulation
Reichel, M., Zheng, Z., Liao, Y., Preiss, P. and Millar, A. (Australia)

POS-MON-133  13:40 - 14:40
Altering starch branching enzyme genes in sorghum through transgenic technology
Mustapha, N.B. (Australia)

POS-TUE-134  13:30 - 14:30
How a protein was born: The de novo evolution of a buried seed peptide and its divergence over 30 million years
Mylne, J.S. (Australia)

POS-WED-135  13:00 - 14:00
The development of Setaria viridis as a model system to investigate type II cell wall construction, deconstruction and biomass quality traits
POS-MON-136 13:40 - 14:40
The therapeutic potential and in vitro antimicrobial effects of methanol stem bark extracts of Trilepisium madagascariense DC
Coopoosamy, R.M. and Olajuyigbe, O.O. (South Africa)

POS-TUE-137 13:30 - 14:30
bHLHm1 influences the AM symbiosis in Medicago truncatula

POS-WED-138 13:00 - 14:00
High resolution imaging of molecular transport through individual plasmodesmata

POS-WED-138A 13:00 - 14:00
Investigating the three-dimensional ultrastructure of plasmodesmata using electron tomography
Minguetti, A.F., Barton, D.A. and Overall, R.L. (Australia)

POS-MON-139 13:40 - 14:40
Cryopreservation and cryotherapy of kiwifruit
Pathirana, R., Mathew, L., Tyson, J.L., Jibran, R., McLachlan, A. and Buritt, D.J. (New Zealand)

POS-TUE-140 13:30 - 14:30
Long-term oscillations of the calcium signal during transfer cell trans-differentiation
Zhang, H.M., Offler, C.E. and Patrick, J.W. (Australia)

POS-WED-141 13:00 - 14:00
Establishment of an in vitro growth system for characterisation of the Blumeria graminis f. sp. hordei (Bgh) cell wall
Pham, T.A., Kyriacou, B., Shirley, N., Little, A. and Bulone, V. (Australia)

POS-MON-142 13:40 - 14:40
de novo protein evolution by hijacking
Pouvreau, B. and Mylne, J.S. (Australia)
POSTERS

POS-TUE-143 13:30 - 14:30
Analysis of GDC-P expression in Neurachninae species that use different photosynthetic pathways - insights into the evolution of C₄ photosynthesis
Saladié, M., Khoshravesh, R., Castelli, J.M., Dakin, N., Sage, T.L. and Ludwig, M. (Australia and Canada)

POS-WED-144 13:00 - 14:00
Expression of rice Nicotianamine synthase enzymes in E. coli and comparative activity analyses
Sanchez-Palacios, J.T., Ratcliffe, J. and Johnson, A.A. (Australia)

POS-MON-145 13:40 - 14:40
Regulation of effector gene expression by a putative GAL4-like transcription factor in Parastagonospora nodorum
Tan, K.C., Rybak, K., Phan, H.T.T., Lin, S.Y., Chooi, Y.H., Solomon, P.S. and Oliver, R.P. (Australia)

POS-TUE-146 13:30 - 14:30
Investigation of the structure and biosynthesis of plant cell walls using endosperm-derived Lolium multiflorum suspension cultured cells

POS-WED-147 13:00 - 14:00
Detection of genetically modified organisms in feed and food in Australia
Weaving, L., Williamson, S. and Pavic, A. (Australia)

POS-MON-148 13:40 - 14:40
The transfer cell ingrowth wall is compositionally altered relative to the underlying primary wall

POS-TUE-149 13:30 - 14:30
Using caged cytokinin to investigate root development at the single-cell level
Dow, L., Mathesius, U., Barrow, R.A. and White, R.G. (Australia and Germany)
POSTERS

POS-WED-150  13:00 - 14:00

*Tripogon loliiformis* modulates trehalose metabolism to induce autophagy and tolerate desiccation


POS-MON-151  13:40 - 14:40

Remobilisation of transposons in grapevine

**Winefield, C.**, Lizamore, D. and Thomson, S. (New Zealand)

POS-TUE-152  13:30 - 14:30

Cellulose synthesis is fine-tuned during ingrowth wall formation in transfer cells

**Xia, X.**, Patrick, J.W. and Offler, C.E. (Australia)

POS-WED-153  13:00 - 14:00

Exploring the interactions between the target of Rapamycin signalling pathway and physiology and metabolism in *Setaria viridis*


