CRISPR DOWN UNDER

@CRISPR_Aus
#CDU2026

DAY ONE: Tuesday 24th March 2026

8:00 — **Registration**

9:00 – 10:40 CRISPR Molecular Mechanisms *Chairs: Nathan Chai & Jovita Silva*

9:00	*Welcome*
9:10	**Ekaterina Semenova** *Rutgers University, USA* *What Does Cas13 Really Cleave? tRNA Cleavage as a Core Mechanism of CRISPR-Cas13 Immunity*
9:45	**Brooke Hayes** *In defence of Cas13*
10:10	**Honglin (Kevin) Chen** *The Landscape of On-target and Collateral Activity of Various CRISPR-Cas13 Enzymes in Human Cells and Zebrafish*
10:25	**Khoa Nguyen** *Harnessing Machine Learning to Design High-Efficacy Cas13b Guide RNAs*

10:40 – 11:10 — **Morning Tea**

11:10 – 12:10 CRISPR Tools for Genome Interrogation *Chairs: Teresa Sadras & Jacob Purcell* — *Sponsored by IDT*

11:10	**Lisanne Spenkelink** *dCas9 and nCas9 as tools to study DNA replication*
11:35	**Ali Motazedian** *Characterising the functional landscape of the human PRC2 complex by base editing at single cell resolution*
11:50	**Mollie Schubert** *Integrated DNA Technologies (IDT)* *End-to-end genotoxicity assessment services for rapid development of CRISPR-based therapies: A case study on the first mRNA-based personalized CRISPR therapy*

12:10 – 13:40 — **Lunch**

Lunch & Learn with GenScript
Non-Viral Gene Editing for Cell Therapy
12:30 – 13:00 | The Forum

Unlocking CRISPR: A 1:1 Consultation with Mollie Schubert (IDT) **Room M-09**
By Appointment Only

13:40 – 15:15 Functional Genomics *Chairs: Emily Lelliott & Margs Brennan* — *Sponsored by MaxCyte & TrendBio*

13:40	**Lu Wang** *Identification of Breast Cancer-Associated lncRNAs Using 3D and In Vivo CRISPR-Cas13d Screen*
14:05	**Ebtihal Mustafa** *CRISPR-Cas9 Functional Screens and Single-Cell Transcriptomics Define Molecular Drivers and Therapeutic Vulnerabilities in Esophageal Adenocarcinoma*
14:20	**Dáire Gannon** *Exploring the feasibility of transcriptome-scale screening with Cas13*
14:45	**Yexuan Deng** *A novel, high-density CRISPR activation platform for mapping cancer dependencies and resistance pathways ex vivo and in vivo*
15:00	**Liam Neil** *Using genome-wide CRISPR-Cas9 knockout screens to sensitise breast cancer to natural killer (NK) cell-mediated killing*
15:05	**Antonin Serrano** *Investigating chemotherapy resistance using whole genome CRISPR-cas9 screening in pancreatic cancer organoids*
15:10	**Leo He** *Maxcyte* *A variant aware framework for reducing off-target risks in therapeutic guide RNA selection*

CRISPR DOWN UNDER

@CRISPR_Aus
#CDU2026

15:15 – 15:35	**Afternoon Tea**	
15:35 – 16:30	**Genome and Transcriptome Engineering** *Chairs: Astrid Glaser & Twishi Gulati*	*Sponsored by Synthego & Decode*
15:35	**Tal Shamia** *Synthego* *AccuBase™ Cytosine Base Editor: A High-Fidelity Base Editing Platform for Advanced Cell Therapies*	
15:45	**Fatimah Jalud** *Modelling oncogenic fusions using CRISPR to guide precision treatment strategies*	
16:00	**Wenxin Hu** *Systematic silencing of oncogenic fusion transcripts with ultra-precise design of CRISPR-Cas13b*	
16:15	**Sarah Williams** *Investigating how CRISPR-defined chromatin regulators maintain epithelial integrity to prevent neoplastic tumours*	
16:20	**Kevin Sek** *Targeting the epigenome for precision CAR-T cell therapy*	
16:25	**Hanieh Noeparast** *Rapid and sensitive detection of Diaporthe citri causing melanose in Australian finger lime (Citrus australasica) using an RPA-CRISPR/Cas12a molecular diagnostic assay*	
16:30	**Housekeeping**	
16:30 – 18:30	**Welcome Reception**	**Poster Session I**

