

Paul James Wright

CONTACT INFORMATION	Rm 614, Kelvin Building University of Glasgow Glasgow, G12 8QQ United Kingdom	Work: +44 (0)14133 08855 Web: www.pauljwright.co.uk Email: paul.wright@glasgow.ac.uk Publication List: SAO/NASA ADS
RESEARCH INTERESTS	My interests range from stellar to solar physics; my main interests lie in the heating of the solar atmosphere, including active regions and loops. I have expertise in the analysis of spectroscopic and narrow-band Extreme Ultra-Violet (EUV) and X-ray data from the <i>SDO</i> , and <i>Hinode</i> satellites, in addition to the hard X-ray (HXR) imaging/spectroscopic observations from <i>NuSTAR</i> 's heliophysics campaign. Furthermore, I am currently investigating the modelling of coronal light-curves using the <i>EBTEL</i> (Enthalpy Based Thermal Evolution of Loops) hydrodynamic code with particular interest in the weak bremsstrahlung components.	
EDUCATION	University of Glasgow , Glasgow, UK Ph.D. Solar Physics Thesis Topic: <i>The Energetics of Small Flares and Brightenings</i> Advisers: Dr Iain G. Hannah, Dr Alexander MacKinnon	2014 – present (expected 2018)
	University of Southampton , Southampton, UK MPhys Astrophysics with a year abroad First-class honours (1:1) Adviser: Professor Malcolm Coe	2010 – 2014
	Harvard University/Harvard-Smithsonian CfA , Cambridge, MA MPhys Astrophysics with a year abroad Thesis Topic: <i>Superflare Rates of Solar-Like Stars</i> Advisers: Dr Steven H. Saar, Dr Jeremy J. Drake	2013 – 2014
CURRENT ACADEMIC APPOINTMENT	Affiliate Staff Member , University of Glasgow SUPA School of Physics and Astronomy	2017 – present
PREVIOUS ACADEMIC APPOINTMENTS	Post-Graduate Research Assistant , University of Glasgow SUPA School of Physics and Astronomy Project: <i>The Energetics of Small Flares and Brightenings</i> <ul style="list-style-type: none"> Analysed observations of the Sun with <i>NuSTAR</i>, a telescope not designed for heliophysics. These observations are the most sensitive of their kind and have resulted in numerous, wide-ranging highly-collaborative peer-reviewed publications. Analysed non-flaring coronal time-series in pursuit of signatures of the coronal heating mechanism. Techniques included time-lag analysis (cross-correlation), Fourier analysis, wavelet analysis, and local intermittency measure (LIM). Studied the temperature distribution of the solar atmosphere through the recovery of an ill-posed inverse problem (the differential emission measure, DEM) using techniques such as Tikhonov regularisation, Markov-Chain Monte Carlo, and sparsity. The press-release image produced from the <i>NuSTAR</i> observations obtained for Wright et al. 2017 was published by numerous news outlets, and is one of the five iconic images from <i>NuSTAR</i>'s first five years in space. Collaborators: Dr Iain Hannah, Dr Alexander MacKinnon	2014 – 2017
	Visiting Researcher , NASA Goddard Space Flight Center (GSFC) Heliophysics Science Division <ul style="list-style-type: none"> Worked on the possibility of implementing DEM maps in the <i>Helioviewer</i> project, and their usefulness as an input for various established analysis techniques. Collaborators: Dr Nicholeen Viall, Dr Jack Ireland	2016
	Research Scholar , Harvard-Smithsonian Center for Astrophysics (CfA) Solar and Stellar X-Ray Group <ul style="list-style-type: none"> Designed and implemented a sophisticated stellar flare detection routine for long-cadence (30 mins) <i>Kepler</i> data obtained from a proprietary set of spectroscopically verified solar-type stars in three open clusters. A preliminary version of this work had coverage by <i>Science</i>, and <i>The Smithsonian Magazine</i>. Collaborators: Dr Steven Saar, Dr Søren Meibom, Dr Jeremy Drake, Dr Vinay Kashyap	2013 – 2014

