

62nd Annual General Meeting of the Genetics Society of AustralAsia

University of Adelaide

5th – 8th July 2015

Program Monday 6th July to Wednesday 8th July

Combined with the Boden Research Conference

"Comparative Animal Genomics Down Under"

8th-10th July 2015

Program Wednesday 8th July to Friday 10th July

9:00-10:00	Opening Address and Plenary 1 (Scott Lecture Theatre) Chris Jiggins <i>The genetic origins for novel butterfly wing patterns</i>	
10:00-10:30	Morning Tea	
10:30-12:30	Concurrent Symposia: Session 1	
	Symposium 1a Evolutionary Genetics 1 (Scott Lecture Theatre) Chairs: Steve Donnellan, Simon Baxter	Symposia 1b Development (Darling Lecture Theatre) Chairs: Morgan Newman, Tanya Jayne
10:30	MJD White medal winner (2014) - John Bowman <i>Evolution in the Cycles of Life</i>	10:30 (Crozier Medal winner (2014) – Peter Deardon (Title TBA)
11:15	Jenny Graves <i>Sex and speciation: did sex chromosome degradation and turnover trigger mammalian divergence?</i>	11:00 Tessa Mattiske (26948) <i>Investigating the transcriptome wide impact of expanded polyalanine tract mutations in ARX contributing to intellectual disability and seizures.</i>
		11:15 Rachel Burt (26927) <i>Apoptotic regulators in the auditory system: key factors in hearing loss</i>
11:30	Mary Morgan-Richards (26410) <i>Ecotypes, ecological speciation and escargot</i>	11:30 Donna Denton (26457) <i>Dpp/TGF-β signalling in autophagy dependent programmed cell death</i>
11:45	Florencia Camus (25897) <i>Experimental evidence for mitochondrial genomic adaptation to climate</i>	11:45 Coral Warr <i>Torso-like controls secretion of the growth factor Trunk to pattern the Drosophila embryonic termini</i>
12:00	Ben Oldroyd (26432) <i>Genomic imprinting in honey bees: motive, mechanism and evidence for inter-sexual conflict</i>	12:00 Isobel Ronai (26544) <i>Regulation of oogenesis in honey bee workers via programmed cell death</i>
12:15	Markus Riegler (26561) <i>Loss of reproductive parasites during biological invasions</i>	12:15 Rakesh David (27193) <i>Identification of pla/ubp14, an Arabidopsis mutant that displays lengthened plastochron and larger organs</i>
12:30-1:30	Lunch (GSA Annual General Meeting, Darling Lecture Theatre)	
1:30-3:30	Concurrent Symposia: Session 2	
	Symposium 2a Evolutionary Genetics 2 (Scott Lecture Theatre) Chairs: Steve Cooper, Mike Gardner	Symposium 2b Medical Genetics (Darling Lecture Theatre) Chairs: Rob Richards, Martin Lewis
1:30	Arthur Georges (26588) <i>Sex reversal and frequency-dependent selection can drive transitions and innovation in sex determining mechanisms in reptiles.</i>	1:30 Crozier medal winner (2015) – Melanie Bahlo <i>What mutation is causing this disease and when did the mutation arise?</i>
2:00		2:00 Deborah White <i>Rational Therapeutic Approaches in Acute Lymphoblastic Leukaemia Based on New Genetic Lesions Identified using Next Generation Sequencing.</i>
2:15	Emily Remnant (26408) <i>Evolution of virulent viruses in honey bees exposed to a vector</i>	
2:30	Nina Schwensow (26482) <i>Searching for rabbit genes under virus-driven selection</i>	2:30 Janine Deakin (26817) <i>Mapping cancer-related genes in devil facial tumour disease</i>
2:45	Simon Tierney (26598) <i>Genomic explorations of regressive evolution using blind subterranean diving beetles</i>	2:45 Jennifer Fifita (26538) <i>Current medical genetic strategies for amyotrophic lateral sclerosis gene discovery</i>
3:00	Peter Prentis (26570) <i>Comparative analysis of gene expression in two intertidal snails in response to temperature stress</i>	3:00 Matilda Jackson (26968) <i>Establishing the phenotypic deficits in a mouse modeling the most frequently expanded polyalanine tract mutation in ARX contributing to intellectual disability and seizures.</i>
3:15	Nicky Rollings (26839) <i>Youth is wasted on the young: telomere manipulation in painted dragons</i>	3:15 Rob Richards <i>RNA pathogenesis via Toll-like receptor-activated inflammation in expanded repeat neurodegenerative diseases.</i>
3:30-4:00	Afternoon Tea	
4:00-5:00	Plenary 2 (Scott Lecture Theatre) Craig Moritz	
5:00-7:00	Poster session	
7:00-10:00	ECR Dinner	

