GIRLS IN PHYSICS

BREAKFAST

MONASH 2025

VicPhys

Shedding New Light on Glass

Dr Amelia Liu
Senior Lecturer
School of Physics and Astronomy
Monash University

The Dusty Ends of Sun-Like Stars

Dr Taïssa Danilovich
Research Fellow
School of Physics and Astronomy
Monash University

Australian Synchrotron Tour

As a special addition to the breakfast, there is the option to tour the Australian Synchrotron

Meet like-minded students and women who have a career in Physics and Engineering. Ask questions and explore different pathways that might work for you!

FOR STUDENTS IN YEARS 10, 11 & 12 INTERESTED IN A CAREER IN STEM

Thursday 5th June
Australian Synchrotron,
800 Blackburn Rd, Clayton

$25 per student Breakfast (Max. 6 Students per school)
$10 per student 60 min Synchrotron tour (optional)
Breakfast 8.00am to 10.30am (11:30am with tour)
Discounts available for low ICSEA schools

SCAN FOR MORE INFO

Speak to your science teacher about attending the breakfast

"I was talking to a guest at my table and her career sounded so amazing. Then I realised that in eight years that could be me. I got so excited!" - Year 10 Student

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Shedding New Light on Glass

Speaker Bio: Dr Amelia Liu, Senior Lecturer, School of Physics and Astronomy, Monash University
Dr Amelia Liu is a Senior Lecturer in the School of Physics and Astronomy at Monash University. After completing her PhD at the University of Melbourne, she conducted postdoctoral research at Argonne National Laboratory in Chicago. Returning to Australia, she has held research fellowships and managed capabilities at the Monash Centre for Electron Microscopy. Dr Liu's research focuses on the structure of glass and how its atomic disorder shapes its properties, an enduring puzzle in physics. Her work has earned recognition from the Australian Microscopy and Microanalysis Society and the Australian Academy of Science.

Abstract: Glass is a strong, transparent, and versatile material used in everything from buildings to electronics. Yet despite its everyday presence, glass remains one of physics' great mysteries. How does it solidify while retaining a liquid-like disordered structure? Why is it so prone to sudden, brittle failure, and can we design better glasses? In this talk, I'll explore how my research seeks to uncover the hidden nature of glass.

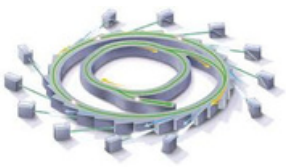
The Dusty Ends of Sun-Like Stars

Speaker Bio: Dr Taïssa Danilovich, Research Fellow, School of Physics and Astronomy, Monash University
Dr Danilovich is a researcher at Monash University in Melbourne who studies dying stars and the molecules they produce. Using observations from telescopes around the world, she investigates how stars like our Sun end their lives by shedding their outer layers, forming molecules and dust. Her research reveals how fast stars die, the environments they formed in, and the elements they create. This is key to understanding the origins of the elements that make up everything, including us.

Abstract: When stars like our Sun die, they shed their outer layers over hundreds of thousands of years, creating gas and dust. Though made of gas and plasma, some of this material quickly forms dust and eventually becomes icy in interstellar space. This dust becomes the raw material for new stars and planets. In this cosmic cycle, even though stars eventually fade, they leave behind the seeds of new stars and, perhaps, life.

Australian Synchrotron Tour

As a special addition to the breakfast, there is the option to tour the Australian Synchrotron. Learn how this world-class science facility combines science and technology to produce cutting edge research. The Australian Synchrotron supports a broad range of high-quality research across medicine, nanotechnology, manufacturing and mineral exploration. Amongst many of its benefits it can produce a powerful source of light a million times brighter than the sun.



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