

Stephen R. Taylor | Curriculum Vitae

Department of Physics & Astronomy, Vanderbilt University
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📧 stevertaylor • in stephen-taylor • h-index: 31, i10-index: 50

Professional Experience

Vanderbilt University	Nashville, USA
- Assistant Professor of Physics & Astronomy - Dean's Faculty Fellow, College of Arts & Science - Faculty Affiliate, Vanderbilt Data Science Institute	Aug 2019–
California Institute of Technology	Pasadena, USA
- NANOGrav PFC Senior Postdoctoral Fellow - Caltech Senior Postdoctoral Scholar (TAPIR group)	2017–2019
NASA Jet Propulsion Laboratory	Pasadena, USA
- Caltech Postdoctoral Scholar at JPL - NASA Postdoctoral Fellow	2016–2017 2014–2016
University of Cambridge	Cambridge, UK
PhD researcher	2010–2014
University of Oxford	Oxford, UK
Master's researcher	2010

Education

University of Cambridge	Cambridge, UK
PhD in Astronomy	2010–2014
Advisor: Dr. Jonathan R. Gair; Thesis Title: <i>Exploring The Cosmos With Gravitational Waves Resulted in 7 publications, and listed for GWIC Thesis Prize "Honorable Mention"</i>	
University of Oxford	Oxford, UK
MPhys (1 st Class), Physics [ranked 1 st in Jesus College, 4 th across University]	2006–2010
Advisor: Prof. Steven Rawlings; Thesis Title: <i>The Cosmic Evolution Of Black-hole Accretion</i>	

Grants, Funding & Awards

Total current active funding > \$1.3M

Proposal (Co-PI): "Establishing Multimessenger Astronomy Inclusive Training"	2021-2026
- National Science Foundation DGE; Award #2125764. - Total award: \$3M	
Proposal (Institutional PI): "The NANOGrav Physics Frontier Center"	2021-2026
- National Science Foundation PHY & AST; PFC & MSIP programs. Award #2020265. - Institutional sub-award: \$758,139 (total award: \$17M)	
Proposal (PI): "Multi-messenger Titans: Probing The Dynamics & Environments Of Supermassive Binary Black Holes"	2020-2023
- National Science Foundation AST, Award #2007993; Windows on the Universe program. - Total award: \$523,920	

Dean's Faculty Fellowship, Vanderbilt College of Arts & Science	2019-2021
- Two-year fellowship awarded in support of untenured faculty in their research and scholarship. - Total award: \$30,000	
Proposal (Co-I): "Pulsar Timing Array GW Signal Analysis Using Big Data Techniques"	2019
- PI Jeffrey Hazboun, a submission to Amazon Web Services Machine Learning Research Awards. - Total award: \$50,000 in AWS Promotional Credits.	
Proposal (PI): "Next Generation Methods For Gravitational Wave Searches"	2019
- PI Stephen Taylor, a submission to the American Physical Society Gordon & Betty Moore Foundation Fundamental Physics Innovation Award. - Total award: \$5,000.	
Proposal (Co-author): "Next Generation Methods for LISA Data Analysis"	2018
- PI Curt Cutler, a submission to NASA ROSES LISA Preparatory Science. - Total budget of \$567,128 (12/1/2018-11/30/2021), to be revised down to ~ 80%.	
Marie Skłodowska-Curie Incoming Fellowship, University of Birmingham	2017
[Declined] Proposal "GravPANTHER". Grant exceeds €150k.	
OzGrav ARC Centre of Excellence, Level B Fellowship, Swinburne & Monash	2017
[Declined] 7-year senior research fellowship at Australian lecturer-level salary	
Proposal (Co-I): "Exploring the frontiers of the nHz GW spectrum with PTAs"	2017
Awarded 1M CPU hours (\$600k grant) on the Blue Waters supercomputer at NCSA, University of Illinois at Urbana Champaign.	
Proposal (PI): "New Directions and New Opportunities for NANOGrav Astrophysics"	2016
Awarded \$11k by the NANOGrav Physics Frontier Center for a proposal on behalf of the collaboration's Astrophysics Working Group.	
International Pulsar Timing Array Steering Committee Prize — "Honorable Mention"	2016
Gravitational Wave International Committee Thesis Prize — "Honorable Mention"	2016
NASA Postdoctoral Fellowship at Jet Propulsion Laboratory	2014
Science and Technology Facilities Council (STFC) — full PhD studentship award	2010

Publications

Counts: 55 papers published in major peer-reviewed journals
(out of which 12 are first-authored papers, and 4 papers were covered by press releases).

