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# 国台学术报告 NAOC COLLOQUIUM

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**Time: Wednesday 2:30 PM, Apr.15    Location: A135 NAOC**

## The FunnelWeb Survey with the TAIPAN Spectrograph

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Dr Michael Ireland is an astronomer and instrumentalist working in the fields of exoplanets, young stars, spectroscopic and high angular resolution instrumentation. He completed his PhD in 2005 at the University of Sydney, Australia, and has since held positions at the California Institute of Technology, Sydney University, Macquarie University and the Australian National University. He is currently the PI of the PAVO instrument at the CHARA array, the project scientist for the Gemini High-Resolution Optical Spectrograph and the co-lead of the Veloce spectrograph for the Anglo-Australia Telescope and the FunnelWeb survey with the TAIPAN spectrograph currently being built for Australia's UK Schmidt Telescope.

### Abstract

Throughout stellar and exoplanetary astrophysics, magnitude-limited medium-resolution spectral surveys have been key for determining which stars are young, which are evolved, and to which population each star belongs. However, on an all-sky basis, this basic data is available for only the relatively ~200,000 stars in the hundred-year old HD catalog. The AAO's Starbugs technology will enable an entirely new generation of rapid, medium-resolution stellar spectroscopic survey for the southern hemisphere to complement LAMOST in the north. No other competing technology comes even close to providing the rapid redeployment required for surveys targeting millions of bright stars. The FunnelWeb survey will exploit this technology on the in-progress TAIPAN spectrograph, to target the 2 million stars with  $I < 12$  south of  $+10$  degrees. When combined with LAMOST's bright survey, the resulting data set will become the 21st century's HD catalogue - identifying young stars to use as targets for direct imaging searches for exoplanets, providing an input catalogue for NASA's TESS transit search mission. I will also describe progress on the complementary GALAH Galactic archaeology survey currently underway with the HERMES spectrograph at the Anglo Australia Telescope.



*All are welcome! Tea, coffee, biscuits will be served at 2:15 PM.*