

Benjamin POPE

NASA SAGAN FELLOW

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EDUCATION

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| 2013-2017 | Doctor of Philosophy in ASTROPHYSICS, University of Oxford
Thesis: “Observing Bright Stars and their Planets from the Earth and from Space”
Balliol College Supervisors: Prof. Suzanne AIGRAIN, Prof. Patrick ROCHE |
| 2013-14 | Master of Science in ASTROPHYSICS, University of Sydney
Thesis: “Vision and Revision: Wavefront Sensing from the Image Domain”
Supervisor: Prof. Peter TUTHILL |
| 2012 | Bachelor of Science (Advanced) with Honours in PHYSICS, University of Sydney
<i>First Class Honours, with the University Medal</i>
Thesis: “Dancing in the Dark: Kernel Phase Interferometry of Ultracool Dwarfs”
Supervisors: Prof. Peter TUTHILL, Dr. Frantz MARTINACHE |
| 2010-2011 | Study Abroad at the University of California, Berkeley |

FIRST-AUTHOR REFEREED PUBLICATIONS

6. *Kernel Phase and Kernel Amplitude in Fizeau imaging.* **Benjamin Pope.** Accepted Monthly Notices of the Royal Astronomical Society (2016) doi: 10.1093/mnras/stw2215. First published online September 5, 2016.
5. *Transiting exoplanet candidates from K2 Campaigns 5 and 6.* **Benjamin Pope,** Hannu Parviainen, Suzanne Aigrain. MNRAS, Volume 461, Issue 4, p.3399-3409, 2016.
4. *The Palomar Kernel Phase Experiment: Testing Kernel Phase Interferometry for Ground-based Astronomical Observations,* **Benjamin Pope,** Peter Tuthill, Sasha Hinkley, Michael J. Ireland, Alexandra Greenbaum, Alexey Latyshev, John D. Monnier, Frantz Martinache. MNRAS, Volume 455, Issue 2, p.1647-1653, 2015.
3. *Photometry of Very Bright Stars with Kepler and K2 Smear Data,* **Benjamin Pope,** Timothy White, Daniel Huber, Simon Murphy, Tim Bedding, Douglas Caldwell, Aleksa Sarai, Suzanne Aigrain, Thomas Barclay. MNRAS Letters, Volume 455, Issue 1, p.L36-L40, 2015.
2. *A Demonstration of Wavefront Sensing from the Image Domain,* **Benjamin Pope,** Nick Cvetojevic, Anthony Cheetham, Frantz Martinache, Barnaby Norris, Peter Tuthill. MNRAS, Volume 440, Issue 1, p.125-133, 2014.
1. *Dancing In The Dark: New Brown Dwarf Binaries From Kernel Phase Interferometry,* **Benjamin Pope,** Frantz Martinache, Peter Tuthill. ApJ, V. 767, Issue 2, article id. 110, 14, (2013).

OTHER REFEREED PUBLICATIONS

7. *Testing stellar evolution models with the retired A star HD 185351.* Hjørringgaard, J. G.; Silva Aguirre, V.; White, T. R.; Huber, D.; **Pope, B. J. S.;** Casagrande, L.; Justesen, A. B.; Christensen-Dalsgaard, J. MNRAS 2016.

6. *Supernovae and Single-Year Anomalies in the Atmospheric Radiocarbon Record*. Michael Dee, **Benjamin Pope**, Daniel Miles, Sturt Manning and Fusa Miyake. Radiocarbon, Available on CJO 2016. doi:10.1017/RDC.2016.50
5. *Anchoring historical sequences using a new source of astro-chronological tie-points*. Michael Dee, **Benjamin Pope**, 2016. Proc. R. Soc. A 20160263. <http://dx.doi.org/10.1098/rspa.160263>
4. *K2SC: Flexible systematics correction and detrending of K2 light curves using Gaussian Process regression*, Suzanne Aigrain, Hannu Parviainen, **Benjamin Pope**. MNRAS, 2016.
3. *HII 2407: A Low-Mass Eclipsing Binary Revealed by K2 Observations of the Pleiades*, Trevor J. David, John Stauffer, Lynne A. Hillenbrand, Ann Marie Cody, Kyle Conroy, Keivan G. Stassun, **Benjamin Pope**, Suzanne Aigrain, Ed Gillen, Andrew Collier Cameron, David Barrado, L.M. Rebull, Howard Isaacson, Geoffrey W. Marcy, Celia Zhang, Reed L. Riddle, Carl Ziegler, Nicholas M. Law, Christoph Baranec. ApJ, 2015.
2. *Interferometric radii of bright Kepler stars with the CHARA Array: θ Cygni and 16 Cygni A and B*, White, T. R.; Huber, D.; Maestro, V.; Bedding, T. R.; Ireland, M. J.; Baron, F.; Boyajian, T. S.; Che, X.; Monnier, J. D.; **Pope, B. J. S.**; Roettenbacher, R. M.; Stello, D.; Tuthill, P. G.; Farrington, C. D.; Goldfinger, P. J.; McAlister, H. A.; Schaefer, G. H.; Sturmann, J.; Sturmann, L.; ten Brummelaar, T. A.; Turner, N. H. MNRAS, 2013.
1. *Spatial dispersion in three-dimensional drawn magnetic metamaterials*, Alessandro Tuniz, **Benjamin Pope**, Anna Wang, Maryanne C. J. Large, Shaghik Atakaramians, Seong-Sik Min, Elise M. Pogson, Roger A. Lewis, Avi Bendavid, Alexander Argyros, Simon C. Fleming, and Boris T. Kuhlmei. Opt. Express 20, 11924-11935 (2012)

