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GIRLS IN PHYSICS BREAKFAST 2026

Weather & Oceans at the Bureau of Meteorology:

> Cyclones - Predicting their path and their increasing impact.

> Mildura weather - with high tech radar.

Saima Aijaz, PhD

Senior Research Scientist, Ocean Forecasting
Research Program, Science & Innovation Group
Bureau of Meteorology

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

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!

SCAN FOR MORE INFO

Thursday 19th March, 2026
Breakfast 8.30am to 11.00am
Mildura Golf Club Resort
287 Twelfth St, Mildura

$15 per student
(Max. 12 Students per school)

"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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Speaker Bio: Saima Aijaz is a Senior Research Scientist at the Australian Bureau of Meteorology in Melbourne. She also serves as a Visiting Lecturer at the University of Melbourne and an Adjunct Research Fellow at Swinburne University of Technology. Saima earned her Ph.D. in Oceanography from the Scripps Institution of Oceanography, University of California, and holds a Bachelor's degree in Civil Engineering from NED University in Karachi, Pakistan. With a career spanning multiple countries, Saima spent nearly two decades as a coastal engineer in the consulting ocean engineering industry before returning to oceanographic science. Her current research focuses on waves, ocean and tropical cyclone modelling, with an emphasis on verifying forecast ocean models using satellite and field data.

Abstract: **As part of the ocean modelling and forecasting team at the Bureau of Meteorology (BoM). BoM is Australia's national authority for weather, climate, and oceans—a vital part of every community. From farmers to families, businesses to emergency services, we deliver critical information that keeps Australians safe, connected, and prepared every day. BoM provides observations, forecasts, warnings, and advice on extreme events such as droughts, floods, fires, storms, tsunamis, and tropical cyclones. Our scientific research spans the atmosphere, space, aviation, oceans, and water systems.**

Our ocean team at BoM has developed one of the world's most accurate global ocean forecasting systems, delivering real-time data for maritime safety, search and rescue, hazardous chemical spill response, fisheries, port operations, and resource management. Most importantly, these ocean forecasts give the Australian Defence Force information superiority for seaborne operations that safeguard our nation.

Large parts of Australia experience severe tropical cyclones every year, causing loss of life and billions of dollars in damage to infrastructure and the economy. Today, we will explore BoM's ocean forecast systems and examine:

- **How ocean conditions influence cyclone formation**
- **The challenges in predicting cyclone paths and intensities**
- **How accurate warnings and forecasts help protect Australians**

We will also find out about the state-of-the-art Mildura radar, equipped with Doppler capability and dual-polarisation technology. This advanced system detects and identifies the types of particles are in the atmosphere and their speed. It provides the most accurate weather information for farmers and for the many people who rely on timely and precise forecasts.

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