

SUNDAY 13th OCTOBER - Trinity Room, Cairns Convention Centre	
5:00-6:00	<p>Opening Oration Sequencing Rocks: How sequencing technology shapes our understanding of corals and coral reefs</p> <p>A/Prof Ira Cooke Centre for Tropical Bioinformatics and Molecular Biology at James Cook University, Townsville Australia</p>
6:00-8:00	Welcome reception - Trinity Terrace, Cairns Convention Centre

MONDAY 14th OCTOBER	
9:00-10:45	Session 1: Single Cell & Spatial Omics
9:00-9:15	Official Welcome and Conference Opening
9:15-9:45	<p>Keynote Speaker Scaling single-cell epigenomic analysis with regulatory element modules</p> <p>Dr Tim Stuart Genome Institute Singapore, Singapore</p>
9:45-10:00	<p>Addressing the challenge of multi-slice integration in spatial transcriptomics datasets</p> <p>Dr Mirana Ramialison Murdoch Children's Research Institute; Novo Nordisk Foundation for Stem Cell Medicine, reNEW Melbourne</p>
10:00-10:15	<p>Automated Integration of Multi-Slice Spatial Transcriptomics Data in 2D and 3D using VR-Omics</p> <p>Denis Bienroth Murdoch Children's Research Institute</p>
10:15-10:45	<p>Keynote Speaker Dissecting human solid tumour ecosystems with single-cell and spatially-resolved 'omics</p> <p>Prof Alex Swarbrick Garvan Institute of Medical Research, UNSW, Australia</p>
10:45-11:15	Morning tea
11:15-12:30	Session 2: Human Health & Population Genetics I

11:15-11:45	<p>Keynote Speaker Systematic transcriptomic analysis of childhood medulloblastoma identifies N6-methyladenosine-dependent lncRNA signatures associated with prognosis, molecular subtype, and immune cell infiltration</p> <p>Dr Kandarp Joshi Johns Hopkins University, Medicine, St Petersburg, Florida, United States</p>
11:45-12:00	<p>Role of the Y-chromosome in ethnic disparities and prostate cancer presentation</p> <p>Pamela Soh Ancestry and Health Genomics Laboratory, Charles Perkins Centre, School of Medical Sciences, The University of Sydney</p>
12:00-12:15	<p>Integrated long and short-read single cell RNA-seq to investigate clonal response to treatment in Acute Myeloid Leukaemia</p> <p>Dr Nadia Davidson Walter and Eliza Hall Institute, Melbourne Australia</p>
12:15-12:30	<p>Measuring X inactivation skew for X-linked diseases with adaptive nanopore sequencing</p> <p>Dr Quentin Gouil University of Sydney, NSW</p>
12:30-1:00	Lightning talk session I
12:30-1:00	<p>1. An Nguyen - Nanoparticle-based enrichment approach for long-read sequencing to detect multi-drug resistance directly from clinical samples</p> <p>2. Kazzem Gheybi - Genetic basis of inflammatory response in prostate cancer health disparity</p> <p>3. Andreas Halman - Calling star alleles from pharmacogenes in short-read sequencing data: differences between tools, genes, aligners, reference genomes and sequencing depth</p> <p>4. Zhaoyu Li - Machine learning-driven identification of novel cancer targets</p> <p>5. Carolin Scriba - Improved diagnosis of late onset cerebellar ataxias within an Australasian cohort</p> <p>6. Naomi Warren - Detecting germline Mobile Element Insertions in paediatric cancer with MELT</p> <p>7. Ashley Weir - IdentifiHR: classifying homologous recombination deficiency in high-grade serous ovarian carcinoma through gene expression.</p> <p>8. Matt Welland - Scalable automated reanalysis in rare disease: achieving high performance while limiting curation burden in diverse clinical and research cohorts</p>
1:00-2:15	Lunch & Poster Session I
2:15-3:30	Session 3: Human Health & Population Genetics II
2:15-2:45	<p>Keynote Speaker Molecular surveillance of Plasmodium vivax: new developments in the vivax Genomic Epidemiology Network</p> <p>A/Prof. Sarah Auburn Menzies School of Health Research, Darwin, Australia</p>
2:45-3:00	<p>Rare genetic variants identified in a multi-case MS family induce motor dysfunction and astrogliosis in vivo.</p> <p>Dr Nicholas Blackburn Menzies Institute for Medical Research, University of Tasmania</p>