- **Total number of citations:** 4132 (using Google Scholar), **h-index:** 31, **i10-index:** 50
- **Metrics** available at Google Scholar: <http://bit.ly/2hgVCzb>.
- **Full list of publications** can be found later starting at Page 7, and at <http://bit.ly/2ff3yGI>.

5 significant scientific publications as lead.....

- "The NANOGrav 11-year Data Set: Pulsar-timing Constraints On The Stochastic Gravitational-wave Background". Z. Arzoumanian, P. T. Baker, A. Brazier, [and 57 others. **Corresponding author: S. R. Taylor**]. *Astrophys. J.*, **859**, 1 (2018). • 246 citations. Led on behalf of full collaboration.
- "Are we there yet? Time to detection of nanohertz gravitational waves based on pulsar-timing array limits". **S. R. Taylor**, M. Vallisneri, J. A. Ellis, C. M. F. Mingarelli, T. J. W. Lazio, and R. van Haasteren. *Astrophys. J. Lett*, **819**, 1, L6 (2016). • 77 citations. Press release, media coverage, and cited in popular-science book.
- "Searching for anisotropic gravitational-wave backgrounds using pulsar timing arrays". **S. R. Taylor** and J. R. Gair. *Phys. Rev. D*, **(88)**, 084001 (2013). • 55 citations.
- "Cosmology with the lights off: Standard sirens in the Einstein Telescope era". **S. R. Taylor** and J. R. Gair. *Phys. Rev. D*, **86**, 023502 (2012). • 102 citations.
- "Cosmology using advanced gravitational-wave detectors alone". **S. R. Taylor**, J. R. Gair, and I. Mandel. *Phys. Rev. D*, **85**, 023535 (2012). • 96 citations.

Visiting Positions

Visiting Astronomer, l'Observatoire de Paris

Dec 2019

- Month-long guest position at Paris Observatory, mentoring students on gravitational-wave searches, collaborating with local colleagues, and delivering a seminar on International Pulsar Timing Array science.

Observing Proposals

Co-I: "High impact MSPs for the International Pulsar Timing Array"

Nov 2016

- Green Bank Telescope, proposal GBT17A-353
- Status: awarded 21.0 hours

Co-I: "High impact MSPs for the International Pulsar Timing Array"

Sep 2016

- Arecibo Radio Telescope, proposal P3133
- Status: awarded 32.5 hours

Presentations

- 91 oral presentations (of which 54 were invited), with 15 conference leadership roles.
- Full list of presentations can be found later starting at Page 13, and at <http://bit.ly/2fqo9BA>.

Select recent invited presentations (not including job talks)

- Invited:** *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency GWs*, Tata Institute of Fundamental Research, India, Mar 2021
- Invited:** *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency GWs*, Institute For Theoretical Physics Seminar, Stanford University, Stanford CA, USA, Oct 2020
- Invited:** *Charting The Next Frontier Of Gravitational Wave Astronomy With PTAs*, Astrophysical and Cosmological Relativity Seminar, Albert Einstein Institute, Potsdam, Germany, Jul 2020
- Invited:** *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*, Astrophysics Division Seminar, NASA Goddard Space Flight Center, MD, USA, Nov 2019
- Named Colloquium:** *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*, The Josephine Lawrence Hopkins Foundation Colloquium, Cornell, Ithaca NY, USA, Oct 2019
- Invited:** *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*, Astrophysics Division Seminar, NASA Goddard Space Flight Center, MD, USA, Nov 2019
- Plenary:** *Pulsar Timing Arrays: The Next Frontier Of Gravitational Wave Astronomy*, 22nd International Conference on General Relativity and Gravitation (GR22) & 13th Edoardo Amaldi Conference on Gravitational Waves (Amaldi13), Valencia, Spain, Jul 2019