CRISPR DOWN UNDER

@CRISPR_Aus
#CDU2026

DAY TWO: Wednesday 25th March 2026

8:00 — **Registration**

9:00 – 10:35 CRISPR Evolution and Diversity *Chairs: Mohamed Fareh & Gurjeet Kaur Gill*

9:00	*Welcome*
9:10	**Peter Fineran** *University of Otago, New Zealand* *CRISPR-Cas systems in phage-bacterial interactions: biology and exploitation*
9:45	**Gaetan Burgio** *Voyage into the mechanisms of CRISPR-Cas12a cleavage activities*
10:10	**Marjan Hadian-Jazi** *Discovery and design of novel CRISPR-Cas13 effectors*

10:35 – 11:05 — **Morning Tea**

11:05 – 12:25 Immunoengineering and Cancer Therapeutics *Chairs: Thiago M Steiner & Mirre DeBondt*

Sponsored by Revvity

11:05	**Michelle Fraser** *Revvity* *Advancing Genome Editing Precision: Comparative Insights into CRISPR-Cas9, Base Editing, and AI-Engineered Enzymes*
11:20	**Daniel Layton** *From Screens to Solutions: CRISPR Knockouts for Next-Gen Infectious Disease Countermeasures*
11:45	**Yu-Kuan Huang** *Antigen-heterogeneous solid tumour targeting with tumour-localised T cell engager–expressing T cells*
12:00	**Felix O'Hagan** *CRISPR-based Modulation of Lymph Node Homing Improves CAR T-Cell Function in Solid Tumours*
12:05	**Yi Tian Ting** *Why Equal TCR Engineering Is Not Equal: CRISPR-Engineered TCR-Tregs Outperform Lentiviral Approaches*
12:10	**XiaoJing Ong** *Overcoming CAR-T manufacturing barriers for T-cell lymphoma using CRISPR-HDR*
12:15	**Jacinta Macdonald** *CRISPR-mediated gene editing to validate targets of malaria parasite drug leads*
12:20	**Chee Ho H'ng** *VectorBuilder* *VectorBuilder: Your Trusted Lab Partner for All Things Gene Delivery*

12:30 – 14:00	**Poster Session II**	**Lunch**	Unlocking CRISPR: A 1:1 Consultation with Mollie Schubert (IDT) **Room M-09** By Appointment Only

14:00 – 15:10 Responsible Innovation and Ethics *Chair and Moderator: Gavin Knott*

14:00	**Christopher Gyngell** *The Ethics of Polygenic Genome Editing*
14:25	***PANEL DISCUSSION*** *To Edit or Not to Edit - Translating Gene Editing to Real World Applications* ***Panelists*** **Christopher Gyngell** - *Bioethicist* **Peter Fineran** - *CRISPR Biology* **Ekaterina Semenova** - *CRISPR Mechanisms* **Con Panousis** - *Drug Development* **Nathalie Cook** - *Consumer Advocate*

CRISPR DOWN UNDER

@CRISPR_Aus
#CDU2026

15:10 – 15:35	**Afternoon Tea**

15:35 – 16:45 Translational CRISPR: Delivery and Diagnostics *Chairs: Josh Casan & Paula Cevaal*

Sponsored by VectorBuilder

15:35	**Fei Deng** *Advancements in CRISPR-based Diagnostics*
15:50	**Wei Deng** *Lipid nanoparticle-delivered CRISPR-mediated VEGFA gene editing for in vitro retinal disease treatment*
16:15	**Alexandra Farcas** *Computational enhancement of non-viral CRISPR/Cas9-gold nanoparticle delivery platform design*
16:30	**Michael Keating** *Packaged CRISPR lipid nanoparticles as a research tool and treatment modality for cardiovascular disease*

