



Royal
Astronomical
Society

Dr Niall Jeffrey – Early Career Award (A)

Dr Niall Jeffrey is a cosmologist performing novel applications of machine learning that are derived from statistical principles and are applied to state-of-the-art datasets, in particular the large-scale structure signals of the Dark Energy Survey (DES). This work has led to maps of dark matter derived from weak gravitational lensing signals, as well as simulation-based inference of cosmological parameters; his recent results on DES Year-3 data may be the tightest cosmological constraints to-date from galaxy imaging surveys with weak gravitational lensing. Dr Jeffrey's high-impact use of simulations was recognised by a Jacky Pallas Memorial Award for the best annual scientific computing achievement by an early career researcher in the UK.

In addition to leading work on cosmological inference, Dr Jeffrey is also co-founder and part-time CSO of an internationally operating start-up company with the goal of applying machine learning to sustainability causes and is a talented science communicator having won a fellowship of the Association of British Science Writers.