Teaching & Mentoring

Courses

- ASTR 8070: Astro-statistics (Vanderbilt University) Spring 2021–
- ASTR 3900/8090: Gravitational Astrophysics (Vanderbilt University) Spring 2020, Fall 2020–

Guest lecturing

- Instructor at Niels Bohr International Academy Summer School on GW Astrophysics Aug 2021
- Instructor at NANOGrav GW Detection workshop at Caltech Mar 2017
- Lecturer at NANOGrav Fall 2016 student workshop at UIUC Oct 2016
- Guest Lecturer for Caltech Ph237 class "Gravitational Waves" May 2016
- Lecturer and co-organizer at NANOGrav Spring 2016 student workshop at Caltech Mar 2016
- Instructor at NANOGrav GW Detection workshop at Caltech Sep 2016
- Lecturer at "CSI PTA" Aspen Center for Physics workshop Jun 2015

Postdoctoral scholar mentoring.....

2 postdoctoral scholars.

- *Dr. Maria Charisi*, Vanderbilt University Oct 2020–
Vanderbilt Initiative in Data-intensive Astrophysics (VIDA) Fellow
- *Dr. Nihan Pol*, Vanderbilt University Sep 2020–
Vanderbilt Initiative in Data-intensive Astrophysics (VIDA) Fellow

Graduate student mentoring.....

3 students.

- *Kyle Gersbach*, Vanderbilt University Aug 2021–
- *Polina Petrov*, Vanderbilt University Aug 2021–
- *William Lamb*, Vanderbilt University Aug 2020–

Undergraduate student mentoring.....

8 students, of which 3 performed honors research.

- *Brian Campe*, Vanderbilt University Sep 2021–
- *Levi Schult*, University of Virginia Jun 2020–
Research & honors thesis advisor: “*Rapid data-combination techniques for IPTA GW searches*”.
- *Katherine Cella*, Vanderbilt University Feb 2020–
Research & honors thesis advisor: “*Host-galaxy demographics of PTA-detectable binary black holes*”.
Awarded a Vanderbilt Data Science Institute Summer Research Program (DSI-SRP) Fellowship to perform research in the Taylor group.
- *Qiaohong (Joanna) Wang*, Vanderbilt University Jan 2020–
Research & honors thesis advisor: “*Controlling outliers in time-series analysis using Gibbs sampling*”.
Awarded a Vanderbilt Data Science Institute Summer Research Program (DSI-SRP) Fellowship to perform research in the Taylor group.
- *Sophia Singh*, University of Southern California Fall 2018–Summer 2019
- *Haochen Wang*, University of Southern California Summer 2018–Summer 2019
Advisor for research project: “*Advanced pulsar noise modeling and cross-validation*”.
Resulted in a peer-reviewed publication in Monthly Notices of the Royal Astronomical Society.
- *Jacob Turner*, Oberlin College Summer 2018, 2016
- *Maya Fuller*, Caltech 2016–2017

Teaching assistant.....

- University of Cambridge, Part II Relativity (3rd-year undergraduate class) 2011–2013
Set and graded homework problems, mentored students, led recitation classes.
- University of Cambridge, Part II Astronomy (computing coursework) 2011
Prepared materials for 3rd-year undergraduate class.

Leadership & Professional Service

Research leadership.....

- **Member**, NANOGrav Management Team Jan 2020–
- **Member**, International Pulsar Timing Array (IPTA) Steering Committee Jan 2020–
- **Chair**, NANOGrav Gravitational Wave Detection Working Group Jan 2018–
- **Co-chair**, IPTA Gravitational Wave Analysis Group Mar 2018–Dec 2019

Reviewer for international journals.....

- The Astrophysical Journal
- MNRAS
- Physical Review D
- Physical Review Letters
- Nature
- Science

Grant proposal reviewer.....

- NASA Graduate Fellowship Program (NESSF, FINESST)
- UK Science & Technology Facilities Council

Conference organization.....