POS-MON-154  13:40 - 14:40

Expression of human microRNAs in *Arabidopsis thaliana*


PLANT PHYSIOLOGY

Posters 155 – 188

POS-TUE-155  13:30 - 14:30

Oxygen isotope composition of leaf water by direct CO$_2$ equilibration

**Barbour, M.M.** and Song, X. (Australia)

POS-WED-156  13:00 - 14:00

Cell-type specific profiling of epidermal bladder cells from the halophyte *Mesembryanthemum crystallinum* reveals insight into the complex role of these cells in plant salt tolerance

**Barkla, B.J.** (Australia)
POS-MON-157  13:40 - 14:40  
Identification of novel genes associated with iron uptake and homeostasis in bread wheat  
**Beasley, J.T., Bonneau, J.P., Li, Y. and Johnson, A.A.T.**  
(Australia)

POS-TUE-158  13:30 - 14:30  
Non-invasive measurement of xylem embolism: New technology and approaches  
**Choat, B., Badel, E., Burlett, R., Brodribb, T.J., Delzon, S., Jansen, S. and Cochard, H.**  
(Australia, France and Germany)

POS-WED-159  13:00 - 14:00  
Adaptation to life on land: How plants developed UV sunscreens  
**Clayton, W., Jordan, B., Davies, K., Albert, N., Deroles, S. and Schwinn, K.**  
(New Zealand)

POS-MON-160  13:40 - 14:40  
Molecular evolution of quaternary structure and lysine inhibition of DHDPS from a psychrophilic plant  
**Desbois, S., John, U. and Perugini, M.**  
(Australia)

POS-TUE-161  13:30 - 14:30  
Carbon acquisition and partitioning in contrasting lines of *Vicia faba* in response to a water deficit  
**Dumschott, K., Kaiser, B. and Merchant, A.**  
(Australia)

POS-WED-162  13:00 - 14:00  
Using discrimination against $^{18}$O and $^{13}$C to measure CO$_2$ diffusion in leaves  
**Evans, J.R., von Caemmerer, S., Bala, S. and Barbour, M.M.**  
(Australia)

POS-MON-163  13:40 - 14:40  
Distribution of calcium and phosphorus in leaf cells of Proteaceae from Australia and South America  
**Hayes, P.E., Clode, P.L. and Lambers, H.**  
(Australia)

POS-TUE-164  13:30 - 14:30  
A putative *Arabidopsis* RNA binding protein regulating stress responses and flowering time  
**Xu, M., Robertson, M., White, R. and Helliwell, C.**  
(Australia)
POSTERS

POS-WED-165  13:00 - 14:00  
Antioxidant responses to water stress extremes in tomato  
Hofmann, R.W.  (New Zealand)

POS-MON-166  13:40 - 14:40  
Defining the allosteric mechanism of wheat DHDPS  
Hogan, C.J. and Perugini, M.A.  (Australia)

POS-TUE-167  13:30 - 14:30  
The effect of soil phosphorus status on leaf development in  
Hakea prostrata  in its native habitat  
Ilyasova, A., Finnegan, P. and Lambers, H.  (Australia)

POS-WED-168  13:00 - 14:00  
Environmental responses of mesophyll conductance in wheat  
(Triticum aestivum  L.)  
Jahan, E. and Barbour, M.  (Australia)

POS-MON-169  13:40 - 14:40  
MYB80 homologues in Arabidopsis, cotton and Brassica:  
regulation and functional conservation in tapetal and pollen development  
Xu, Y., Iacuone, S., Li, S. and Parish, R.  (Australia)

POS-TUE-170  13:30 - 14:30  
Characterisation of the low affinity ammonium transporters AMF in maize  
Li, W., Dechorgnat, J., Tyerman, S.D. and Kaiser, B.N.  (Australia)

POS-WED-171  13:00 - 14:00  
Barley grain fructan metabolism is altered by overexpression  
CslF6, A (1,3;1,4)-β-glucans synthase gene  

POS-MON-172  13:40 - 14:40  
Proto-kranz in Neurachninae - a case for photorespiration as a  "bridge" to C4 photosynthesis in a grass lineage  

POS-TUE-173  13:30 - 14:30  
Genetic analysis of Plantago ovata seed mucilage mutants  
POS-WED-174  13:00 - 14:00
Plant pathogens hijacking plant proteins?
Wheeler, J., Kastner, P., Taranto, A.P., Shiller, J.B.,
Boshoven, J., Mesarich, C.H., Thomma, B.P.H.J., Bowen,
J.K. and Plummer, K.M. (Australia, The Netherlands and
New Zealand)