16:45 – 16:55	**Short break**
16:55	**Closing ceremony and prizes**

Thank you to our sponsors

Platinum Sponsors

IDT INTEGRATED DNA TECHNOLOGIES

VectorBuilder

revvity

decode science enabling discovery

SYNTHEGO

MaxCyte

EditCo

TWIST BIOSCIENCE

TrendBio Partnerships in Science

Gold Sponsors

AZENTA LIFE SCIENCES

GenScript Make Research Easy

MONASH University

MONASH BIOMEDICINE DISCOVERY INSTITUTE

Silver

CSL

Doherty Institute

WEHI brighter together

Olivia Newton-John Cancer Research Institute

CRISPR DOWN UNDER

@CRISPR_Aus
#CDU2026

POSTER SESSION I

Tuesday 24 March

16:30 - 18:30

P1-01 **Liam Neil**
Using genome-wide CRISPR-Cas9 knockout screens to sensitise breast cancer to natural killer (NK) cell-mediated killing

P1-02 **Antonin Serrano**
Investigating chemotherapy resistance using whole genome CRISPR-Cas9 screening

P1-03 **Sarah Williams**
Investigating how CRISPR-defined chromatin regulators maintain epithelial integrity to prevent neoplastic tumours

P1-04 **Kevin Sek**
Targeting the epigenome for precision CAR-T cell therapy

P1-05 **Hanieh Noeparast**
Rapid and sensitive detection of Diaporthe citri causing melanose in Australian finger lime (*Citrus australasica*) using an RPA-CRISPR/Cas12a assay

P1-06 **Michael Gitonobel**
CRISPR-Cas9 base-editing as a versatile tool to unravel causality of genetic variants in HEK293T cells

P1-07 **Wendy Jia**
Challenges in developing a novel screen to identify 3D genome architecture regulators

P1-08 **Barnaby Kelly**
Identification of the mechanisms underlying poor response to standard of care therapy in childhood and adolescent osteosarcoma through whole genome CRISPR screens

P1-09 **Lynda Truong**
FACS-based whole genome CRISPR screen complemented by a bespoke GFP reporter system to identify upstream regulators of SNAI1

P1-10 **Shourya Giri**
Experimental analysis of the genomic determinants of tissue-specific splicing

P1-11 **Leo He** *(MaxCyte)*
A variant aware framework for reducing off-target risks in therapeutic guide RNA selection

P1-12 **Tal Shamia** *(Synthego)*
AccuBase™ Cytosine Base Editor: A High-Fidelity Base Editing Platform for Advanced Cell Therapies

POSTER SESSION II

Wednesday 25 March

12:30 - 14:00

P2-01 **Felix O'Hagan**
CRISPR-based modulation of lymph node homing improves CAR T-cell function in solid tumours

P2-02 **Yi Tian Ting**
Why equal TCR engineering is not equal: CRISPR-engineered TCR-Tregs outperform lentiviral approaches

P2-03 **XiaoJing Ong**
Overcoming CAR-T manufacturing barriers for T-cell lymphoma using CRISPR-HDR

P2-04 **Jacinta Macdonald**
CRISPR-mediated gene editing to validate targets of malaria parasite drug leads

P2-05 **Andrea Di Pietro**
Rewiring gene regulatory networks to reverse melanoma cell dedifferentiation and overcome ICI resistance by CRISPR perturbation

P2-06 **Zak Janetzki**
Editing of HBV DNA and RNA in vitro using a combination of CRISPR/Cas9 cytosine-to-thymine base editors and CRISPR/Cas13b

P2-07 **Laura McCoullough**
The significance of viral genomic variability in developing Cas13b-based therapy for chronic hepatitis B infection

P2-08 **Kristie Dickson**
Mutant p53 and ovarian cancer: examining therapeutic opportunities using CRISPR-engineered p53 wild-type, knockout and gain-of-function ovarian cancer panels

P2-09 **Gaoyuan Wang**
Combining CRISPR screen, scRNAseq, and spatial techniques to study venetoclax resistance mechanism in aggressive lymphomas