9:00-10:00	Plenary 3 (Scott Lecture Theatre) Margaret Byrne <i>Linking past, present and future: restoration genetics in a climate change context</i>	
10:00-10:30	Morning Tea	
10:30-12:30	Concurrent Symposia: Session 3	
	Symposium 3a Conservation/Landscape Genetics (Scott Lecture Theatre) Chairs: Martin Breed, Linda Broadhurst	Symposium 3b Learning Genetics: Challenges and Opportunities (Darling Lecture Theatre) Chair: Michelle Coulson
10:30	Alan Wilton Award winner (2015) – Cathrine Grueber <i>Impacts of drift and selection on the genetic diversity of threatened species</i>	Dawn Gleeson <i>The Flexible Learning Phenotype: What is it?</i>
11:00	Andy Lowe <i>Scales of adaptation in fragmented plant populations – relevance to conservation and restoration</i>	11:00 Masha Smallhorn (26876) <i>Changing the landscape of the science laboratory: A move to inquiry-based learning</i> 11:15 Coral Warr <i>Using Classroom Presenter to increase student engagement in lectures</i>
11:30	Linda Broadhurst <i>The Importance of genetic evaluation of seed production areas for longer-lived species</i> Yongle Li (26841) <i>Tracking selection signatures in the chickpea genome by whole genome re-sequencing of 69 chickpea accessions</i>	11:30 Adam Hart (26587) <i>Engaging Undergraduate Genetics Students with Scientific Literature and the Peer Review Process - a Journal Club Learning Activity for Large Groups.</i> 11:45 Michelle Coulson <i>Why do they find it so hard? Using the Genetics Concept Assessment to characterise student misunderstanding.</i>
12:00	Elizabeth Daly (26475) <i>Can local selection maintain stasis in the face of gene flow? Exploring shell shape variation in time and space.</i>	12:00 Brad Rundle (26768) <i>An innovative approach towards promoting and teaching genetics through real-world applications to the next generation of scientists</i>
12:15	Samuel C. Andrew <i>Drivers of population differentiation: A natural experiment with the Australian house sparrow</i>	12:15 Carla Hall and Nicole Harding <i>Scientists and Mathematicians in Schools: Working in Partnership</i>
12:30-1:30	Lunch	
1:30-3:30	Concurrent Symposia: Session 4	
	Symposium 4a Epigenetics/ncRNA (Scott Lecture Theatre) Chairs: Tasman Daish, Simon Conn	Symposium 4b DNA identification and forensics (Darling Lecture Theatre) Chair: Eleanor Dormontt, Bianca Dunker
1:30	Simon Conn <i>The RNA binding protein Quaking regulates formation of circRNAs</i>	Rebecca Johnston <i>Time to acknowledge the elephant in the room? How the illegal wildlife trade contributes to extinction, biosecurity risk, and organised crime</i>
2:00	Iain Searle <i>Towards understanding the epitranscriptome of plants</i>	Eleanor Dormontt <i>Validation of SNP genetic markers for individualisation in Bigleaf Maple - a forensic tool to combat illegal logging</i>
2:30	Dong Wang <i>Root-enriched long non-coding RNAs in response to abiotic stress in Arabidopsis thaliana</i>	Stephen Sarre (26932) <i>DNA detection probabilities for the remote sampling of wildlife: the case of foxes in Tasmania</i>
2:45	Cameron Bracken <i>(Title TBA)</i>	Elise Furlan (26315) <i>Estimating the sensitivity of eDNA detection</i>
3:00	Hannah Brown <i>Diabetes alters the epigenetic landscape of the oocyte and early embryo</i>	Jonas Bylemans (26634) <i>Combining traditional and environmental DNA (eDNA) based monitoring to improve the management of native and invasive fish species.</i>
3:15	Nicole Williams (26935) <i>Evolution of IGF2/WSB1 interchromosomal interactions in mammals and mammalian hybrids</i>	YuanYuan Cheng (26514) <i>The Tasmanian devil microbiome</i>
3:30-4:00	Afternoon Tea	
4:00-5:00	Concurrent Symposia: Session 5	
	Symposium 5a RA Fisher special session on Quantitative Genetics (Scott Lecture Theatre) Chair: David Adelson	Symposium 5b Neurogenetics (Darling Lecture Theatre) Chair: Michael Lardelli
4:00	Ary Hoffmann <i>Flies, clines, and genetic adaptation: what have we learnt?</i>	Julia Horsfield <i>Zebrafish models of human disease: the contribution of neural crest to craniofacial and heart disorders in cohesinopathies</i>
4:30	Oliver Mayo <i>Henry Bennett: from mathematical geneticist to historian of science</i>	Morgan Newman <i>Transcriptome analyses using human and zebrafish brain data reveal hypoxia as an important element in Alzheimer's disease</i>
4:45	John Sved <i>Conservation of entire chromosomes over long evolutionary periods in insects</i>	Cheryl Shoubridge <i>Functional deficit of IQSEC2 with missense mutations disrupts normal dendritic spine morphogenesis.</i>
5:00-5:30	Break	
5:30-6:30	Public RA Fisher Lecture (Scott Theatre) David Haig <i>Genomic imprinting and the divided self</i>	
7:30-11:00	Conference dinner, Australian Wine Centre	