POS-MON-175  13:40 - 14:40
Pea puberty: Reduced adventitious root formation linked to
hormonal changes during floral switch
Rasmussen, A., Hosseini, S.A., Geelen, D., Hajirezaei, M.R.
and Druege, U. (United Kingdom, Belgium and Germany)

POS-TUE-176  13:30 - 14:30
Differential stomatal responses between the two surfaces of
an isobilateral amphistomatic leaf under stress
Richardon, F., Brodribb, T. and Jordan, G. (Australia)

POS-WED-177  13:00 - 14:00
Estimation of water use in oil palm using the heat ratio
method
Bayona, C.J. and Romero, H.M. (Colombia)

POS-MON-178  13:40 - 14:40
Unravelling mechanisms of fruit set mediated by cell wall
invertase
Ru, L., Patrick, J.W. and Ruan, Y.-L.

POS-TUE-179  13:30 - 14:30
Physiological and molecular mechanisms mediating xylem
Na+ loading in barley in the context of salinity stress
tolerance
Zhu, M., Shabala, L., Zhou, M.X. and Shabala, S. (Australia)

POS-WED-180  13:00 - 14:00
The response of mesophyll conductance and hydraulic
conductance to growth irradiance and CO₂ level in faba beans
Shrestha, A. and Barbour, M.M. (Australia)

POS-MON-181  13:40 - 14:40
Non-invasive assessment of *P. vulgaris* yield development
using portable NMR
Smith, M., Windt, C., Buckley, T. and Merchant, A.
(Australia and Germany)
POS-TUE-182  13:30 - 14:30  
Elevated atmospheric carbon dioxide during the flowering period minimizes pyrethrum yield reductions under moderate water deficit  
**Suraweera, D.D.,** Groom, T. and Nicolas, M.E. (Australia)

POS-WED-183  13:00 - 14:00  
Nighttime transpiration derived from *Populus euphratica* in the arid regions of the northwest China  
**Tengfei, Y.,** Feng, Q. and Si, J.H. (China)

POS-MON-184  13:40 - 14:40  
Transcriptomic analysis of FAD-2-1 RNAi rice lines to identify additional genes that are affected in expression  
**Tiwari, G.J.,** Liu, Q., Li, Z., Shrestha, P. and Rahman, S. (Malaysia and Australia)

POS-TUE-185  13:30 - 14:30  
Micropropagation of *Melaleuca cajuputi* Powell  
**Wannarat, W.,** Wongwean, P., Supanasomporn, S., Banchong, Y. and Haruthaithanasan, M. (Thailand)

POS-WED-186  13:00 - 14:00  
Functional characterization of maize NPF transport proteins in *Xenopus* oocytes  

POS-MON-187  13:40 - 14:40  
Novel method to collect root exudates from potato plantlets *in vitro*  
Richardson, F. and **Wiechel, T.J.** (Australia)

POS-TUE-188  13:30 - 14:30  
Gene expression patterns of nitrate transporter homologues in *Sorghum bicolor* indicate function and localisation differ to *Arabidopsis thaliana*  
**Worland, B.G.,** Godwin, I. and Schmidt, S. (Australia)
POSTERS

REGENERATIVE AND DEVELOPMENTAL BIOLOGY
Posters 189 – 213

POS-WED-189  13:00 - 14:00
Sponge genomes reveal spectacular diversity and complexity of developmental toolkit genes
Adamski, M., Fortunato, S. and Adamska, M. (Australia and Norway)

POS-MON-190  13:40 - 14:40
YAP activities beta-catenin in murine epidermal stem/progenitor cell proliferation
Akladios, B., Mendoza, V., Eeles, J., Lambie, D., Key, B., Hardeman, E., Soyer, H.P., Khosrotehrani, K. and Beverdam, A. (Australia)

POS-TUE-191  13:30 - 14:30
Partial hepatectomy in growth hormone receptor knockout C57BL/6 mice is lethal, but can be rescued by adenoviral expression of H2-B1 or infusion of human HLA-G

POS-WED-192  13:00 - 14:00
The identification of new KLF3 partner proteins by co-immunoprecipitation coupled with mass spectrometry
Chavalit, T., Lim, W.F., Quinlan, K.G.R. and Crossley, M. (Australia)

POS-MON-193  13:40 - 14:40
The Grainyhead-like gene family are critical regulators of early embryonic development