OTHER PUBLICATIONS

5. *Non-redundant masking ideas on JWST*, Sivaramakrishnan, Anand; Cheetham, Anthony; Greenbaum, Alexandra Z.; Tuthill, Peter G.; Acton, D. Scott; **Pope, Benjamin**; Martinache, Frantz; Thatte, Deepashri; Nelan, Edmund P. Proceedings of the SPIE, Volume 9143, id. 91433S 8 pp. 2014.
4. *Wavefront sensing from the image domain with the Oxford-SWIFT integral field spectrograph*, **Benjamin Pope**, Niranjana Thatte, Rick Burruss, Matthias Tecza, Fraser Clarke, Garret Cotter, SPIE Astronomical Telescopes and Instrumentation Proceedings, 2014.
3. *Spatial dispersion management in three-dimensional drawn magnetic metamaterials*, A. Tuniz et al. in CLEO: QELS-Fundamental Science, OSA Technical Digest (Optical Society of America, 2012), paper QTu3F.2.
2. *Photonic Technologies for a Pupil Remapping Interferometer*. Tuthill, Peter; Jovanovic, Nemanja; Lacour, Sylvestre; Lehmann, Andrew; Ams, Martin; Marshall, Graham; Lawrence, Jon; Withford, Michael; Robertson, Gordon; Ireland, Michael; **Pope, Benjamin**; Stewart, Paul. Proceedings of the SPIE, Volume 7734, id. 77341P (2010)
1. *PIMMS: Photonic Integrated Multimode Microspectrograph* (Proceedings Paper). Joss Bland-Hawthorn; Jon Lawrence; Gordon Robertson; Sam Campbell; **Ben Pope**; Chris Betters; Sergio Leon-Saval; Tim Birks; Roger Haynes; Nick Cvetojevic; Nem Jovanovic SPIE Proceedings Vol. 7735. Ground-based and Airborne Instrumentation for Astronomy III, Ian S. McLean; Suzanne K. Ramsay; Hideki Takami, Editors, 77350N

SELECTED SCIENTIFIC TALKS

NOVEMBER 2016	Cambridge Exoplanet Group Seminar. <i>Transiting Planets and Asteroseismology of the Brightest Stars in Kepler and K2.</i>
NOVEMBER 2016	University of Bern, ETH Zurich, Observatory of Geneva. <i>Transiting Planets and Asteroseismology of the Brightest Stars in Kepler and K2.</i>
JULY 2016	Astronomical Society of Australia Annual Scientific Meeting, <i>Asteroseismology of the Brightest Stars in Kepler and K2.</i>
JUNE 2016	Aarhus University SAC Seminar, <i>Transiting Planets in K2 and Asteroseismology of Kepler's Brightest Stars.</i>
DECEMBER 2015	University of Birmingham Seminar, <i>Pushing the Limits of K2: Gaussian Process Systematics Correction and a Kepler/K2 Saturated Star Survey.</i>
JULY 2015	STSci Seminar, <i>The Palomar Kernel Phase Experiment.</i>
JULY 2015	UK National Astronomy Meeting, <i>Systematics Correction and Cluster Science with K2.</i>
MARCH 2015	UK Exoplanet Community Meeting, Warwick. <i>The Palomar Kernel Phase Experiment.</i>
AUGUST 2014, 2015	University of Sydney, Bayesian Reasoning Honours course, guest lecture. <i>Gaussian Processes for the General Practitioner.</i>
JULY 2014	SPIE Astronomical Telescopes and Instrumentation, <i>Vision and Revision: Wavefront Sensing from the Image Domain.</i>
DECEMBER 2013	MaxEnt 2013, <i>Bayesian Model Fitting in Optical Imaging and Interferometry.</i>
AUGUST 2013	University of Sydney, Bayesian Reasoning Honours course, guest lecture. <i>Introducing Affine Invariant Ensemble MCMC.</i>
JULY 2013	Astronomical Society of Australia Annual Scientific Meeting. BOK LECTURE: <i>Dancing in the Dark: Kernel Phase Interferometry of Ultracool Dwarfs.</i>

TEACHING AND PROFESSIONAL WORK

2014-2016	Tutor in Physics, Hertford College, Oxford Tutor in General Relativity and Cosmology.
MICHAELMAS 2013	Optics Demonstrator, University of Oxford, Department of Physics
2012-2013	Workshop and Lab Tutor, University of Sydney, School of Physics
2009-2013	Demonstrator, Kickstart Physics, University of Sydney, School of Physics
JUNE-JULY 2011	Industrial Experience Intern, Canon Information Systems Research Australia (CiSRA)

SCHOLARSHIPS AND PRIZES

Santander Universidades	SANTANDER SUMMER SCHOOL SCHOLARSHIP
MaxEnt and Bayesian Association of Australia	BEST STUDENT PRESENTATION
University of Oxford Balliol College, Oxford	CLARENDON SCHOLARSHIP JOWETT SCHOLARSHIP
Astronomical Society of Australia	BOK PRIZE
University of Sydney	VICE-CHANCELLOR'S RESEARCH AWARD
	UNIVERSITY MEDAL SHIROKI PRIZE FOR PHYSICS HENRY CHAMBERLAIN RUSSELL PRIZE FOR ASTRONOMY DEAN'S HONOURS LIST
	JULIUS SUMNER MILLER SCHOLARSHIP No. 3 WALTER BURFITT SCHOLARSHIP SCIENCE FACULTY EXCHANGE SCHOLARSHIP WALTER REID MEMORIAL PRIZE OUTSTANDING ACHIEVEMENT SCHOLARSHIP

EXTRACURRICULAR

University of Oxford

2016-17 | Winning Balliol College University Challenge Team