9:00-10:00	Plenary 4 (Scott Lecture Theatre) Sarah Robertson	
10:00-10:30	Morning Tea	
10:30-12:30	Concurrent Symposia: Session 6	
	Symposium 6a Mating Systems and Behavioural Genetics (Scott Lecture Theatre) Chairs: Mike Gardner, Stephanie Godfrey	Symposium 6b Gene Regulation, Genomics and Bioinformatics (Darling Lecture Theatre) Chairs: Nicole Williams, Iain Searle
10:30	Catcheside winner (2015) – Michaela Blyton <i>Approaches for inferring behaviour from genetic patterns</i>	David Burt <i>Avian Genomics: comparative genome analyses of birds</i>
11:00	Stephanie Godfrey (Title TBA)	Rahul Rane (26568) <i>The genomic basis to climatic adaptation in Drosophila - a multi-species view</i>
11:15	Mike Gardner <i>Avoiding the relatives - sleepy lizards do it too!</i>	Jimmy Breen (26865) <i>Opening ancient human genome and microbiome data for medical research</i>
11:30	Francisco Encinas-Viso (26466) <i>The breakdown of self-incompatibility during a range expansion</i>	Atma Ivancevic (26952) <i>Horizontal Transfer and Evolution of Transposable Elements in Animals</i>
11:45	Sarah Pearson <i>Finding a good pair of genes: Do lizards choose mates based on their immune gene diversity?</i>	Erica Todd (26515) <i>Designing powerful RNA-seq experiments</i>
12:00-1:00	2015 MJD White Medal Lecture – Phil Batterham (Scott Theatre) Conference prizes	
1:00	Conference End	

