Contact	104 High Street Earith Huntingdonshire Cambridgeshire PE28 3PN	Telephone: (+44) 771 Email: matthew@they	67 13341 greens.co.uk	
Profile	I am a researcher in the area of compact binaries, with a particular focus on accreting, double-degenerate binaries. My experience includes working with a range of time-domain photometric and spectroscopic data, applying for and performing observations, and presenting my work at conferences.			
Current	<b>PhD in Astrophysics</b> , University of Warwick2015 - 2019Supervisors: Prof Tom Marsh and Prof Danny Steeghs			
	Thesis Title: The Evolution of AM CVn Binary Systems In this project I studied the class of helium-accreting binaries known as AM CVn-type binaries, with a particular focus on characterising the donor stars and thereby con- straining the prior evolution of these binaries. A key result of the project was a direct measurement of the stellar masses of the eclipsing AM CVn system Gaia14aae, vi model fitting to the eclipse lightcurves using a Markov Chain Monte Carlo (MCMC method. Other results have included characterising a 16 minute orbital period binar using its $K2$ lightcurve, phase-resolved spectroscopy of several AM CVn binaries, an exploring the AM CVn population using their <i>Gaia</i> parallaxes.			
Previous Research Experience	Final Year Project, "Hidden WD Binaries Supervisors: Prof Danny Steeghs and Dr Elmé	s <b>in SDSS Data"</b> Breedt	2014 - 2015	
	I performed an automated search through a selection of white dwarf spectra from SDSS, looking for Doppler signatures characteristic of short-period binary systems.			
	<b>URSS Summer Project, "The High-Speed</b> Supervisor: Prof Tom Marsh	Sky"	2014	
	I searched for previously unknown variable stars in high-speed photometric data from ULTRACAM, using an automated reduction pipeline.			
Education	Physics BScMPhys (hons), 1 <sup>st</sup> class, Univer	rsity of Warwick	2011 - 2015	
	St Ivo School, St Ives, Cambridgeshire		2004 - 2011	
Teaching Experience	Laboratory Demonstrator		2015 - 2018	
	Three years of demonstrating in the first-year undergraduate teaching labs, assigned eight students per session to guide through preset lab scripts.			
Technical Skills	<ul> <li>Over 100 nights of observing experience on a range of telescopes</li> <li>Installation and provision of technical support for a visitor instrument</li> <li>Reduction of photometric and spectroscopic time-domain optical data</li> <li>Lightcurve model fitting using Levenberg-Marquardt and MCMC methods</li> <li>Spectroscopic analysis, including Doppler map production</li> <li>Querying astonomical databases using SQL, ADQL, TOPCAT, and STILTS</li> <li>Extensive experience of programming in Python for astronomical applications</li> <li>UK driving license</li> </ul>			

Funding	Successful Funding Applications:		
	• <b>RAS Travel Grant</b> , £600 to attend the European White Dwarf Workshop in Austin, 2018		
Telescope Applications	Successful Telescope Applications:		
	<ul> <li>NTT + ULTRACAM (3 nights, 2019), Constraining Ultracompact Binary Evolution Using the Eclipsing Binary CRTS J2333-1557</li> <li>CTC + UEPERCAM (2 hours 2010), Timing of the Eclipsing AMCUR Binary</li> </ul>		
	<ul> <li>GIC + IIII ERCAM (3 hours, 2019), <i>Tuning of the Eclipsing AMCVn Dinary Gaia14aae</i></li> <li>INT + IDS (15 nights, 2019), <i>Identifying AMCVn binaries using Gaia absolute</i></li> </ul>		
	<ul> <li>magnitudes</li> <li>NTT + ULTRACAM (4 nights, 2018), Photometric Variability of Quiescent AMCVn binaries</li> </ul>		
	<ul> <li>INT + IDS (11 nights, 2018-19), Identifying AMCVn binaries using Gaia absolute magnitudes</li> </ul>		
	<ul> <li>NTT + ULTRACAM (3 nights, 2018), SDSS J1351-0643: a new LISA calibration binary?</li> <li>NTT + ULTRACAM (3 nights, 2017) Variability and Colour Dependence of</li> </ul>		
	• NTT + OLIRACAM (3 lights, 2017), Variability and Colour Dependence of Cataclysmic Variable Boundary Layers		
PUBLICATIONS	As First Author:		
	<ul> <li>"Phase-Resolved Spectroscopy of Gaia14aae: Line Emission From Near the White Dwarf Surface" – MNRAS (2019), 485, 1947 – M. J. Green, T. R. Marsh, D. Steeghs, et al.</li> </ul>		
	<ul> <li>"A 15.7-Minute AM CVn Binary Discovered in K2" – MNRAS (2018), 477, 5646</li> <li>M. J. Green, J. J. Hermes, T. R. Marsh, et al.</li> </ul>		
	<ul> <li>"High-Speed Photometry of Gaia14aae: An Eclipsing AM CVn That Challenges Formation Models" – MNRAS (2018), 476, 1663 – M. J. Green, T. R. Marsh, D. T. H. Steeghs, et al.</li> </ul>		
	As Co-Author:		
	• "The evolutionary status of Cataclysmic Variables: Eclipse modelling of 15 sys- tems" – MNRAS (2019) – M. McAllister, S. P. Littlefair, S. G. Parsons, et al.		
	<ul> <li>"The physical properties of AM CVn stars: new insights from Gaia DR2" – A&amp;A 620, A141 (2018) – G. Ramsay, M. J. Green, T. R. Marsh, et al.</li> </ul>		
	• "A Refined Search for Pulsations in White Dwarf Companions to Millisecond Pulsars" – MNRAS (2018) – Mukremin Kilic, J. J. Hermes, A. H. Corsico, et al.		
	<ul> <li>"The OmegaWhite survey for short-period variable stars - V. Discovery of an ultracompact hot subdwarf binary with a compact companion in a 44 minute orbit" - ApJ (2017) - T. Kupfer, G. Ramsay, J. van Roestel, et al.</li> </ul>		
	• "A search for optical bursts from the repeating fast radio burst FRB 121102" – MNRAS (2017) – Liam K Hardy, Vik S Dhillon, Laura G Spitler, et al.		
	<ul> <li>"Testing the white dwarf mass-radius relationship with eclipsing binaries" – MN- RAS (2017) – S. G. Parsons, B. T. Gänsicke, T. R. Marsh, et al.</li> </ul>		
	<ul> <li>"Two white dwarfs in ultrashort binaries with detached, eclipsing, likely substellar companions detected by K2" – MNRAS (2017) – S. G. Parsons, J. J. Hermes, T. R. Marsh, et al.</li> </ul>		
	<ul> <li>"Optical timing observations of Swift J1753.5-0127 during its Feb 2017 rejuve- nation" – ATel #10118 – P. Gandhi, V. S. Dhillon, T. R. Marsh, et al.</li> </ul>		

