

# NSW Cancer Research Education

Treatment-induced DNA methylation heterogeneity and implications for cell growth in Acute Myeloid Leukaemia

Statewide Seminar Series 2024  
Tuesday 20 February, 12.30 - 1.30 pm



**Dr Heather Lee**

NHMRC Research Fellow  
School of Biomedical Sciences and Pharmacy  
College of Health, Medicine and Wellbeing

**20 FEB** |  **12:30 – 1:30** |  **Online Webinar**  
2024 **FEB** **PM** **PM**

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The Research Capacity Building Grants are supported by Cancer Institute NSW



# Session Information

This session will focus on hypomethylating agents (HMAs), which are used to treat people living with acute myeloid leukaemia (AML) and myelodysplasia. While these epigenetic therapies extend survival in many patients, low response rates and therapy-resistant relapse remain significant challenges. Relapse is thought to arise from cells that survive and adapt to treatment, so single-cell multi-omic analysis and colony assays have been used to characterise the heterogeneous response of AML cells to HMAs. This has revealed treatment-induced heterogeneity as well as processes that facilitate cell growth after treatment. Join us to see how single-cell analysis with linked functional assays can identify new treatment strategies for cancer.

## Speaker



**Dr Heather Lee** is a biomedical scientist with experience in epigenetics, cancer research and developmental biology. She is fascinated by the complexity of biology and passionate about the transformative power of new ideas.

During her post-doctoral training in Cambridge UK, Dr Lee developed world-first methods for analysis of DNA methylation in single cells (Nat Meth 11:817, Nat Meth 13:229-32, Nat Commun 9:781). This unique expertise has allowed Dr Lee to study epigenetic heterogeneity in development and cancer.

Since 2017, Dr Lee has been leading an independent research team based at the Hunter Medical Research Institute. Her work is investigating epigenetic heterogeneity in Acute Myeloid Leukaemia (AML) and has revealed treatment-induced DNA methylation with implications for relapse and therapy.

Dr Lee's research has been recognised by grants including a Cancer Institute NSW Early Career Fellowship, an NHMRC Investigator Grant and the 2018 Metcalf Prize from the National Stem Cell Foundation of Australia.