

Steven CUNNINGTON

PERSONAL INFORMATION

ADDRESS: 62 Chasewater Avenue, Portsmouth, PO3 6JD, UK
PHONE: (+44) 07952 914612
EMAIL: steve.cunnington@port.ac.uk
NATIONALITY: British

EDUCATION

- OCT 2016 - PRESENT | Post-Graduate Research Student
Institute of Cosmology & Gravitation, UNIVERSITY OF PORTSMOUTH, UK
PhD Cosmology - *expected submission Sep 2019*
Thesis: Investigating the Benefits of Telescope Synergies in Observational Cosmology
- particular focus on the benefits of 21cm intensity mapping as a probe of LSS
 - investigating simulations which test the cross-correlation potential of different probes
 - involved in numerous global collaborations including SKA, LSST, DES and Euclid
- Supervisors: Dr David Bacon & Dr Alkisits Pourtsidou
- OCT 2012 - JUN 2016 | Undergraduate Student
UNIVERSITY OF SOUTHAMPTON, UK
BSc (Hons) Physics - *First Class Honours*
- 75.6% third year and 79.3% second year marks achieved
 - optional modules focused on Maths and Astronomy/Cosmology
 - originally enrolled to do MSc but left year early to begin PhD
 - still took MSc modules in Cosmology and the Early Universe a year early
- BSc Final Year Project: Investigating the Shape of the Stellar-to-Halo Mass Relationship for Galaxies at a Range of Redshifts - Supervisor: Dr Francesco Shankar
- SUMMER 2015 | Summer Research Placement
Institute of Cosmology & Gravitation, UNIVERSITY OF PORTSMOUTH, UK
Secured South East Physics Network (SEPnet) funding for an 8-week placement studying strong gravitational lensing and how it can be used for measuring cosmological parameters. *Placement Supervisor*: Dr Thomas Collett

RESEARCH

- PUBLICATIONS | [HI Intensity Mapping for Clustering-Based Redshift Estimation](#)
Cunnington, S., Harrison, I., Pourtsidou, A., Bacon, D., 2018
[submitted to MNRAS], arXiv:1805.04498
- [Observational selection biases in time-delay strong lensing and their impact on cosmography](#)
Collett, T., **Cunnington, S.**, 2016
MNRAS 462 (2016) no.3, 3255-3264, arXiv:1605.08341
- PUBLICATIONS (IN-PREP) | Impacts of Foregrounds on HI Clustering-Redshift Estimation
Following up on initial paper on this topic with more emphasis on the effects of foreground contamination on HI intensity maps.

SKILLS & KNOWLEDGE

CODING LANGUAGES	Python (excellent) C++, C, Fortran, MATLAB
COMPUTER SKILLS	Familiar with Mac OS X and Unix/Linux operating systems Regular experience with High Performance Computing (HPC) Clusters
COSMOLOGICAL CODES	Familiar with CAMB and CLASS
LANGUAGES	English (native) French (basic)

TALKS DELIVERED

- 03/09/18: Observing the Universe's Dark Secret
Winchester Cafe Sci - Winchester Discovery Centre, UK
- 08/05/18: Observational Cosmology: The Next Generation of Telescopes
Astronomical Association for East Sussex Monthly Meeting - Cooden Beach Hotel, UK
- 24/04/18: Observational Cosmology: The Rise of the Radio Survey
ICG Internal Colloquia - University of Portsmouth, UK
- 03/04/18: Using HI Intensity Mapping to Calibrate Photometric Redshifts
EWASS/NAM 2018 - Arena & Convention Centre (ACC), Liverpool, UK
- 22/03/18: Intensity Mapping: A new way of seeing the Universe
SEPnet Student-Led Conference - University of Southampton, UK
- 29/11/17: HI Intensity Mapping for Clustering Based Redshift Information
South Coast Cosmology - University of Portsmouth, UK
- 27/09/17: Using HI Intensity Mapping to Calibrate LSST Photometric Redshifts
LSST Multi-Wavelength Data Fusion Workshop - University of Cambridge, UK
- 05/05/17: Why is the Universe Blowing Up?
Internal Talk to non-Science University Staff - University of Portsmouth, UK

OUTREACH & ROLES OUTSIDE OF SCIENCE

- Provide talks to astronomy groups, particularly ones local to where I grew up.
- Arrange [Astronomy on Tap](#) events for local public. Involves astronomers doing talks at pubs and bars with the aim of opening astronomy up to a different demographic.
- Volunteer for the annual [Stargazing Live](#) event where astronomy related activities and talks are made available to the public at the Portsmouth Historic Dockyard.
- Student representative for the department's [Athena Swan](#) team which aims to encourage and recognise commitment to advancing the careers of women in STEM.
- Completed [Graduate Students' Professional Development \(GPROF\)](#) programme which is internally run by the University of Portsmouth which provides formal training for post-graduates involved in any teaching activity.
- Arrange [Physics Staff v UG Students Football Fundraiser Match](#). Our last game raised £290 for charity.

REFERENCES

Dr David Bacon [david.bacon@port.ac.uk]
PhD Supervisor

Dr Alkistis Pourtsidou [a.pourtsidou@qmul.ac.uk]
PhD Supervisor