POS-TUE-194  13:30 - 14:30
Olfactory glia are the primary defence against bacterial invasion via the olfactory nerve but how successful are they?
Nazareth, L., Walkden, H., Batzloff, M., Beacham, I., Beagley, K., St John, J. and Ekberg, J. (Australia)
POSTERS

POS-WED-195  13:00 - 14:00
Interactome of the negative regulator of nuclear import
BRCA1-binding protein 2
Fatima, S., Wagstaff, K.M., Loveland, K.L. and Jans, D.A.
(Australia)

POS-MON-196  13:40 - 14:40
FGF signalling in the glial niche regulates neural stem cell
function in Drosophila
Zafir, S., Froldi, F. and Cheng, L. (Australia)

POS-TUE-197  13:30 - 14:30
Unraveling embryonic testicular pathways via Sox9 knockout
RNASEq and SOX9 ChIPSeq
Alankarage, D., Lavery, R., Rahmoun, M., Hands, M.,
Symon, A., Ryan, J., Bagheri-Fam, S., Poulat, F. and Harley,
V. (Australia and France)

POS-WED-198  13:00 - 14:00
The membrane attack complex/perforin-like protein torso-like
regulates Drosophila growth and developmental timing
Henstridge, M.A., Johnson, T.K., Saligari, M.J., Warr, C.G.
and Whisstock, J.C. (Australia)

POS-MON-199  13:40 - 14:40
Snai1 is required for stem cell maintenance in the mouse
intestinal epithelium
Abud, H.E., Horvay, K., Jarde, T., Casagranda, F., Haigh, K.,
Nefzger, C.M., Akhtar, R., Haigh, J.J., Polo, J.M. and Hime,
G.R. (Australia and Belgium)

POS-TUE-200  13:30 - 14:30
A pro-regenerative T cell subset promoting adult spinal cord
regeneration
Hui, S., Sheng, D., Sugimoto, K. and Kikuchi, K. (Australia)

POS-WED-201  13:00 - 14:00
Evaluation of the long-term integration ability of k-MSCs and
generation of a Pkd1 null k-MSCs model
Kairath, P., Li. J. and Little, M. (Australia)

POS-MON-202  13:40 - 14:40
Chemical and molecular characterization of nicotine to
nornicotine conversion phenotype in Australia Nicotiana
species used as chewing tobacco
Moghbel, N., Ryu, B. and Steadman, K.J. (Australia)
POS-TUE-203  13:30 - 14:30
N-terminal region of X-linked doublecortin (DCX) regulates microtubule organization
Moslehi, M., Ng, D.C. and Bogoyevitch, M.A. (Australia)

POS-WED-204  13:00 - 14:00
Is the size and structure of enteric ganglia controlled by differential adhesion of enteric neurons and neural crest precursor cells?
Newgreen, D.F., Rollo, B.N. and Zhang, D. (Australia)

POS-MON-205  13:40 - 14:40
Notch signalling induces Complement receptor 2 (CR2/CD21) expression in non-CR2 expressing pre-B cells
Cruickshank, M.N., Taylor, R.L., Ng, H.L. and Ulgiati, D. (Australia)

POS-TUE-206  13:30 - 14:30
Basic helix-loop-helix (bHLH) transcription factors TIP2, TDR and EAT1 are required for the tapetal cell differentiation and programmed cell death in the rice anther

POS-WED-207  13:00 - 14:00
Functional roles of CEY-3, a Y-box binding protein in development and stress responses of Caenorhabditis elegans
Rahman, M.M., Lee, M.C., Änkö, M.L. and Boag, P.R. (Australia)

POS-MON-208  13:40 - 14:40
Rods and rings inclusions formed by inhibited inosine-5-monophosphate dehydrogenase 2
Juda, P., Smigova, J. and Raska, I. (Czech Republic)

POS-TUE-209  13:30 - 14:30
Various methods for the transfection of human and bovine cultured cells
Jin, L., Kim, D. and Roh, S. (Republic of Korea)

POS-WED-210  13:00 - 14:00
miRNAs in STAT3 spliceform-specific differential gene regulatory networks
Tano, V., Ng, I.H.W., Ramialson, M., Goodall, G.J., Jans, D.A. and Bogoyevitch, M.A. (Australia)
POSTERS

POS-MON-211  13:40 - 14:40
Artificial transcription factors: achieving specificity
Vitale, D., Lim, W., Quinlan, K.G.R. and Crossley, M.
(Australia)