- LOC Chair, NANOGrav Fall Meeting, Vanderbilt University *Oct 2021*
- AAS Special Session “The Next Decade Of nHz GW Astrophysics with PTAs” *Jan 2021*
- AAS Special Session “New Results from NANOGrav” in Honolulu HI *Jan 2020*
- SOC member for International Pulsar Timing Array meeting in Pune, India *June 2019*
- Organizer of NANOGrav Deep Learning workshop at Caltech *May 2019*
- Organizer of International Pulsar Timing Array workshop at Caltech *Feb 2019*
- Co-organizer of NANOGrav Detection workshop at Caltech *Feb 2018*
- SOC member for International Pulsar Timing Array meeting in Sèvres, France *Jul 2017*
- Organizer of NANOGrav Astrophysics sprint week at West Virginia University *Apr 2017*
- Co-organizer of NANOGrav Detection workshop at Caltech *Mar 2017*
- Co-organizer of NANOGrav Hackathon at NCSA *Oct 2017*
- Chair of SOC for NANOGrav Fall meeting at University of Illinois Urbana Champaign *Oct 2016*
- SOC and LOC member for NANOGrav Spring meeting at Caltech *Mar 2016*
- Co-organizer of NANOGrav student workshop at Caltech *Mar 2016*
- SOC and LOC member for British Gravity meeting (BritGrav) at Cambridge, UK *Mar 2014*

Seminar organization.....

- Vanderbilt Astrophysics Seminar Series (*committee*) *2020–*
- Caltech TAPIR Seminar Series (*executive committee*) *2019*
- Caltech/JPL Association for Gravitational-Wave Research (*executive committee*) *2017–2019*
- Caltech TAPIR and LIGO postdoctoral lunch seminar series *2015–2016*

Committees.....

- Climate Committee member, Department of Physics & Astronomy, Vanderbilt *Aug 2020–*
- Vanderbilt chapter of the [APS Inclusion, Diversity, & Equity Alliance](#) *Jul 2020–*
- Undergraduate Program Committee member (Physics; Vanderbilt University) *Fall 2019–*
- Graduate Program Committee member (Astrophysics; Vanderbilt University) *Fall 2019–*

Code & data sharing.....

- Code release for compact-binary population model interpolation *2018*
https://github.com/stevertaylor/gw_catalog_mining
- Founding developer of open-source Python analysis package `enterprise_extensions` *2018–*
https://github.com/nanograv/enterprise_extensions
- Developer of open-source Python GW analysis software `enterprise` *2017–*
<https://github.com/nanograv/enterprise>
- Release of code and library of simulated stochastic gravitational-wave spectra *2017*
https://github.com/stevertaylor/gw_pta_emulator
- Developer of python open-source GW analysis software `NX01` *2015–*
<https://github.com/stevertaylor/NX01>

Professional affiliations.....

- LISA Consortium, *Member*
- OzGrav ARC Centre of Excellence for Gravitational-wave Discovery, *Partner Investigator*
- 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, DAP), *Member*
- Royal Astronomical Society, *Fellow*

- American Astronomical Society, *Member*

Outreach, Diversity, & Media Engagement

Outreach.....

- APS Physics Viewpoint article regarding a LIGO-Virgo discovery: "[A Lopsided Merger](#)" 2020
- Published research article in children's science journal "[Frontiers For Young Minds](#)" 2019
- Featured gravitational-wave expert at NASA's "[Ticket to Explore JPL](#)" event 2019
- [Space Public Outreach Team](#) talk at Hamilton Elementary School's SMART night event 2019
- Featured gravitational-wave expert at NASA's "[Ticket to Explore JPL](#)" event 2018
- Featured speaker at Los Angeles "[Astronomy On Tap](#)" evening 2018
- Astronomy expert at Caltech's "[Solar Eclipse Viewing Party](#)" 2017
- Featured speaker at West Virginia University's "[Celebrating Einstein](#)" public-lecture series 2017
- Featured gravitational-wave expert at NASA's "[Ticket to Explore JPL](#)" event 2016
- Presentation to prospective students (Institute of Astronomy graduate interviews) 2012–2014
- Outreach talk at Institute of Astronomy public-observing evening: "The Space Race" 2012
- Interactive presentation at Cambridge's Institute of Astronomy Open Day 2011, 2013

Diversity & equity.....

