

# Stephen Taylor | Curriculum Vitae

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## Professional Experience

**NASA Jet Propulsion Laboratory**

*NASA Postdoctoral Fellow*

**Pasadena, USA**

*2014–Present*

**California Institute of Technology**

*Visiting scholar (TAPIR group)*

**Pasadena, USA**

*2014–Present*

**Institute of Astronomy, University of Cambridge**

*PhD candidate*

**Cambridge, UK**

*2010–2014*

## Education

**Institute of Astronomy, University of Cambridge**

*PhD (Astronomy)*

**Cambridge, UK**

*2010–2014*

**Advisor:** Dr. Jonathan R. Gair; **Thesis Title:** *Exploring the cosmos with gravitational waves*

**Description:** A new Bayesian hierarchical modelling scheme is introduced to use compact-binary gravitational-wave standard sirens to infer the mass-distribution of the binary population, the progenitor star-formation rate, and cosmological parameters. Advanced pulsar-timing array techniques are developed to map the nanohertz gravitational-wave sky through a parametrized overlap-reduction function, and large accelerations to the Bayesian inference of single supermassive black-hole binary searches are proposed.

**University of Oxford**

*MPhys (1<sup>st</sup> Class), [ranked 1<sup>st</sup> in Jesus College, 4<sup>th</sup> across University]*

**Oxford, UK**

*2006–2010*

**Advisor:** Prof. Steven Rawlings; **Thesis Title:** *The Cosmic Evolution Of Black-hole Accretion*

## Grants & Funding

**“New Directions and New Opportunities for NANOGrav Astrophysics”:** Awarded \$11k for a proposal on behalf of the Astrophysics Working Group of NANOGrav. Funding will ensure undergraduate/graduate students and outside experts can attend a sprint week in March 2017 to advance several key areas of interest, and to achieve rapid progress on collaboration projects.

## Awards & Prizes

**2015:** International Pulsar Timing Array (IPTA) Steering Committee Prize — “Honourable Mention”

**2015:** Gravitational Wave International Committee (GWIC) Thesis Prize — “Honourable Mention”

**2014:** NASA Postdoctoral Fellowship (JPL)

**2014:** Royal Astronomical Society Travel Award — £750

**2013:** Royal Astronomical Society Travel Award — £700

**2012–2014:** Christ’s College (Cambridge) Travel Grants [various; total exceeds £1k]

**2010:** Science and Technology Facilities Council (STFC) — full PhD studentship award

**2008:** Examiner’s Prize, Oxford Physics Speaking Competition

**2007:** Oxford Physics department prize for laboratory work  
**2007–2010:** Undergraduate Scholar of Jesus College, Oxford  
**2006–2010:** Regularly awarded Oxford undergraduate departmental and college examination prizes

## Teaching Experience

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**Jun–Aug 2016:** Co-supervisor of Caltech summer undergraduate student  
**May 2016:** Lecturer for Caltech's TAPIR gravitational-wave class  
**Mar 2016:** Co-organizer of student workshop at NANOGrav Spring meeting  
**Sep 2015:** Lecturer for NANOGrav detection-group workshop at Caltech  
**Jun 2015:** Lecturer at "CSI PTA" Aspen summer workshop  
**2011–2013:** Supervisor for Cambridge Part II undergraduate students in RELATIVITY  
**2011:** Prepared computing coursework for Cambridge Part II undergraduate students

## Professional Service & Outreach

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**Reviewer for international journals.**.....  
Monthly Notices of the Royal Astronomical Society (MNRAS), Physical Review D (PRD)  
**Conference organization.**.....  
**Oct 2016:** Chair of SOC for NANOGrav Fall meeting at University of Illinois Urbana-Champaign  
**Mar 2016:** SOC and LOC member for NANOGrav Spring meeting at Caltech  
**Mar 2016:** Co-organizer of NANOGrav student workshop at Caltech  
**Mar 2014:** SOC and LOC member for British Gravity meeting (BritGrav) at Cambridge, UK  
**Outreach.**.....  
**2016:** Featured gravitational-wave expert at NASA's "Ticket to Explore JPL" event  
**2013:** Presentation at Cambridge's Institute of Astronomy Open Day  
**2012–2014:** Presentation to prospective students (Institute of Astronomy graduate interviews)  
**2012:** Outreach talk at Institute of Astronomy public-observing evening  
**2011:** Presentation at Cambridge's Institute of Astronomy Open Day

## Professional Affiliations

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**North American Nanohertz Observatory for Gravitational-waves (NANOGrav)** [Full member] • **European Pulsar Timing Array (EPTA)** [Member] • **International Pulsar Timing Array (IPTA)** [Member] • **American Physical Society (and DGRAV)** [Member] • **American Astronomical Society** [Member] • **Royal Astronomical Society** [Fellow]

## Publications

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- 22 peer-reviewed publications (of which 8 are first-author) with 317 citations, h-index 10.
- Full list available at <https://scholar.google.com/citations?user=iN2djbMAAAAJ&hl=en>.

## Presentations

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29 oral presentations (of which 10 were invited), with 4 conference leadership roles.

## References

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Available upon request.