Contribution ID: **31**   Type: **Oral**

MINERVA-Australis and SONG: New PRV Observatories in Australia

Wednesday 20 March 2019 08:45 (15 minutes)

NASA's Transiting Exoplanet Survey Satellite (TESS) will identify thousands of planets orbiting nearby bright stars in a two-year survey beginning in the Southern sky. MINERVA-Australis at USQ's Mount Kent Observatory is the only southern hemisphere precise radial velocity facility wholly dedicated to follow-up of TESS planets. Mass measurements of these planets are critically necessary to maximise the scientific impact of the TESS mission, to understand the composition of exoplanets and the transition between rocky and gaseous worlds. MINERVA-Australis is now operational at the University of Southern Queensland's Mount Kent Observatory, with three of the planned six 0.7m telescopes in place. I present first precise radial velocity results and orbital solutions for TESS planets, and give an update on the performance of MINERVA-Australis.

The Stellar Observations Network Group (SONG) is establishing a node at Mount Kent. SONG-Australia will complete the global longitude coverage, delivering breakthroughs in fundamental understanding of the interiors of stars for decades to come. SONG-Australia is designed on a "MINERVA" model, whereby fibres from multiple small telescopes feed a single high-resolution spectrograph. As a result of these innovations, SONG-Australia is expected to be fully operational by late 2019. I present results from the Tenerife SONG node which is delivering 1 m/s precision velocities.

Authors: Prof. WITTENMYER, Rob (University of Southern Queensland); Dr WRIGHT, Duncan (University of Southern Queensland); Dr BOWLER, Brendan (University of Texas at Austin); Dr CROSSFIELD, Ian (MIT); Dr KANE, Stephen (University of California Riverside); Prof. KIELKOPF, John (University of Louisville); Prof. PLAVCHAN, Peter (George Mason University); Prof. TINNEY, Chris (UNSW Australia); Dr ZHANG, Hui (Nanjing University)

Presenter: Prof. WITTENMYER, Rob (University of Southern Queensland)

Session Classification: VIS instruments

Track Classification: Instruments in VIS