3:00-3:15	A hybrid <i>de novo</i> transcriptome assembly pipeline for lncRNA discovery and its application in ovarian cancer. Isabela Almeida QIMR Berghofer, QLD
3:15-3:30	Direct RNA sequencing identifies substantial variation in mRNA poly-(A) tail lengths in the blood transcriptome of patients with sepsis. Professor Lachlan Coin Peter Doherty Institute, VIC
3:30-4:00	Afternoon tea
4:00-5:15	Session 4: Plant & Animal Genomics
4:00-4:30	Keynote Speaker Genomics Aotearoa: improving all-the-things with genomics Prof. Peter Dearden Genomics Aotearoa, Bioprotection Aotearoa, and University of Otago, NZ
4:30-4:45	Detecting Kinship in Non-model Organisms using RNA-seq Data Annam Raza James Cook University
4:45-5:15	Keynote Speaker Fish Tales to DNA Chips: Integrating Genomics for a Sustainable Aquaculture Future Prof. Dean Jerry James Cook University (JCU), Singapore

MONDAY 14th OCTOBER	Lunch & Poster Session I				Poster board number
	Human Health and Population Genetics	37	Kazzem	Gheybi	LIGHTNING
Human Health and Population Genetics	18	Andreas	Halman	LIGHTNING	2
Human Health and Population Genetics	70	Zhaoyu	Li	LIGHTNING	3
Human Health and Population Genetics	35	An	Nguyen	LIGHTNING	4
Human Health and Population Genetics	57	Carolyn	Scriba	LIGHTNING	5
Human Health and Population Genetics	69	Naomi	Warren	LIGHTNING	6
Human Health and Population Genetics	22	Ashley	Weir	LIGHTNING	7
Human Health and Population Genetics	14	Matt	Welland	LIGHTNING	8
Human Health and Population Genetics	75	Sam	El-Kamand	Poster	9
Human Health and Population Genetics	48	Chiara	Folland	Poster	10
Human Health and Population Genetics	56	Mingqi	He	Poster	11
Human Health and Population Genetics	60	Tham Hong	Hoang	Poster	12
Human Health and Population Genetics	34	Bennet	McComish	Poster	13
Human Health and Population Genetics	21	Kym-Mai	Nguyen	Poster	14
Human Health and Population Genetics	46	Sheena	Nunag	Poster	15
Human Health and Population Genetics	26	Dhanya	Sooraj	Poster	16
Human Health and Population Genetics	64	David	Squire	Poster	17
Human Health and Population Genetics	13	Chaw	Thwe	Poster	18
Human Health and Population Genetics	84	James	Slimmer	Poster	39
Single Cell and Spatial Omics	80	Steven	Morgan	Poster	40

