

# Tom Hands: Curriculum Vitae

**Date of Birth:** 21<sup>st</sup> June 1990

**Citizenship:** British Citizen

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## RESEARCH INTERESTS

I am mainly interested in understanding the formation and subsequent evolution of extra-solar planets, and performing numerical modelling of this problem. In particular, I am currently using a combination of  $N$ -body, hydrodynamic and viscous accretion disc modelling techniques to gain insight into the observed distribution of exo-planets. I am also interested in the development and improvement of a wide variety of numerical techniques.

## EDUCATION

2012–present **University of Leicester**

*PhD in Astrophysics*

– Provisional thesis title: “Assembling systems of multiple planets”.

– Supervisor: Dr. Richard Alexander, expected submission date: March 2016

2008–2012 *MPhys (Physics) with First Class Honours*

– Dissertation title: “The trajectory of emboli in the major cerebral arteries”.

– Supervisor: Dr. Emma Chung.

## RESEARCH EXPERIENCE

Summer 2011 **University of Leicester**

*Summer Studentship*

– Title: “Artificial Conductivity in Smoothed Particle Hydrodynamics”.

– Supervisor: Prof. Walter Dehnen.

## AWARDS

- Awarded departmental prize for being the top performing final year MPhys (Physics) student.
- STFC PhD studentship.

## RESEARCH VISITS

2014/07 University of Surrey (2 days) - Host: Dr. Alessia Gualandris

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## TEACHING EXPERIENCE

2014 Acted as a demonstrator in a 3rd year C++ course, helping undergraduates to work through C++ problems.

## SKILLS & EXPERIENCE

### Computational:

- Experienced in C, C++, Python, R, and Java development.
- Working knowledge of FORTRAN.
- Wide variety of numerical modelling experience, including  $N$ -body and Smoothed Particle Hydrodynamics.
- Understanding of code development and optimisation on a variety of platforms, including parallel and vector computing.

### Other:

- Languages: English (native), German (Up to ELP B2 level)

## CONFERENCE ATTENDANCE & TALKS

- 2015/09 *Fifth Annual DiRAC Science Day*, Cambridge, UK ([Poster](#))  
2015/07 *Disk Dynamics and Planet Formation*, Larnaka, Cyprus ([Poster](#))  
2015/05 *Exoplanets in Lund 2015*, Lund, Sweden (Poster)  
2015/04 *UK Community Exoplanet Conference 2015*, Warwick, UK (Contributed talk)  
2015/03 *45th Saas-Fee Advanced Course: From Protoplanetary Disks to Planet Formation*, Les Diablerets, Switzerland ([Poster](#))  
2014/09 *Visiting seminar*, University of Nottingham, Nottingham, UK  
2014/09 *Planet Formation and Evolution*, Kiel, Germany ([Poster](#))  
2014/07 *IAU symposium 310 on Complex Planetary Systems*, Namur, Belgium ([Poster](#))  
2014/04 *Exoplanet UK Community Meeting*, Cambridge, UK ([Contributed talk](#))  
2013/07 *UC-HiPACC International Summer School on AstroComputing: Star & Planet Formation*, Santa Cruz, CA, USA  
2013/07 *Protostars and Planet VI*, Heidelberg, Germany ([Poster](#))  
2013/03 *Characterising Exoplanets*, Royal Society, London, UK ([Poster](#))

## OUTREACH EXPERIENCE

- 2014/08 *Halloween Physics Spooktacular* - University of Leicester  
2014/04 *Exoplanet fly-by video* - YouTube video with over 60,000 views designed to demonstrate the vast variety of planetary systems to a general audience ([https://www.youtube.com/watch?v=Nw\\_KfDEypTY](https://www.youtube.com/watch?v=Nw_KfDEypTY)).  
2014/01 *Stargazing Live* - University of Leicester  
2013 *ExoVis* - Developed the exoplanet visualisation tool *ExoVis* to aid with the visualisation of exoplanetary systems (<http://tomhands.com/exovis/>).

# Tom Hands: Publication Record

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## SUMMARY

1 first-author, published, peer-reviewed journal article with 5 citations and a further paper submitted. 1 IAU conference proceedings.

## REFEREED JOURNAL ARTICLES

- 2) *There might be giants: unseen Jupiter-mass planets as sculptors of tightly-packed planetary systems*

**Hands, T. O.**, Alexander, R. D.

MNRAS, submitted

- 1) *Understanding the assembly of Kepler's compact planetary systems*

**Hands, T. O.**, Alexander, R. D., Dehnen, W.

2014, MNRAS, 445, 749

[ADS](#) — [ArXiv](#)

## CONFERENCE PROCEEDINGS

- 1) *Understanding the assembly of Kepler's tightly-packed planetary systems*

**Hands, T. O.**, Alexander, R. D., Dehnen, W.

2014, Complex Planetary Systems, Proceedings of the International Astronomical Union, 310, 90-92

[ADS](#)