ASA Annual Scientific Meeting and Harley Wood School 2025

Thursday 3 July 2025 - Friday 11 July 2025

University of Adelaide

Scientific Programme

Conference Tracks

Evolution of Stars, Planets & Galaxies

Q1

a. How do galaxies evolve through multi-scale processes and what role does environment play?

b. Where are the different elements forged? How are they transported to new environments to form new generations of stars and planets?

c. What can the composition of the Milky Way's stars tell us about our home galaxy's history?

d. What were the properties of galaxies and the intergalactic medium during the Epoch of Reionization and Cosmic Dawn?

Dark Universe

Q2

a. What are the properties of the black hole population across the Universe?

b. What is the expansion rate of the Universe, and how is it changing with time?

c. Can new particles or new physics explain dark matter and dark energy?

Extreme Environments

Q3

a. What are the best models to explain the complex interiors of stars?

b. How does matter behave at extreme densities, such as in merging neutron stars?

c. What are the progenitors of gravitational waves, fast radio bursts, and other explosive events?

Exoplanets

Q4

a. How do planetary systems — including systems like our own — form and evolve?

b. How do solar and stellar activity influence planetary atmospheres and their habitability?

c. How can we best detect signatures of other life in the Universe?

Reviewers

Sabrina Einecke (UofA; gamma rays, high-energy astrophysics)

Gary Hill (UofA; neutrinos, cosmology, dark matter, high-energy astrophysics)

Gavin Rowell (UofA; gamma rays, high-energy astrophysics)

Bradley Tucker (ANU; transients, SNe, cosmology, education, outreach)

Roland Crocker (ANU; gamma rays, high-energy astrophysics)

Katie Auchettl (UMelb; TDEs, X-rays, SNRs/SNe)

Amanda Karakas (Monash; stellar evolution, abundances, chemical evolution)

Anais Moeller (Swinburne; transients)

Natasha Hurley-Walker (Curtin; radio surveys, SNRs, pulsars, long-period radio transients)

Claudia Lagos (UWA; cosmology surveys, AGN, star formation, SN feedback, ISM, radio, ASA council member)

Luke Barnes (WSU; cosmology, galaxy formation, cosmic evolution of matter)

Nick Tothill (WSU; ISM, high-energy astrophysics, radio, optical polarisation)

Manisha Caleb (USyd; transients, FRBs)

Brad Carter (USQ; exoplanets)

Cullan Howlett (UQ; cosmology surveys, dark matter, galaxy surveys)

Josh Pritchard (CSIRO; transients)