- Led the successful Vanderbilt University proposal to join the [APS IDEA network](#)
- As an SOC member for the Spring 2016 NANOGrav meeting at Caltech, I coordinated with the Caltech Center for Diversity on a seminar to promote equity within the NANOGrav collaboration.

Press releases.....

- "[NSF renews funding to support detection of gravitational waves](#)" Jun 2021
- "[Astrophysicists prepare for age of multimessenger astronomy](#)" Jun 2021
Lead-team research (Vanderbilt press release)
- "[Vanderbilt astronomers lead preparation for supermassive black hole analysis](#)" May 2021
Lead-team research (Vanderbilt press release)
- "[Possible first hints of low-frequency gravitational waves permeating the cosmos](#)" Jan 2021
- "[To find giant black holes, start with Jupiter](#)" Jun 2020
Lead-team research (Vanderbilt press release)
- "[To find giant black holes, start with Jupiter](#)" Jun 2020
Lead-team research (Green Bank Observatory press release)
- "[Listening for Gravitational Waves Using Pulsars](#)" Nov 2017
Short-author collaboration research (JPL press release)
- "[Gravitational Waves from Merging Supermassive Black Holes Will Be Spotted within 10 Years, New Study Predicts](#)" Nov 2017
Short-author collaboration research (Simons Foundation press release)
- "[Gravitational Wave Search Provides Insights into Galaxy Evolution and Mergers](#)" Apr 2016
Collaboration research (NRAO press release)
- "[Pulsar Web Could Detect Low-Frequency Gravitational Waves](#)" Feb 2016
First-author research (JPL press release)

Media coverage.....

- Interviewed for *Guardian* article: "[The New Wave Of Gravitational Waves](#)" by Philip Ball.
- Research profiled in the popular-science book "[Ripples in Spacetime: Einstein, Gravitational Waves, and the Future of Astronomy](#)" by Govert Schilling, Harvard University Press (2017)
- Interviewed and quoted by *Science* magazine: "[In Search of Spacetime Megawaves](#)" by Daniel Clery.
- Quoted, with research featured in *Syfy* (article by Phil Plait), *Gizmodo*, *Engadget*, *Phys.org*, *Astronomy magazine*, *Universe Today*
- Collaboration research featured in *Science Daily*, *Astronomy Now* (online)

Full Publication List

Articles with significant student leadership (at time of publication) have student names underlined.

Submitted.....

3. "Quasars with Periodic Variability: Capabilities and Limitations of Bayesian Searches for Supermassive Black Hole Binaries in Time-Domain Surveys"
C. A. Witt, M. Charisi, **S. R. Taylor**, S. Burke-Spolaor
[arXiv:2110.07465](#)
2. "The NANOGrav 12.5-year data set: Search for Non-Einsteinian Polarization Modes in the Gravitational-Wave Background"
Z. Arzoumanian, P. T. Baker, H. Blumer [and 62 others, including **S. R. Taylor** in core analysis team]
[arXiv:2109.14706](#)
1. "Searching For Gravitational Waves From Cosmological Phase Transitions With The NANOGrav 12.5-year dataset"
Z. Arzoumanian, P. T. Baker, H. Blumer [and 62 others, including **S. R. Taylor** in core analysis team]
[arXiv:2104.13930](#)
 - 13 citations.

Publications in major peer-reviewed journals.....