- "Using large spectroscopic surveys to test the double degenerate model for Type Ia supernovae" – MNRAS (2017), 468, 2910 – E. Breedt, D. Steeghs, T. R. Marsh, et al.
- "PTF1 J082340.04+081936.5: A Hot Subdwarf B Star with a Low-mass White Dwarf Companion in an 87-minute Orbit" - ApJ (2017), 835, 131 - Thomas Kupfer, Jan van Roestel, Jared Brooks, et al.

Presentations Summary of presentations given:

- Talk at the Double White Dwarf Conference, 2019 July, Copenhagen
- Talk as part of the Warwick Tabletop Society Pride Month series, 2019 June, University of Warwick
- Seminar as part of the Warwick Postgraduate Seminar series, 2019 May, University of Warwick
- Talk at Birmingham-Warwick Science Day, 2018 December, University of Warwick
- Invited Seminar at ESO headquarters, 2018 November, Santiago
- Seminar as part of the Warwick Postgraduate Seminar series, 2018 October, University of Warwick
- Talk at the Hydrogen Deficient Stars Conference, 2018 September, Armagh Observatory
- Talk at the European White Dwarf Workshop, 2018 July, University of Texas at Austin
- Seminar as part of the Warwick Postgraduate Seminar series, 2018 March, University of Warwick
- Talk at the Golden Age of Cataclysmic Variables Conference, 2017 September, Palermo
- Talk at the UK National Astronomy Meeting, 2017 July, University of Hull
- Seminar as part of the Warwick Postgraduate Seminar series, 2017 April, University of Warwick
- Poster at the European White Dwarf Workshop, 2016 June, University of Warwick

OUTREACH Writer for Astrobites

> I wrote monthly articles for the outreach website Astrobites, each piece summarising a recently published journal article for a general audience in around 800 words.

## **Planetarium Assistant**

I volunteered for the portable planetarium run by the University of Warwick, for which I conducted shows and fielded audience questions at local primary schools.

OTHER Team Working in a Research Environment 2016 TRAINING I attended a three day course on team working, hosted by the University of Warwick. High Time Resolution Astrophysics Winter School 2015I attended a two week course on time domain astrophysics, hosted by the IAC.

2015 - 2019

2015 - 2019

Other Activities	Wind Orchestra Tour Representative I organised a 50-person tour abroad, including booking hostels and flight concerts, organising social events, and coordinating band members dur	2014 – 2015 ts, arranging ing the trip.	
	Flute Choir Executive I was responsible for organising and leading weekly rehearsals, arrangi and designing and distributing marketing materials.	2014 - 2015 ing concerts,	
	Wind Orchestra Librarian2013 - 2014I was responsible for copying and distributing sheet music during rehearsals, concertsand tours, and attended weekly meetings with the executive committee.		
	Woodwind Ensemble Conductor 2009 – 2010 I was asked to conduct weekly rehearsals for an ensemble at Huntingdon Music School. Over the year I conducted at three concerts as well as weekly rehearsals.		
	<b>Creative Writing</b> I have worked on numerous self-led projects, often working on several alongside curricular work. I have worked on several projects in conjunction with co-writers.		
	Other hobbies and interests Other hobbies and interests include rock climbing, running, and board games.		

REFERENCES Available upon request