

# Stephen Taylor | Curriculum Vitae

TAPIR Group, MC 350-17, California Institute of Technology

1200 E. California Blvd, Pasadena, CA 91125, USA

☎ +1 (626) 689-5832 • ✉ Stephen.R.Taylor@jpl.nasa.gov

📁 stevertaylor.github.io • 🌐 stevertaylor • 📺 stephen-taylor

## Education

### Institute of Astronomy, University of Cambridge

Cambridge, UK

PhD (Astronomy)

2010–2014

**Advisor:** Dr. Jonathan R. Gair; **Thesis Title:** *Exploring The Cosmos With Gravitational Waves*

### University of Oxford

Oxford, UK

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

2006–2010

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

## Professional Experience

### CALIFORNIA INSTITUTE OF TECHNOLOGY

Pasadena, USA

Caltech Postdoctoral Scholar (TAPIR group)

2016–Present

Visiting scholar (TAPIR group)

2014–2016

### NASA JET PROPULSION LABORATORY

Pasadena, USA

NASA Postdoctoral Fellow

2014–2016

### INSTITUTE OF ASTRONOMY, UNIVERSITY OF CAMBRIDGE

Cambridge, UK

PhD candidate

2010–2014

## Grants & Funding

**Jun 2016:** “New Directions and New Opportunities for NANOGrav Astrophysics”: Awarded \$11k by the NANOGrav Physics Frontier Center to host a collaboration “hack week” in April 2017.

## Honours & Awards

**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)

**2013–2014:** Royal Astronomical Society Travel Awards — [total exceeds £1k]

**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

**Jun–Aug 2016:** Co-supervisor of Caltech summer undergraduate student (Maya Fuller)

**May 2016:** Guest Lecturer for Caltech Ph237 class “Gravitational Waves”

**Mar 2016:** Co-organiser 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

---

### Reviewer for international journals.....

Monthly Notices of the Royal Astronomical Society (MNRAS), Physical Review D (PRD)

### Conference and seminar organisation.....

**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-organiser of NANOGrav student workshop at Caltech

**2015–2016:** Caltech TAPIR and LIGO postdoctoral lunch seminar series

**Mar 2014:** SOC and LOC member for British Gravity meeting (BritGrav) at Cambridge, UK

### Professional affiliations.....

**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 (DGRAV)** [Member] • **American Astronomical Society** [Member] • **Royal Astronomical Society** [Fellow]

## Outreach & Media Engagement

---

### Outreach.....

**2016:** Featured gravitational-wave expert at NASA's "Ticket to Explore JPL" event

**2013:** Interactive 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: "The Space Race"

**2011:** Interactive presentation at Cambridge's Institute of Astronomy Open Day

### Press releases.....

**Feb 2016:** Lead-author: "[Pulsar Web Could Detect Low-Frequency Gravitational Waves](#)"

**Apr 2016:** Collaboration: "[Gravitational Wave Search Provides Insights into Galaxy Evolution and Mergers](#)"

## Publications

---

- 22 peer-reviewed publications (of which 8 are first-author) with 317 citations, h-index 10.
- Up-to-date metrics available at <https://scholar.google.com/citations?user=iN2djBMAAAAJ&hl=en>.
- 5 key publications are indicated below, with most recent first.

**1:** **S. R. Taylor**, M. Vallisneri, J. A. Ellis, C. M. F. Mingarelli, T. J. W. Lazio, and R. van Haasteren. "Are We There Yet? Time to Detection of Nanohertz Gravitational Waves Based on Pulsar-timing Array Limits". *Astrophys. J. Lett*, 819:L6 (2016). [9 citations]

**2:** L. Lentati, **S. R. Taylor**, [and 34 others]. "European Pulsar Timing Array limits on an isotropic stochastic gravitational-wave background". *MNRAS*, 453:2576–2598 (2015). [59 citations]

**3:** **S. R. Taylor**, C. M. F. Mingarelli, J. R. Gair, [and 32 others]. "Limits on Anisotropy in the Nanohertz Stochastic Gravitational Wave Background". *Phys.Rev. Lett*, 115(4):041101 (2015). [14 citations]

**4:** **S. R. Taylor** and J. R. Gair. "Searching for anisotropic gravitational-wave backgrounds using pulsar timing arrays". *Phys. Rev. D*, 88(8):084001 (2013). [31 citations]

**5:** **S. R. Taylor**, J. R. Gair, and I. Mandel. "Cosmology using advanced gravitational-wave detectors alone". *Phys. Rev. D*, 85(2):023535 (2012). [34 citations]

## Presentations

---

- 33 oral presentations (of which 13 were invited), with 4 conference leadership roles.
- Recent presentations are available to view at <https://speakerdeck.com/stevertaylor>.

## References

---

Available upon request.