



CRISPR

DOWN UNDER

X @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



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15:15 – 15:35

Afternoon Tea

15:35 – 16:30 **Genome and Transcriptome Engineering** Chairs: Astrid Glaser & Twishi Gulati

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& 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

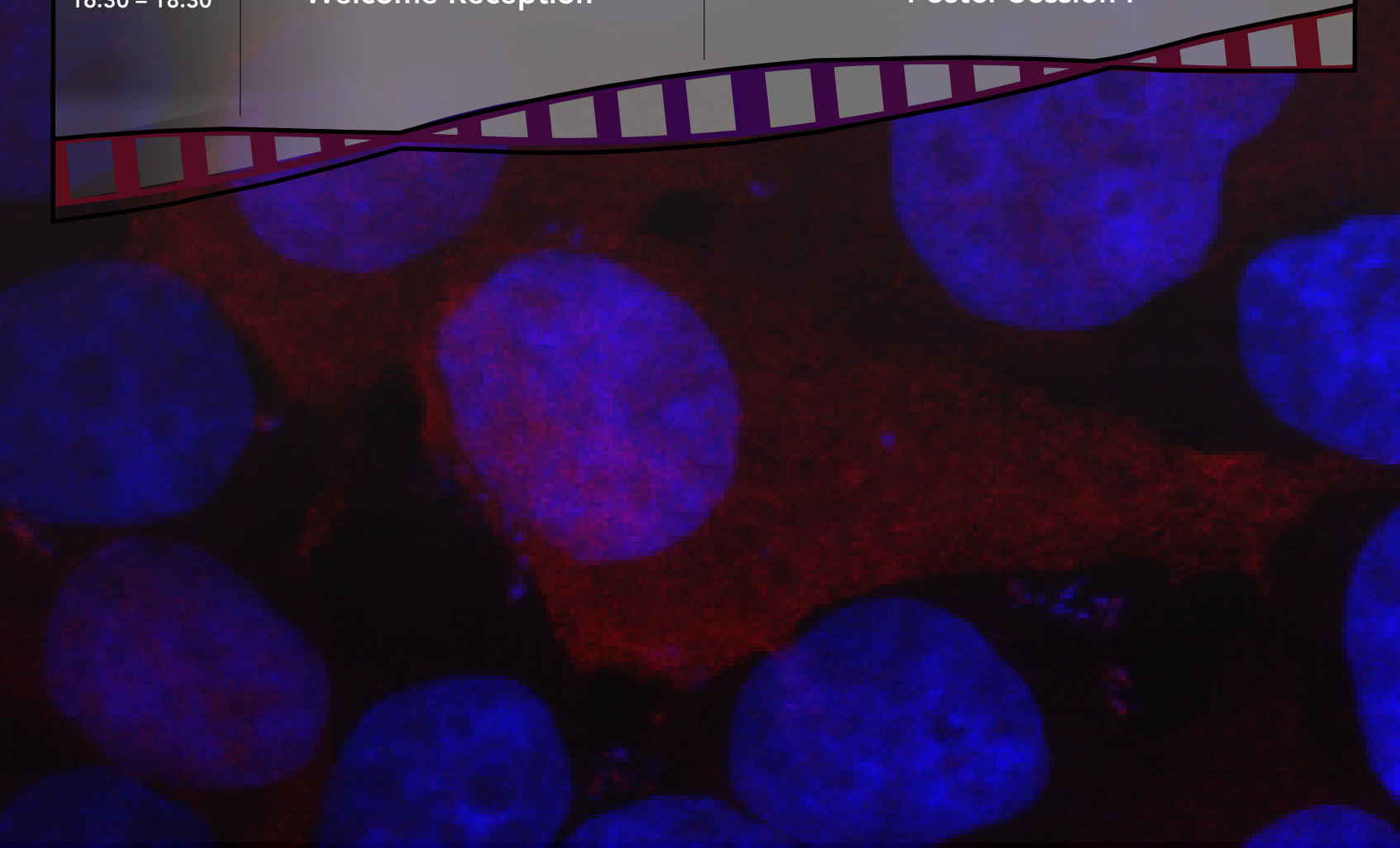
16:30

Housekeeping

16:30 – 18:30

Welcome Reception

Poster Session I





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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
Revity

11:05 **Michelle Fraser** Revity
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

PANEL DISCUSSION

To Edit or Not to Edit - Translating Gene Editing to Real World Applications

Panelists

14:25 **Christopher Gyngell** - Bioethicist
Peter Fineran - CRISPR Biology
Ekaterina Semenova - CRISPR Mechanisms
Con Panousis - Drug Development
Nathalie Cook - Consumer Advocate



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15:10 – 15:35

Afternoon Tea

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

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- 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

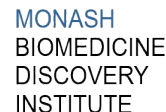
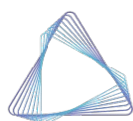
16:55 **Closing ceremony and prizes**

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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

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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