

K-10 Conference: Igniting Scientific Skills

23 JUNE 2025, MACQUARIE UNIVERSITY

PROGRAM

8am	Registration and exhibitor session
9am	Opening: Professor Nathan Hart, Prof. Comparative Neurophysiology, Macquarie University STANSW Distinguished Service Awards
9.30am	Keynote: Dr Phoebe Meagher, Wildlife Conservation Officer, Taronga Zoo Igniting Impact: Building Diverse Scientific Skills and Inspiring Future Scientists
10am	Networking and exhibitor session
10.30am	Morning Tea
11am	Workshop Block 1
Primary: 15-minute Round-Robin Workshops	<ul style="list-style-type: none"> • Mini Terrariums: Annie Martin, PLC Sydney Learn how mini terrariums can support teaching the Earth's components and water cycle • Making Observations in Primary Science: Lesley Gough, Western Sydney University Hands-on sensory investigations for ESI and S1, with tools for sensory-based observation. • Isolating Variables & Fair Testing: Ben Newsome, Science Educator & Author Practical demonstrations of heat transfer and air pressure using classroom-ready materials.
Secondary: 1a	Incorporating Aboriginal Scientific Perspectives: Nick Tsoukatos, Cranbrook School Strategies for integrating Indigenous knowledge to deepen understanding & engagement.
Secondary: 1b	Making Data Matter in Science 7–10: Chris Bormann & Sham Nair, NSW DoE Hands-on session on data science integration into 7–10 Science.
Secondary: 1c	Microbiology in the Science Classroom: Lewanna Kenton & Tina Linaris, NSW DoE Explore safe techniques to observe microorganisms in 7–10.
Secondary 1d	Explicit Teaching in Science: Ben Surwarld & Craig Cantor, NSW DoE Learn when and how explicit instruction benefits students' understanding of Working Scientifically.
Secondary 1e	50°C: Climate, Heat & Resilience: Sophie Poisel, Powerhouse Museum Use thermal photography and microclimate analysis to address urban heat and resilience.
12.10pm	Lunch

1.15pm	Workshop Block 2
Primary: 15-minute Round-Robin Workshops	<ul style="list-style-type: none"> Aboriginal and Torres Strait Islander Content: Grace McIntosh, NSW DoE Practical strategies for embedding cultural perspectives with Working Scientifically skills. <ul style="list-style-type: none"> Body Systems in Action: Susanne Williams, Newington College Hands-on activities for Stage 3 exploring interconnected body systems. <ul style="list-style-type: none"> The Sky is the Window to Our Universe: Fiona Grant, Central Coast Grammar Celestial observation-based activities to support primary science inquiry.
Secondary: 2a	Hands-On with Indigenous Science: Prof. Joanne Jamie & Renee Cawthorne, MQ University Engage with Indigenous technologies, tools, and plants in an immersive session.
Secondary: 2b	Real Observing, Real Data – Murriyang: Robert Hollow, CSIRO Use CSIRO’s Parkes Radio Telescope for real-time data and inquiry.
Secondary: 2c	Phenomenal Physics for Years 7–10 : Jeffrey Keck & Amanda Brick, Modern Teaching Aids Hands-on physics challenges including forces, energy, and motion.
Secondary 2d	Safe Practical Investigations: Maninda Kaur, NSW DoE Focus on safe, inquiry-based practicals to develop scientific thinking.
Secondary 2e	What Drives Earth’s Climate? Dr Kira Westaway, Macquarie University Use AR/VR to explore orbital parameters and their effect on Earth’s climate.
Secondary 2f	Falling for forces: Investigations with everyday materials: Shelley Wilson, Questacon Short investigations in forces, movement and material properties that promote skills progression.
2.30pm	Workshop Block 3
Primary: 15-minute Round-Robin Workshops	<ul style="list-style-type: none"> Embedding Aboriginal Perspectives in STEM: Destiny Paris, CSIRO Hands-on Indigenous STEM activities with community collaboration. <ul style="list-style-type: none"> Backyard Science : Dr Kira Westaway, Macquarie University Acid/base reactions, forces, and materials explored with everyday items. <ul style="list-style-type: none"> Data Detectives: Logging and AI: Ian Fairhurst Engage students with simple data logging tools and AI in Years 1–6.
Secondary 3a	Aboriginal & Torres Strait Islander Science Content: Grace McIntosh & Dominique Higgins, DoE Plan authentic content progression and community connections.
Secondary 3b	Zoo of Poo – Bioinformatics in Action: Jessica Menendez & Belinda Chapman, Sydney Zoo Learn bioinformatics using zoo-based microbiome research.
Secondary 3c	Environmental & Zoo Education Centres (EZEC): Matt McKenzie, Glen Halliday & Jelena Giles Fieldwork learning via data collection and citizen science.
Secondary 3d	Brain-Based Science Learning: Michelle Kueh, Britannica Education Use cognitive science to improve learning retention in Years 5–8.
Secondary 3e	Making Good Places: Dr Jenny Newell, Australian Museum Hands-on activity designing climate-adapted, sustainable environments.
3.45pm	Afternoon Plenary Panel Discussion: New Science Curriculum Skills Continuum Panelists: Shirley Casper (Education Consultant), Josh Botto (Cranbrook School), Margaret Shepherd (ASTA), Sham Nair (NSW DoE), Anne Forbes (Macquarie University)