TUESDAY 15th OCTOBER	Lunch & Poster Session II				Poster board number
	Ancient Genomes, Indigenous Genomics	42	Ruotian	Huang	LIGHTNING
Ancient Genomes, Indigenous Genomics	40	Jue	Jiang	LIGHTNING	20
Emerging Technologies	55	Mehedi	Hasan	LIGHTNING	21
Environmental/Microbial/Viral Genomics	23	Naga	Kasinadhun	LIGHTNING	22
Integrated-omics	71	Piyushkuma	Mundra	LIGHTNING	23
Integrated-omics	52	Michael Alex	Pudjiharton	LIGHTNING	24
Integrated-omics	54	Nicholas	Pudjiharton	LIGHTNING	25
Emerging Technologies	31	Feng (Alex)	Yan	LIGHTNING	26
Ancient Genomes, Indigenous Genomics	73	Adam	Heterick	Poster	27
Emerging Technologies	68	Qingwang	Chen	Poster	28
Emerging Technologies	29	Nadia	Davidson	Poster	29
Emerging Technologies	74	Miranda	Pitt	Poster	30
Environmental/Microbial/Viral Genomics	47	Laura	Missen	Poster	31
Other	19	Andreas	Halman	Poster	32
Other	25	Naga	Kasinadhun	Poster	33
Plant and Animal Genomics	45	Matias Javier	Silva-Campo	Poster	34
Single Cell and Spatial Omics	9	Peter	Lau	Poster	35
Human Health and Population Genetics	58	Merridee	Wouters	Poster	36
Human Health and Population Genetics	41	Kangping	Zhou	Poster	37
Human Health and Population Genetics	79	Joey	Lai	Poster	38
Emerging Technologies	83	Reza	Ghamsari	Poster	45

TUESDAY 15th OCTOBER	
9:00-10:45	Session 5: Integrated Omics
9:00-9:30	<p>Keynote Speaker Genetic and Epigenetic Routes to Building Resilience in Grapevine</p> <p>Dr. Annabel Whibley Bragato Research Institute, Auckland NZ</p>
9:30-9:45	<p>Developing circulating tumour DNA assays on Nanopore sequencers</p> <p>Dr Robert Day University of Otago, New Zealand</p>
9:45-10:00	<p>Evolution of haematopoiesis</p> <p>Carolyn de Graaf WEHI, Melbourne Australia</p>
10:00-10:15	<p>Uncovering somatic driver mutations in autoimmune disease: Insights from multi-omic single-cell sequencing</p> <p>Dr Andrew Calcino James Cook University</p>
10:15-10:45	<p>Keynote Speaker Defining a transcriptomic signature of self-reactivity in the germinal center</p> <p>Dr. Deborah Burnett Garvan Institute of Medical Research, UNSW, Australia</p>
10:45-11:15	Morning tea
11:15-12:30	Session 6: Emerging technologies I
11:15-11:45	<p>Keynote Speaker Genomic insights on the rapid radiation and climate adaptation of birds</p> <p>Prof. Guojie Zhang Centre for Evolutionary & Organismal Biology/Zhejiang University</p>
11:45-12:00	<p>Direct read-based phasing in long-read sequencing discovers novel pharmacogenetic alleles</p> <p>Sumudu Samarasinghe Queensland University Technology, QLD, Australia</p>
12:00-12:15	<p>Spotlight on 10x Visium: a multi-sample protocol comparison of spatial technologies</p> <p>Professor Matthew Ritchie WEHI, VIC, Australia</p>
12:15-12:30	<p>Avocado, Cheese, Grape, Tomato or: How I Learned to Stop Worrying and Love Emoji in Bioinformatics</p> <p>Andrew Lonsdale Peter MacCallum Cancer Centre, VIC Australia</p>
12:30-1:00	Lightning talk session II