55. "Mapping the Gravitational-wave Sky with LISA: A Bayesian Spherical Harmonic Approach"
S. Banagiri, A. Criswell, T. Kuan, V. Mandic, J. D. Romano, **S. R. Taylor**
[Monthly Notices of the Royal Astronomical Society](#), **507**, 4 (2021)
54. "Discriminating between different scenarios for the formation and evolution of massive black holes with LISA"
A. Toubiana, K. W. K. Wong, S. Babak, E. Barausse, E. Berti, J. R. Gair, S. Marsat, **S. R. Taylor**
[Physical Review D](#), **104**, 083027 (2021)
53. "Bayesian Forecasts for Dark Matter Substructure Searches with Mock Pulsar Timing Data"
V. S. H. Lee, **S. R. Taylor**, T. Trickle, K. M. Zurek
[Journal of Cosmology and Astroparticle Physics](#), **Vol. 2021** (2021)
 - 4 citations.
52. "The NANOGrav 11 yr Data Set: Limits on Supermassive Black Hole Binaries in Galaxies within 500 Mpc"
Z. Arzoumanian, P. T. Baker, A. Brazier [and 53 others, including **S. R. Taylor**]
[The Astrophysical Journal](#), **914**, 2 (2021)
 - 6 citations.
51. "Astrophysics Milestones for Pulsar Timing Array Gravitational-wave Detection"
N. Pol, **S. R. Taylor**, L. Z. Kelley, [and 49 others]
[The Astrophysical Journal Letters](#), **911**, 2 (2021)
 - 18 citations.
50. "The NANOGrav 12.5-year Data Set: Wideband Timing of 47 Millisecond Pulsars"
Md F. Alam, Z. Arzoumanian, P. T. Baker, [and 67 others, including **S. R. Taylor**]
[The Astrophysical Journal Supplement Series](#), **252**, 1 (2021)
 - 34 citations.
49. "The NANOGrav 12.5-year Data Set: Observations and Narrowband Timing of 47 Millisecond Pulsars"
Md F. Alam, Z. Arzoumanian, P. T. Baker, [and 67 others, including **S. R. Taylor**]
[The Astrophysical Journal Supplement Series](#), **252**, 1 (2021)
 - 30 citations.
48. "The NANOGrav 12.5-year Data Set: Search For An Isotropic Stochastic Gravitational-Wave Background"
Z. Arzoumanian, P. T. Baker, H. Blumer, [and 58 others, including **S. R. Taylor**]
[The Astrophysical Journal Letters](#), **905**, 2 (2020)
 - 216 citations.
47. "From Bright Binaries To Bumpy Backgrounds: Mapping Realistic Gravitational Wave Skies With Pulsar-Timing Arrays"

- S. R. Taylor**, R. van Haasteren, A. Sesana
[Physical Review D](#), **102**, 8 (2020)
 • 12 citations.
46. "Pulsar Timing Array Constraints on the Merger Timescale of Subparsec Supermassive Black Hole Binary Candidates"
 K. Nguyen, T. Bogdanovic, J. C. Runnoe, **S. R. Taylor**, A. Sesana, M. Eracleous, S. Sigurdsson
[The Astrophysical Journal Letters](#), **900**, 2 (2020)
 • 4 citations.
45. "Multi-Messenger Gravitational Wave Searches with Pulsar Timing Arrays: Application to 3C66B Using the NANOGrav 11-year Data Set"
 Z. Arzoumanian, P. T. Baker, A. Brazier, [and 52 others, including **S. R. Taylor**]
[The Astrophysical Journal](#), **900**, 2 (2020)
 • 12 citation.
44. "Modeling the Uncertainties of Solar System Ephemerides for Robust Gravitational-wave Searches with Pulsar-timing Arrays"
 M. Vallisneri, **S. R. Taylor**, J. Simon, [and 61 others]
[The Astrophysical Journal](#), **893**, 2 (2020)
 • 14 citations.
43. "Pulsar timing array signals induced by black hole binaries in relativistic eccentric orbits"
 A. Susobhanan, A. Gopakumar, G. Hobbs, **S. R. Taylor**
[Physical Review D](#), **101**, 4 (2020)
 • 3 citations.
42. "A pulsar-based time-scale from the International Pulsar Timing Array"
 G. Hobbs, L. Guo, R. N. Caballero, [and 56 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **491**, 4 (2020)
 • 17 citations.
41. "The NANOGrav 11 yr Data Set: Evolution of Gravitational-wave Background Statistics"
 J. S. Hazboun, J. Simon, **S. R. Taylor**, [and 60 others]
[The Astrophysical Journal](#), **890**, 2 (2020)
 • 12 citations.
40. "The NANOGrav 11 yr Data Set: Limits on Gravitational Wave Memory"
 K. Aggarwal, Z. Arzoumanian, P. T. Baker, [and 58 others, including **S. R. Taylor**]
[The Astrophysical Journal](#), **889**, 1 (2020)
 • 23 citations.
39. "The International Pulsar Timing Array: second data release"
 B. B. Perera, M. E. DeCesar, P. B. Demorest, [and 72 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **490**, 4 (2019)
 • 98 citations.
38. "Bayesian cross validation for gravitational-wave searches in pulsar-timing array data"
 H. Wang, **S. R. Taylor**, M. Vallisneri
[Monthly Notices of the Royal Astronomical Society](#), **487**, 3 (2019)
 • 2 citations.
37. "The NANOGrav 11-Year Data Set: Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries"
 K. Aggarwal, Z. Arzoumanian, P. T. Baker, [and 60 others, including **S. R. Taylor**]
[The Astrophysical Journal](#), **880**, 1 (2019)
 • 71 citations.
36. "Constraining alternative polarization states of gravitational waves from individual black hole binaries using pulsar timing arrays"
 L. O'Beirne, N. J. Cornish, S. J. Vigeland, **S. R. Taylor**
[Physical Review D](#), **99**, 124039 (2019)
 • 7 citations.
35. "Catching Gravitational Waves With A Galaxy-sized Net Of Pulsars"
S. R. Taylor

