Shaun C Read

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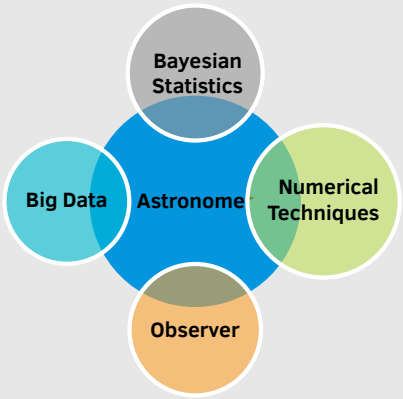
Shaun C Read

Technical Skills

Overview



Programming

Python

Shell • SQL • Matlab • LaTeX

C • C++ • R • Ruby • IDL • html

Education

Ph.D., Astronomy
University of Hertfordshire, UK
2015 - Present
Expected completion: 2019

MPhys, Physics
Durham University, UK
2010 - 2014
2:1 with Honours

Affiliations

Fellow of the Royal Astronomical Society, *FRAS*

Summary

About me

Experience

Oct 2015 - Present — **Ph.D. student** — University of Hertfordshire
Supervisor: Dr Daniel J.B. Smith
Thesis: Measuring the Physical Properties of Distant Galaxies and Black Holes in the Era of Surveys

- Studying the relation between the star-formation rate and radio luminosity of galaxies.
- Using new photometric time-series techniques to estimate quasar black-hole masses using reverberation mapping.
- Innovating new Bayesian methods to infer complete distributions from incomplete, noisy data in order to mitigate observational bias and explore large datasets.

Jun 2016 - — **Observing** — William Herschel Telescope, La Palma

Jan 2016 - Present — **Programming teaching assistant & tutor** — University of Hertfordshire, UK

- Taught students Python and Matlab for scientific programming courses.
- Assisted students with programming exercises.
- Lead programming lectures and demonstrations.

Nov 2016 - Mar 2017 — **'Physics of stars' demonstrator** — University of Hertfordshire, UK

- Assisted students at the Bayfordbury teaching observatory.
- Instructed in the use of 16-inch telescopes and the reduction of data.
- Projects included PNe imaging and constructing open cluster HR-diagrams.

Jul 2014 - Jul 2015 — **Insight Analyst** — Linkdex, UK
Processing big data from raw consumer search patterns to an explanative format suitable for client business strategies.

- Big data processing with Python & sci-kit learn
- Communication with the backend team
- API design, visualisation, and automation development.

Jun 2013 - Aug 2013 — **Summer Student** — National Physical Laboratory, UK
Supervisor: Dr Alastair Sinclair

- Worked with the Time & Frequency Team.
- Analysed Gaussian beam quality for the strontium ion optical clock group.
- Developed analytical Matlab code and the optical bench setup required.

Research Interests

- **Star-formation**: LOFAR, FIR, empirical relations, FIRC, MagPhys, SFG-AGN interface.
- **Reverberation mapping**: High redshift, photometric techniques, $t_{lag} - L_{5100}$, selection biases.
- **Big data & Bayesian analysis**: Large surveys, advanced Bayesian statistical inference, bias mitigation.

Publications

Published

- *The Far-Infrared Radio Correlation at low radio frequency with LOFAR/H-ATLAS*, **Read, S. C.**; Smith, D. J. B.; Gürkan, G.; Hardcastle, M. J.; Williams, W. L.; Best, P. N.; Brinks, E.; Calistro-Rivera, G.; ChyŻy, K. T.; Duncan, K.; Dunne, L.; Jarvis, M. J.; Morabito, L. K.; Prandoni, I.; Röttgering, H. J. A.; Sabater, J.; Viaene, S. – 2018MNRAS.480.5625R

- *LOFAR/H-ATLAS: a deep low-frequency survey of the Herschel-ATLAS North Galactic Pole field*, Hardcastle, M. J.; Gürkan, G.; van Weeren, R. J.; Williams, W. L.; Best, P. N.; de Gasperin, F.; Rafferty, D. A.; **Read, S. C.**; Sabater, J.; Shimwell, T. W.; Smith, D. J. B.; Tasse, C.; Bourne, N.; Brienza, M.; Brüggen, M.; Brunetti, G.; Chyży, K. T.; Conway, J.; Dunne, L.; Eales, S. A.; Maddox, S. J.; Jarvis, M. J.; Mahony, E. K.; Morganti, R.; Prandoni, I.; Röttgering, H. J. A.; Valiante, E.; White, G. J. – 2016MNRAS.462.1910H

Submitted and in preparation

- *Highly Efficient Photometric Reverberation Mapping at High Redshift*, Read, S.C. Smith, D. J. B. Jarvis, M. J. Gürkan, G. – submitted to MNRAS

- *On the Causes of the Mass Dependency of the Star-formation Rate – Radio Luminosity Relation with LOFAR, Horizon-AGN, and CANDID*, Read, S.C. Smith, D. J. B. Gürkan, G. Hardcastle, M. J. et al. – in prep.

- *Bias and Accretion Rate Dependency in the Reverberation-Mapped Lag-luminosity Relation*, Read, S.C. Smith, D. J. B. et al. – in prep.

- *Galaxy Morphological Classification in Deep-Wide Surveys via Unsupervised Machine Learning*, Martin, G. Kaviraj, S. Hocking, A. Read, S.C. Geach, J. – in prep.

- *Brown dwarfs with Gaia*, Gonzalez, E. Pinfield, D. Read, S.C. et al. – in prep.

Presentations

April 2018	**European Week of Astronomy and Space Science** University of Liverpool, UK poster	European Astronomical Society, *EAS*
July 2017	**National Astronomy Meeting** University of Hull, UK contributed talk	Royal Astronomical Society, *RAS*
June 2016	**National Astronomy Meeting** University of Nottingham, UK contributed talk, poster	Royal Astronomical Society, *RAS*
May 2016	**The Cosmic FIR Landscape with H-ATLAS** University of Lisbon, Portugal contributed talk	H-ATLAS consortium