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REFEREED JOURNAL PUBLICATIONS	[1] Marsh, A. J., Smith, D. M., Glesener, L. <i>et al</i> 2017. <i>First NuSTAR Limits on Quiet Sun Hard X-Ray Transient Events</i> , <i>ApJ</i> (accepted)	
	[2] Wang, J., Simões, P. J. A., Jeffrey, N. L. S. <i>et al</i> 2017. <i>Observations of Reconnection Flows in a Flare on The Solar Disk</i> , <i>ApJL</i> , 847, L1	
	[3] Wright, P. J. , Hannah, I. G., Grefenstette, B. W., <i>et al</i> 2017. <i>Microflare Heating of a Solar Active Region Observed with NuSTAR, Hinode/XRT, and SDO/AIA</i> , <i>ApJ</i> , 844, 132	
	[4] Kuhar, M., Krucker, S., Hannah, I. G., <i>et al</i> 2017. <i>Evidence of Significant Energy Input in the Late Phase of a Solar Flare from NuSTAR X-ray Observations</i> , <i>ApJ</i> , 835, 6	
FIRST AUTHOR PUBLICATIONS IN PREPERATION	[5] Wright, P. J. , Hannah, I. G., Viall, N. M., <i>et al</i>	
	[6] Wright, P. J. , Saar, S. H., Meibom, S., <i>et al</i>	
CONFERENCES, WORKSHOPS, & SCHOOLS	Invited Oral Presentations	
	ISSI Team Meeting: Coronal Nanoflares, Bern, CH	2016
	Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA	2014
	Oral/ePoster Presentations	
	Solar Physics Division Meeting (SPD/AAS), Portland, OR, USA	2017
	Coronal Loops Workshop VIII, Palermo, Sicily, IT	2017
	Living with a Star (SDO/LWS) Workshop, Burlington, VT, USA	2016
	Hinode 10, Nagoya, JP	2016
	National Astronomy Meeting 2016, Nottingham, UK	2016
	Hinode 9, Belfast, UK	2015
	Glasgow-Cambridge Flare Workshop, Glasgow, UK	2015
	Poster Presentations	
	European Solar Physics Meeting (ESPM), Budapest, HU	2017
	Solar Physics Division Meeting (SPD/AAS), Portland, OR, USA	2017
	Living with a Star (SDO/LWS) Workshop, Burlington, VT, USA	2016
	Coronal Loops Workshop VII, Cambridge, UK	2015
	NAM 2015, Llandudno, UK	2015
	223rd AAS Meeting, National Harbor, MD, USA	2014
	Schools Attended	
	CESRA Radio Summer School 2015, Glasgow, UK	2015
	STFC Advanced Summer School in Solar Physics, Dundee, UK	2014
	Conferences/Workshops Attended	
	NuSTAR Heliophysics Workshop (remote participation), Berkeley, CA, USA	2017
	SUPA Cormack Astronomy Meeting, Edinburgh, UK	2015
	RAS Discussion Meeting: Results from IRIS, London, UK	2015
	SUPA Cormack Astronomy Meeting, Edinburgh, UK	2014
	1st Space Glasgow Research Conference, Glasgow, UK	2014
AWARDS AND GRANTS TOTAL: £7000	University of Glasgow	
	Solar Physics Division Meeting (SPD/AAS) Student Poster Award	2017
	Solar Physics Division Meeting (SPD/AAS) Studentship Award	2017
	Coronal Loops Workshop VIII Travel Award	2017
	National Astronomical Observatory of Japan Travel Award	2016
	Hinode 9 Travel Award	2015
	European Space Agency/Cambridge Philosophical Society Travel Award	2015
	Harvard University/Smithsonian Astrophysical Observatory	
	233rd AAS Travel Grant	2014
	University of Southampton	
	Research Scholarship	2013
	Summer Studentship Grant	2013

