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Will Handley

Education

2012–2016 **University of Cambridge**, *PhD: Astrophysics*, Prof. A. Lasenby & Prof. M. Hobson.

2008–2012 **University of Cambridge**, *Msc, MA: Natural Sciences*, Gonville & Caius College.

2001–2008 **Alleyn's School**, *A levels, GCSEs*, London.

Experience

Research

Oct 2016– **Junior Research fellow**, *Gonville & Caius College*, University of Cambridge.

Jul-Sep 2016 **Postdoctoral position**, *Prof. H. Peiris*, University College London.
Searching for features in the primordial power spectrum.

2012–2016 **PhD: Astrophysics**, *Prof. A. Lasenby & Prof. M. Hobson*, University of Cambridge.
Kinetic initial conditions for inflation: Theory, observations & methods.

2011–2012 **Part III Dissertation**, *Prof. P. Alexander*, University of Cambridge.
Investigating the origins of cosmic magnetism.

Summer 2011 **Summer Research Student**, *Prof. M. Faulkes & Dr. J. Spencer*, Imperial College.
Folded spectrum full configuration interaction quantum Monte Carlo.

Summer 2011 **Summer Research Student**, *Dr. R. Blumenfeld*, University of Cambridge.
Geometry and field equations of granular systems.

2010–2011 **Research Review**, *Prof. S. Gull*, University of Cambridge.
Literature Survey of the Physics-Philosophy crossover field of measurement theory.

Summer 2010 **iGEM Team Physicist**, *Dr. J. Haseloff*, University of Cambridge.
E-glowli 2010 iGEM team (placed in final 6) http://2010.igem.org/Team:Cambridge

Teaching

2013-present	Part II Physics: General relativity	*Supervising*
2012-present	Part IA Mathematics for NatSci	*Supervising, Tripos classes*
2013	Part II Theoretical Physics 1 & 2	*Demonstrating*
2006–2012	Maths and Science Tuition	*Individual coaching, key stage 1 — STEP*

Selected Outreach

over the course of my career i have given 16 public outreach talks including:

May 2015 **Intro. to Astronomy: Beyond the Milky Way**, *IoA Public Talk*, Cambridge.

May 2015 **To infinity and beyond: Dark Energy**, *Pint of Science*, Cambridge Brewhouse.

Jan. 2014 **The first 3 yocto-pico seconds**, *Three minute wonder*, Cavendish Laboratory.

Awards & Prizes

Jun. 2018	Gruber Prize (co-shared with Planck)	*Gruber Foundation*
Dec. 2013	Best presentation	*Cavendish grad. students conference*
Jun. 2012	Best theoretical part III project	*University of Cambridge*

	Physics prize	*Gonville & Caius College*
Summer 2011	Undergraduate Research Bursary	*Nuffield Foundation*
	UROP Studentship	*Imperial College*
Summer 2010	iGEM Studentship	*Wellcome Trust*
2009–12	Junior and Senior Scholarships	*Gonville & Caius College*

Grants won

£25,000 **STFC IAA 2016**, *Interfacing PolyChord 2.0*.
£2,000 **KICC visitors 2017**, *Class and MontePython workshop*.
£42,000 **STFC IAA 2018**, *PolyChord and Bayesian Neural network recognition*.
£1,500 **King's + Kavli**, *Summer student funding*.
£15,000 **KICC Workshop 2019**, *AstroHack week 2019*.

Students

Post-Doc	Kamran Javid	*2018-present*
PhD	Ed Higson, Lukas Hergt, Fruzsina Agocs, Will Barker	*2016-present*
Masters	Fruzsina Agocs, Robert Knighton, Stephen Pickman, Daniel Manela	*2016-2017*
	Ward Haddadin, Jessica Rigley	*2017-2016*
Summer	Elizabeth Guest, Ward Haddadin	*2018*

Academic Talks

May. 2018 **Planck, inflation and the future of inflationary constraints**, *Consistency of Cosmological Datasets*, Cambridge, UK.
May. 2018 **MaxEnt priors with derived parameters in a specified distribution**, Cambridge, UK.
May. 2018 **Nested Sampling: an efficient and robust Bayesian inference tool for astrophysics and cosmology**, ICIC, UK.
April. 2018 **Introduction to statistics**, *CosmoTools 18*, RWTH Aachen, Germany.
Jan. 2018 **Advances in Nested Sampling & astrophysical application**, Cambridge, UK.
Aug. 2017 **PolyChord 2.0: Fast cosmo inference & nested sampling**, *Cosmo17*, Paris, France.
Jun. 2017 **Modern Bayesian Inference: Theory and Practice**, RWTH Aachen, Germany.
Mar. 2017 **Parameter estimation and Model comparison**, *CosmoTools 17*, Madrid, Spain.
Feb. 2017 **PolyChord 2.0: Advances in Nested Sampling & astrophysical application**, CCA, US.
Sep. 2016 **PolyChord 2.0 & the future of nested sampling**, University College London, UK.
May. 2016 **PolyChord 2.0 & the future of nested sampling**, University of Sussex, UK.
Mar. 2016 **PolyChord & the future of nested sampling**, Edinburgh, UK.
Dec. 2015 **PolyChord: next generation nested sampling**, Max Planck Institute, Germany.
Feb. 2015 **PolyChord: next generation nested sampling**, University of Sussex, UK.
Dec. 2013 **Kinetic dominance in the pre-inflationary universe**, Cavendish grad. conference.

