JAMES MATTHEWS
Astrophysicist

PERSONAL INFORMATION

Born in Reading, UK 27 January 1990

email jm8go8@soton.ac.uk

website http://jhmatthews.github.io/

phone (M) +44 (0)7933139071

GOAL

To develop my skills in theoretical and observational astrophysics and maximise my ability to answer the big questions in cutting-edge research.

EDUCATION

2012-present **The University of Southampton**

PhD Astrophysics (ongoing)

Thesis: *Modelling Accretion Disk Winds Across the Mass Scale*
Supervisor: Prof. Christian Knigge

2011-2012 **Harvard-Smithsonian Center for Astrophysics**

Research Year Abroad

Thesis: *Searching For Nearby Planets During Predicted Microlensing Events*
Supervisor: Dr. Rosanne Di Stefano

2008-2012 **The University of Southampton**

MPhys Astrophysics with Year Abroad

· *First Class Honours (average 78%)*

2001-2008 **Chew Valley School**

Secondary School

· *3 A-levels grade A (Maths, Physics, Chemistry), 2 AS levels grade A, 10 GCSEs (9 A*, 1 A) including English Language.*

PUBLICATIONS

Sub. 2015 *'Testing Quasar Unification with Clumpy Disc Wind Models'*, **Matthews, J.H.**, Knigge, C., Long, K. S., Sim, S. A., Higginbottom, N., Mangham, S. W., Submitted to MNRAS

Sub. 2015 *'The Optical-UV Emissivity of Quasars: Dependence on Black Hole Mass, Luminosity and Radio Loudness'*, Shankar, F., Calderone, G., Knigge, C., **Matthews, J.H.** et al., Submitted to ApJ Letters

2015 *'The Impact of Accretion Disc Winds on the Optical Spectra of Cataclysmic Variables'*, **Matthews, J.H.**, Knigge, C., Long, K. S., Sim, S. A., Higginbottom, N., MNRAS

2014 *'Line-driven Disk Winds in Active Galactic Nuclei: The Critical Importance of Ionization and Radiative Transfer'*, Higginbottom, N., Proga, D., Knigge, C., Long, K. S., **Matthews, J.H.**, Sim, S. A., ApJ

2013 *'A Simple Disc Wind Model for Broad Absorption Line Quasars'*, Higginbottom, N., Knigge, C., Long, K. S., **Matthews, J.H.**, Sim, S. A., MNRAS

2013 *'Nearby planetary systems as lenses during predicted close passges to background stars'*, Di Stefano, R., **Matthews, J.H.**, Lepine, S.

COMPUTER SKILLS

Fluent use of Python, Fortran and C with large numerical simulations, database manipulation and data visualisation. Extensive experience of large scale Monte Carlo simulations utilising large atomic datasets. Responsible for MPI parallelisation, unit testing and github and Travis CI integration of a large scale project ($\sim 40,000$ lines of C code) during PhD. Familiar with Windows, Mac OSX and Linux. Some limited experience using BASH and IDL.

OTHER INFORMATION

Awards

2008 · University of Southampton 4-year Academic Scholarship

2013 · RAS Grant, *'Support for a Short Academic Stay at Colombia University'*

Work Experience

2012-2014 · Teaching Assistant & Demonstrator, Undergraduate Courses

2012- · Public Engagement Demonstrator, University of Southampton Astrodome

2011 · Summer Intern, Oxford Instruments Plasma Technology

Presentations

2015 · *'Modelling The Spectra of Quasars: Clumpy Winds and Unification'*, TORUS 2015, Winchester

2015 · *'The Impact of Accretion Disc Winds on the Optical Spectra of Cataclysmic Variables'*, Invited Talk, The Golden Age of Cataclysmic Variables, Palermo

2015 · *'Modelling The Spectra of Quasars: Clumpy Winds and X-ray Properties'*, The Extremes of Black Hole Accretion, ESAC, Madrid

2015 · *'Modelling The Spectra of Quasars: Clumpy Winds and X-ray Properties'*, Black Hole Accretion and AGN Feedback, Shanghai

2014 · *'The Search for Alien Life'*, Public Talk, Southampton

2014 · *'The Impact of Accretion Disc Winds on the Optical Spectra of Cataclysmic Variables'*, Cataclysmic Variables and Compact Binaries, Columbia University, NY

2014 · *'Modelling The Spectra of Quasars'*, AGN Disc Winds Meeting, Durham, UK

2012 · *'Searching For Nearby Planets During Predicted Microlensing Events'*, Masters Thesis Talk, Harvard-Smithsonian CfA, Boston, MA

2012 · *'Searching For Nearby Planets During Predicted Microlensing Events'*, Exoplanet Lunch, Harvard-Smithsonian CfA, Boston, MA

Interests

Piano · Guitar · Sport and Fitness · Public Engagement · Travel

September 20, 2015