

# Dr Benjamin Pope

## ASSOCIATE PROFESSOR OF STATISTICAL DATA SCIENCE

Macquarie University — Sydney, NSW, Australia

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## Current Position

### Associate Professor of Statistical Data Science

Feb 2025-Present

SCHOOL OF MATHEMATICAL & PHYSICAL SCIENCES, MACQUARIE UNIVERSITY

Sydney, NSW, Australia

- Leading Astrostatistics Research Group

## Experience

### Senior Lecturer in Astrophysics & ARC DECRA Fellow

2021-2024

SCHOOL OF MATHEMATICS & PHYSICS, UNIVERSITY OF QUEENSLAND

Brisbane, Queensland, Australia

- ARC Discovery Early Career Researcher Award (DECRA Fellowship) and ARC Discovery Project 2023
- Lecturer 2021-2023, Senior Lecturer 2024
- Big Questions Institute Fellowship
- Queensland Tall Poppy Award for Science

### NASA Sagan Postdoctoral Fellow

November 2017 - October 2020

CENTER FOR DATA SCIENCE & CENTER FOR COSMOLOGY AND PARTICLE PHYSICS, NEW YORK UNIVERSITY

New York, NY

- Visiting Researcher at the Simons Foundation's Flatiron Institute Center for Computational Astrophysics.
- Awarded USD \$100,000 in competitive research grants to use the NASA TESS Space Telescope.
- Lectured on statistical and machine learning methods to NYU Masters in Data Science students.

### Breakthrough Foundation Postdoctoral Research Associate

June-November 2017

UNIVERSITY OF SYDNEY

Sydney, NSW

- Contributed to the optical design of the TOLIMAN Space Telescope.
- Lectured in the Physics Honours course on Bayesian methods and machine learning.

## Education

### Doctor of Philosophy (DPhil) in Astrophysics

October 2013 - May 2017

BALLIOL COLLEGE, UNIVERSITY OF OXFORD

Oxford, England

- Thesis: *Observing Bright Stars and their Planets from Earth and from Space*
- Clarendon Scholarship and Jowett Scholarship.

### Master of Science (MSc)

2013

UNIVERSITY OF SYDNEY

Sydney, NSW, Australia

- Vice-Chancellor's Research Award.

### Bachelor of Science (First Class Honours with the University Medal)

2009-2012

UNIVERSITY OF SYDNEY

Sydney, NSW, Australia

- University Medal, Dean's Honours List, University prizes for best physics and astrophysics thesis, and national Bok Prize for best astrophysics honours thesis.
- Studied abroad at the University of California, Berkeley (2010-11) and Nanjing University, China (2011).

### Study Abroad

2010-11

UNIVERSITY OF CALIFORNIA, BERKELEY

Berkeley, California, USA

- Undergraduate research project with Nobel Laureate and inventor of the laser, Prof. Charles H. Townes.

## Research

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### Publications

Led 13 refereed publications; co-author of 53, with 1605 citations; h-index: 21. ([Full list](#)).  
Published in *Proceedings of the Royal Society A*, *Nature Astronomy*, *The Astrophysical Journal*,  
*Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, and other journals.

### Presentations

Presented as an invited speaker at Harvard, MIT, Yale, Columbia, University of Washington,  
Johns Hopkins, Carnegie Mellon, Cambridge, Oxford, Leiden, Groningen, the Royal Astronomical Society,  
Universities of Sydney, Melbourne, UNSW, Swinburne, Monash, Melbourne.

### Peer Review

Refereed papers for the *Journal of Open Source Software*; all main astronomy journals *ApJ*, *MNRAS*,  
*A&A* and all their Letters sections; and optics journal *JOSA*; and reviewed telescope proposals,  
fellowships, and other grants for the ARC, NASA, STFC, NSF.

### Open Source

All publications are available on arXiv, with source code on GitHub. Examples of main packages:  
[halophot](#), code for enhancing the dynamic range of *Kepler* and TESS space telescopes (with Tim White),  
[dLux](#), a differentiable JAX simulation package for physical optics (with student Louis Desdoigts) and  
[ticktack](#), the first open-source package for Bayesian modelling of radiocarbon data (with students Qingyuan  
Zhang & Utkarsh Sharma)

## Public Communication

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### University Challenge

Member of the winning team for Balliol College, Oxford on the 2016-17 season of the BBC's most  
popular quiz show, *University Challenge*.

### Science Writing

Science journalism published in *The Monthly magazine*, *Cooper Square Review*, and *Oxonian Review*.  
Completed Introductory and Advanced Science Communication courses at NYU Journalism School.  
Included in *Best Australian Science Writing 2021* and *You are Not Expected to Understand This: How 26 Lines of Code Changed the World*.

### Consulting

Scientific consultant for *War of the Worlds*, the 2019 Fox/Studio Canal TV series.

### Presentation

Sold-out performances for Pint of Science, World Science Festival at QPAC, Caveat NYC, and  
Astronomy on Tap Brooklyn. Interviewed on ABC News Radio & TV, quoted in the *Guardian*,  
*Sydney Morning Herald*, and *New York Times*.

### Outreach

Lead organizer of public telescope viewings of eclipses and the Transits of Venus and Mercury  
in Sydney, New York, Oxford, and Brisbane. Telescope guide at Uluru, Stargazing Oxford, and  
PopScope DC and Baltimore.