Computer skills

Programming	MPI parallelisation, C++, FORTRAN, Mathematica, Maple, Python
Computing	Unix, Bash, zsh, vim, git, svn, LaTeX, Ti*k*Z, VMs
OS	Arch Linux & HPC supercomputing (Experienced), Windows & OSX (Familiar)
Open source	scipy: Weighted kernel density estimation in scipy.stats.gaussian_kde
	matplotlib: Vertical slider in matplotlib.widgets.Slider

Publications

[1] W. Handley, M. Hobson, and A. Lasenby, MNRAS **453**, 4384 (2015), arXiv:1506.00171 .
[2] W. Handley, M. Hobson, and A. Lasenby, MNRAS **450**, L61 (2015), arXiv:1502.01856 .
[3] W. J. Handley, M. P. Hobson, and A. N. Lasenby, ASCL (2015), ascl:1502.011 .
[4] W. Handley, S. Brechet, A. Lasenby, and M. Hobson, PRD **89**, 063505 (2014), arXiv:1401.2253 .
[5] W. Handley, A. Lasenby, and M. Hobson, arXiv (2016), arXiv:1612.02288 .
[6] W. Handley, A. Lasenby, and M. Hobson, PRD **94**, 024041 (2016), arXiv:1607.04148 .
[7] W. Handley and M. Millea, ArXiv e-prints , arXiv:1804.08143 (2018), arXiv:1804.08143 .
[8] W. Handley, The Journal of Open Source Software **3** (2018), 10.21105/joss.00849.
[9] R. D. Hall, S. J. Thompson, W. Handley, and D. Queloz, MNRAS **479**, 2968 (2018).
[10] W. I. J. Haddadin and W. J. Handley, ArXiv e-prints (2018), 1809.11095 .
[11] L. T. Hergt, W. J. Handley, M. P. Hobson, and A. N. Lasenby, ArXiv e-prints (2018), 1809.07737 .
[12] L. T. Hergt, W. J. Handley, M. P. Hobson, and A. N. Lasenby, ArXiv e-prints (2018), 1809.07185 .
[13] E. Higson, W. Handley, M. Hobson, and A. Lasenby, ArXiv e-prints (2018), 1809.04598 .
[14] A. J. K. Chua, S. Hee, W. J. Handley, E. Higson, C. J. Moore, J. R. Gair, M. P. Hobson, and A. N. Lasenby, MNRAS **478**, 28 (2018).
[15] E. Higson, W. Handley, M. Hobson, and A. Lasenby, ArXiv e-prints (2018), 1804.06406 .
[16] G.-B. Zhao, M. Raveri, L. Pogosian, Y. Wang, R. G. Crittenden, W. J. Handley, and et al., Nature Astronomy **1**, 627 (2017).
[17] S. Hee, J. A. Vázquez, W. J. Handley, M. P. Hobson, and A. N. Lasenby, MNRAS **466**, 369 (2017).
[18] E. Higson, W. Handley, M. Hobson, and A. Lasenby, ArXiv e-prints (2017), 1704.03459 .
[19] E. Higson, W. Handley, M. Hobson, and A. Lasenby, ArXiv e-prints (2017), 1703.09701 .
[20] C. Rumsey, M. Olamaie, Y. C. Perrott, H. R. Russell, F. Feroz, K. J. B. Grainge, W. J. Handley, M. P. Hobson, R. D. E. Saunders, and M. P. Schammel, MNRAS **460**, 569 (2016).
[21] S. Hee, W. J. Handley, M. P. Hobson, and A. N. Lasenby, MNRAS **455**, 2461 (2016).
[22] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 023 (2018).
[23] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 022 (2018).
[24] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 021 (2018).
[25] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 020 (2018).
[26] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 019 (2018).
[27] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 018 (2018).
[28] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 017 (2018).
[29] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 016 (2018).
[30] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 015 (2018).
[31] CORE collaboration, Journal of Cosmology and Astro-Particle Physics **2018**, 014 (2018).
[32] Planck Collaboration, A&A **617**, A48 (2018).
[33] Planck Collaboration, ArXiv e-prints (2018), 1807.06212 .
[34] Planck Collaboration, ArXiv e-prints (2018), 1807.06211 .
[35] Planck Collaboration, ArXiv e-prints (2018), 1807.06210 .
[36] Planck Collaboration, ArXiv e-prints (2018), 1807.06209 .
[37] Planck Collaboration, ArXiv e-prints (2018), 1807.06208 .
[38] Planck Collaboration, ArXiv e-prints (2018), 1807.06207 .
[39] Planck Collaboration, ArXiv e-prints (2018), 1807.06206 .
[40] Planck Collaboration, ArXiv e-prints (2018), 1807.06205 .
[41] Planck Collaboration, ArXiv e-prints (2018), 1802.08649 .
[42] Planck Collaboration, ArXiv e-prints (2018), 1801.04945 .
[43] Planck Collaboration, A&A **594**, A20 (2016).
[44] Planck Collaboration, A&A **594**, A1 (2016).

References

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