	Session 1 Comparative Genomics in Australian Animals (Darling Lecture Theatre) Chairs: Frank Grutzner and Kathy Belov
2:00	Jennifer A. Marshall Graves (Latrobe University, Australia) <i>Sex and speciation: did sex chromosome degradation and turnover trigger mammalian divergence?</i> (#26856)
2:35	Peter Donnelly (Oxford University, UK)
3:10	Arthur Georges (University of Canberra, Australia) <i>Sex reversal and frequency-dependent selection can drive transitions and innovation in sex determining mechanisms in reptiles.</i> (#26588)
3:45	Juergen Schmitz (University of Munster, Germany) <i>Retrogenomics and non-protein coding RNA transcriptomics of platypus and echidna</i>
4:20	Guojie Zhang (University of Copenhagen/BGI, Denmark/China)
5:30-7:00	POSTER SESSION

	Session 2 Evolution of development and genome biology Chairs: Tasman Daish and Jenny Graves
9:00	Jesus Page (University of Madrid, Spain) <i>Meiotic pairing, segregation and epigenetic regulation of achiasmate sex chromosomes in mammals: a comparative view from marsupials to eutherians (#25911)</i>
9:35	Rachel O'Neill (University of Connecticut, USA)
10:10	David Adelson (University of Adelaide, Australia) Retrotransposons and Genome Evolution (26934)
10:45-11:15	Morning tea
11:15	Marilyn Renfree (University of Melbourne, Australia)
11:50	Camilla Whittington (University of Sydney, Australia) <i>The genetics of uterine vasculature (#26979)</i>
12:25	Diego Villar Lozano (Cambridge University, UK) <i>Evolution of gene regulation in 20 mammals (#26083)</i>
1:00-2:00	Lunch
2:00	Andrew Pask (University of Melbourne, Australia)
2:35	Tasman Daish (University of Adelaide, Australia) <i>Platypus global meiotic silencing shows recent origin of MSCI in therian mammals (#26962)</i>
3:10	Justin Ng (Duke-NUS Graduate Medical School, Singapore) <i>Step-wise duplication of MHC-I genes in the evolution of the eutherian MHC region: A Batty Perspective (#26420)</i>
3:25	Paul Waters (University of New South Wales, Australia) <i>Silencing of the marsupial X: functional similarity of Rsx and Xist (#26473)</i>
3:40	Tariq Ezaz (University of Canberra, Australia) <i>Sex in Dragons: evolution of sex chromosomes in Australian dragon lizards (#26494)</i>
4:00-4:30	Afternoon Tea
4:30	Oliver Griffith (University of Sydney, Australia) <i>The evolution of embryonic-maternal communication in reptiles and mammals (#26486)</i>
4:45	Adam Hart (La Trobe University, Australia) <i>Towards marsupial pluripotent stem cells for species preservation and research (#26527)</i>
5:00	Tracy Chew (University of Sydney, Australia) <i>Discovery of a deleterious mutation in the Hungarian Puli that causes disease similar to Bardet Biedl Syndrome in humans (#26556)</i>
5:15-6:15	Dragon's Den: Innovative research and commercialization proposals (15min pitch/15min discussion) Chaired by panel (Grutzner, Belov, Renfree, Graves, Georges and Zhang)
7:00-10:00	Conference dinner at Ayers House

	Session 3 Wildlife health and conservation Chairs, TBA
9:00	Federica Di Palma (The Genome Analysis Centre, UK)
9:35	Kathy Belov (University of Sydney, Australia) <i>Marsupial genomes to tackle contagious cancer, Chlamydia and multi-drug resistant bacteria (#26170)</i>
10:10	Rebecca Johnston (Australian Museum, Australia) <i>The Koala Genome Consortium – the utilization of de novo genome and transcriptome sequencing for applied conservation genomics of an iconic Australian marsupial (#26313)</i>
10:45-11:15	Morning tea
	Session 4 Domestic animal genomics Chairs, TBA
11:15	David Burt (University of Edinburgh, UK) <i>The Chicken Genome: 10 years after the draft genome</i>
11:50	Stefan Hiendleder (University of Adelaide)
12:25	Brian Dalrymple (CSRIO, Australia) <i>Evolution and selection in the ruminants – the view from the sheep's back (#25801)</i>
1:00	Claire Wade (University of Sydney)
1:35	Closing Remarks