12:30-1:00	<p>1. Feng (Alex) Yan - Evaluation of de novo transcriptome assembly software for long-read RNAseq and its application to cancer</p> <p>2. Jue Jiang - Kataegis associated mutational processes linked to adverse prostate cancer presentation in African men</p> <p>3. Mehedi Hasan - Rapid Identification of Somatic Structural Variants in Prostate Tumours Using Optical Genome Mapping: A Promising Complement to Next-Generation Sequencing</p> <p>4. Piyushkumar Mundra - Unravelling the life history of NTRK-fusion paediatric tumours</p> <p>5. Micahel Pudjihartono - Melanoma-specific mutation hotspots in distal, non-coding, promoter-interacting regions implicate novel candidate driver genes</p> <p>6. Nicholas Pudjihartono - Network analysis uncovers gene-regulatory intersections between juvenile idiopathic arthritis and co-occurring traits.</p> <p>7. Ruotian Huang - Germline variance impacting telomere maintenance associated with ancestral disparities in prostate cancer risk and disease aggressiveness.</p> <p>8. Naga Kasinadhuni - Critically Assessing the Influence of Variable Region Selection on Bacterial Community Profiling: 16S rDNA and the sequencing.</p>
1:00-2:15	Lunch & Poster Session II
2:15-3:30	Session 7: Emerging technologies II
2:15-2:45	<p>Keynote Speaker mRNA vaccines for emergency animal diseases made in Australia</p> <p>Prof. Jim Rothwell Elizabeth Macarthur Agricultural Institute (EMAI) and NSW Department Primary Industries (DPI), NSW Australia</p>
2:45-3:00	<p>So flexible! Probe-ing 10X Flex single-cell RNA-seq data to improve quality and unlock "hidden" features</p> <p>Dr Jovana Maksimovic Peter MacCallum Cancer Centre, VIC Australia</p>
3:00-3:15	<p>Precise Methylation and Spatial Transcriptomic Profiling of Distinct Morphologies in Metaplastic Breast Cancer</p> <p>Yufan Feng UQ Centre for Clinical Research, QLD</p>
3:15-3:30	<p>Deconvolution of gene expression from bulk endometrial tissue identifies cell-type-specific gene regulation</p> <p>Monalisa Hota University of Queensland</p>
3:30-4:00	Afternoon tea
4:00-5:15	Session 8: Environmental Genomics
4:00-4:30	<p>Keynote Speaker Applications in environmental genomics and divergent evolutionary trajectories among bloom-forming cyanobacteria</p> <p>A/Prof. Kim Handley School of Biological Sciences at the University of Auckland, NZ</p>
4:30-4:45	<p>Microbiome Analyses of experimental hookworm infection in people at risk of type 2 diabetes reveal a driver microbial species</p> <p>Dr Manoharan Kumar James Cook University</p>

4:45-5:15	Keynote Speaker Dating West Antarctic ice sheet collapse using genomic data Prof. Jan Strugnell James Cook University (JCU), Townsville, Australia
6:00-10:00	Gala dinner - Daintree Poolside, Pullman Cairns

WEDNESDAY 16th OCTOBER	
9:00-10:45	Session 9: AI & Machine Learning
9:00-9:30	<p>Keynote Speaker Machine learning identifies signal where classical approaches fail</p> <p>Dr Natalie Twine CSIRO Sydney, Australia</p>
9:30-9:45	<p>A paediatric pan-cancer hierarchical classifier using DNA methylation for precision medicine</p> <p>Dr Ben Curran Children's Cancer Institute, Lowy Cancer Research Centre, UNSW Sydney, New South Wales, Australia</p>
9:45-10:00	<p>Capturing Paediatric Cancer Knowledge From ZERO: A Graph Approach</p> <p>Weilin (Alan) Wu Children's Cancer Institute, Computational Biology Group</p>
10:00-10:15	<p>Bridging Life and Code: The Dawn of Generative AI in Biology</p> <p>Tansel Ersavas</p>
10:15-10:45	<p>Keynote Speaker Med-Tech.AI: AI-Enhanced Disease Diagnostics and Therapeutics</p> <p>A/Prof. Fatemeh Vafae UNSW Data Science Hub, UNSW, Australia</p>
10:45-11:15	Morning tea
11:15-12:05	Session 10: Ancient Genomes & Indigenous Genomics
11:15-11:30	<p>Improved non-target filtering and mapping efficiency for ancient DNA datasets using Kraken2</p> <p>Shyamsundar Ravishankar Australian Centre for Ancient DNA (ACAD), The University of Adelaide, Adelaide, South Australia</p>
11:30-12:00	<p>Keynote Speaker Developing an Indigenous data sovereignty framework for genomics data systems</p> <p>Dr Jimmy Breen Australian National University, ACT, Australia</p>
12:00-12:30	Awards & Conference Close