TEACHING	University of Glasgow	
	Astronomy 1 Tutorial Demonstrator	2016 - 2017
	Supervised students, and marked first-year astronomy problem sets.	
	Physics Pre-University Summer School	2015
MEMBERSHIPS	Taught at a pre-university school for students entering first year.	
	Astronomy 3/4 (Honours) Laboratory Demonstrator	2015 - 2016
	Demonstrated, supervised, and marked a number of final-year research projects covering topics such as asteroid light curves, and solar limb darkening.	
	NuSTAR Heliophysics Working Group , Member	2015 – present
COMMUNITY INVOLVEMENT	International Space Science Institute (ISSI) , Young Scientist Member	2015 – present
	Member of Paola Testa's ISSI Team: <i>New Diagnostics of Particle Acceleration in Solar Coronal Nanoflares from Chromospheric Observations and Modeling</i>	
	Royal Astronomical Society , RAS Fellow	2014 – present
	Nature Communications , Reviewer	2017 – present
SCIENTIFIC OUTREACH	Glasgow Astronomy & Astrophysics Group Meeting , Organiser	2017
	CESRA Radio Summer School , Volunteer Organiser	2015
	Glasgow Science Centre , Demonstrator	2016
	British Science Week , Demonstrator	2016
PERSONAL PROJECTS	Institute of Physics: Women and Girls in Science , Demonstrator	2016
	Scottish Television (STV) , Guest Presenter	2015
	World Wide Telescope , Ambassador	2013 – 2014
	BBC Stargazing Live , Demonstrator	2013
PROFESSIONAL DEVELOPMENT	So'ton Astrodome , Demonstrator	2012
	BBC Bang Goes The Theory Roadshow , Demonstrator	2012
	UK Solar Physics (UKSP) Nuggets , concise, easy-to-read science articles	
	84. The first <i>NuSTAR</i> microflare	2017
	Hinode/XRT Picture of the Week (XPOW)	
	The First Microflare Observations with <i>Hinode/XRT & NuSTAR</i>	2017
	ColourBlind , A repository for colour-blind-friendly colour tables.	Citations: 1
	Coursera, Inc. (MOOC Platform)	
	Using Coursera.org, a massive open online course (MOOC) platform, to take specializations (a series of related courses and a final capstone project) offered by accredited universities to further develop skills and understanding in a wide range of computer science topics.	
	Data Science , Johns Hopkins University	2017 – present
	Nine-course (plus capstone) introduction to data science.	
	Mastering Software Development in R , Johns Hopkins University	2017 – present
	Four-course (plus capstone) specialization providing rigorous training in R.	
	Statistics with R , Duke University	2017 – present
	Four-course (plus capstone) specialization providing further training in R, with emphasis on statistics.	
	Big Data , UC San Diego	2017 – present
	Five-course (plus capstone) introduction to big data using Hadoop with MapReduce, Spark, Pig and Hive.	
	Machine Learning , University of Washington	2017 – present
	Three-course (plus capstone) introduction to Machine Learning.	
	Graphic Design , CalArts	2017 – present
	Four-course (plus capstone) introduction the fundamental skills required to make sophisticated graphic design.	

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PROFESSIONAL DEVELOPMENT (CONT.)	edx, Inc. (MOOC Platform) Introduction to Computer Science (CS50x) , Harvard University 2017 – present An introduction to the intellectual enterprises of computer science and the art of programming including languages such as C, and SQL.
TECHNICAL SKILLS:	<i>Computing:</i> C, Python, R (caret, ggplot2, knitr), SQL, CRAN, IDL, \LaTeX , git, GitHub, Hadoop (MapReduce, Spark, Pig, Hive), Linux/Unix, Mac OSX, Microsoft Windows, Bash, Microsoft Office, Adobe Creative Cloud, Keynote, Wordpress, Shiny, GoogleVis, and Plotly, HTML, CSS, Javascript <i>General:</i> Data Analysis, Data Visualization, Interdisciplinary Collaboration, Public Speaking, Statistics, Teaching, Writing (Technical & Lay)
MORE INFORMATION	More information and auxiliary documents can be found at http://www.pauljwright.co.uk , on ResearchGate , and GitHub .