

## **Tollestrup Award Winner: Dark Energy Survey weak lensing: pixels to cosmology**

*Wednesday, 15 June 2022 10:50 (15 minutes)*

I will present the cosmological weak lensing results from the Dark Energy Survey (DES) using its first three years of data taken using the Dark Energy Camera on the 4m Blanco telescope. This analysis spans the full DES footprint, roughly 1/8th of the night sky, with the final galaxy catalogue containing more than 100 million galaxies in *riz* photometric bands, constituting the most powerful weak lensing dataset to date. The comparison of DES cosmological constraints on dark matter and dark energy from weak lensing in the low-redshift Universe to those from the Cosmic Microwave Background provides an unprecedented test of the standard cosmological model, across high and low redshift. I will mention the main challenges that our analysis is susceptible to, and summarise the approach our team took to account for these and deliver robust cosmological constraints.

**Presenter:** AMON, Alexandra

**Session Classification:** URA Session