POS-TUE-212  13:30 - 14:30
Chromatin-mediated regulation of B cell development
Wang, B., Voss, A. and Thomas, T. (Australia)

POS-WED-213  13:00 - 14:00
Chromatin-mediated regulation of haematopoietic stem cell
function
Yang, Y., Kueh, A., Grant, Z., Coultas, L., Thomas, T. and
Voss, A. (Australia)

LATE POSTERS
Posters 214 – 233

POS-MON-214  13:40 - 14:40
Understanding mechanical properties and biomineralization of
oyster shell: Shell proteomics approach
Thiyagarajan, V., Yin, T., Ramadoss, D. and Upadhyay, A.
(Hong Kong)

POS-TUE-215  13:30 - 14:30
Developing sugarcane mosaic virus resistant plants using
RNAi mediated gene silencing technology
Akbar, S., Tahir, M., Wang, M. and Liu, Q. (Pakistan and
Australia)

POS-WED-216  13:00 - 14:00
On the way to a C₄ rice
Alonso-Cantabrana, H. and von Caemmerer, S. (Australia)

POS-MON-217  13:40 - 14:40
Postgraduate Student Internship Awards at The Plant
Accelerator, Australian Plant Phenomics Facility
Garnett, T. and Berger, B. (Australia)

POS-TUE-218  13:30 - 14:30
Seasonal and thermal photosynthetic acclimation in
*Eucalyptus tereticornis* under current and warmer climate
Ghannoum, O., Crous, K., Drake, J., Aspinwall, M. and
Tjoelker, M. (Australia)
POSTERS

POS-WED-219 13:00 - 14:00
GABA signaling modulates root growth by directly regulating the activity of plant-specific anion transporters

POS-MON-220 13:40 - 14:40
Water limitation in four wheat varieties during grain fill

POS-TUE-221 13:30 - 14:30
Root growth and high pH tolerance
Kamran, M., Tyerman, S.D. and Gilliam, M. (Australia)

POS-WED-222 13:00 - 14:00
Unexpected role of immune cells and vascularisation in neural development and regeneration
Vandestadt, C., Friedrich, T. and Kaslin, J. (Australia)

POS-MON-223 13:40 - 14:40
Role of ascorbic acid in modifying root architecture, growth and productivity of Arabidopsis thaliana
Kka, N., Rookes, J. and Cahill, D. (Australia)

POS-TUE-224 13:30 - 14:30
Structural and functional characterization of copper trafficking pathways in human cells

POS-WED-225 13:00 - 14:00
Investigating gene-environment interactions in causing congenital heart disease

POS-MON-226 13:40 - 14:40
Biochemical education: Focusing teaching resources on targeting strongly held misconceptions
Mulhern, T.D. and Verkade, H.M. (Australia)
POS-TUE-227 13:30 - 14:30
Nanostructured liquid crystalline particles as next generation agrochemical delivery vehicles
Nadiminti, P.P., Rookes, J.E., Boyd, B.J., Dong, Y.D. and Cahill, D.M. (Australia)

POS-WED-228 13:00 - 14:00
Self, non-self and mobile silencing signals
Naim, F., Nilon, A., McHale, M., Liang, D., Doran, R., White, R. and Waterhouse, P.M. (Australia)

POS-MON-229 13:40 - 14:40
Characterising Setaria viridis CO2 permeable aquaporins using a membrane inlet mass spectrometer

POS-TUE-230 13:30 - 14:30
MIXTA-MYB genes affect cotton flower bud shape via the regulation of petal trichome development
Tan, J., Johnston, E., Walford, S., Dennis, L. and Llewellyn, D. (Australia)

POS-WED-231 13:00 - 14:00
Targeting Myc using interference peptides in triple-negative breast cancer
Wang, E., Sorolla, A., Cunningham, P., Bogdawa, H., Hoffmann, K., Hopkins, R., Watt, P. and Blancafort, P. (Australia)

POS-MON-232 13:40 - 14:40
Dissecting the differential effects of atrophic (TNF) and hypertrophic (IGF-1) stimuli on myoblast proliferation, fusion and myotube size in cultured skeletal muscle cells
White, R.B., Ramsey, S., Arthur, P. and Grounds, M.D. (Australia)

POS-TUE-233 13:30 - 14:30
Cross-scale modelling to support crop yield improvement through manipulation of photosynthesis
Wu, A., Doherty, A. and Hammer, G.L. (Australia)