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^{st} Class), [ranked 1^{st} in Jesus College, 4^{th} 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 "sprint week" in March 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**.**
• 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). **[8 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). **[56 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

• 29 **oral presentations (of which** 10 **were invited), with** 4 **conference leadership roles.**
• Recent presentations are available to view at https://speakerdeck.com/stevertaylor.

References

Available upon request.