- [Frontiers For Young Minds](#), **7**:80 (2019)
 • 1 citation. Pedagogical article aimed at K-12 audience.
34. "The Astrophysics Of Nanohertz Gravitational Waves"
 S. Burke-Spolaor, **S. R. Taylor**, [and 13 others]
[The Astronomy and Astrophysics Review \(A&ARv\)](#), **27**, 1 (2019)
 • 81 citations. Comprehensive field review.
 33. "Mining Gravitational-wave Catalogs To Understand Binary Stellar Evolution: A New Hierarchical Bayesian Framework"
S. R. Taylor and D. Gerosa
[Physical Review D](#), **98**, 083017 (2018)
 • 43 citations. Featured in PRD's Kaleidoscope review of October 2018.
 32. "Studying the solar system with the International Pulsar Timing Array"
 R. N. Caballero, Y. J. Guo, K. J. Lee, [and 77 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **481**, 4 (2018)
 • 15 citations.
 31. "The noise-marginalized optimal statistic: A robust hybrid frequentist-Bayesian statistic for the stochastic gravitational-wave background in pulsar timing arrays"
 S. J. Vigeland, K. P. Iso, **S. R. Taylor**, J. A. Ellis
[Physical Review D](#), **98**, 044003 (2018)
 • 7 citations.
 30. "Improving timing sensitivity in the microhertz frequency regime: limits from PSR J1713+0747 on gravitational waves produced by super-massive black-hole binaries"
 B. B. P. Perera, B. W. Stappers, S. Babak, [and 25 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **478**, 1 (2018)
 • 8 citations.
 29. "The NANOGrav 11-year Data Set: Pulsar-timing Constraints On The Stochastic Gravitational-wave Background"
 Z. Arzoumanian, P. T. Baker, A. Brazier, [and 57 others. **Corresponding author: S. R. Taylor**]
[The Astrophysical Journal](#), **859**, 1 (2018)
 • 246 citations.
 28. "The NANOGrav 11-year Data Set: High-precision timing of 45 Millisecond Pulsars"
 Z. Arzoumanian, A. Brazier, S. Burke-Spolaor, [and 53 others, including **S. R. Taylor**]
[The Astrophysical Journal Supplement Series](#), **235**, 2 (2018)
 • 281 citations.
 27. "Constraining alternative theories of gravity using pulsar timing arrays"
 N. J. Cornish, L. O'Beirne, **S. R. Taylor**, N. Yunes
[Physical Review Letters](#), **120**, 181101 (2018)
 • 20 citations.
 26. "Single Sources in the Low-Frequency Gravitational Wave Sky: properties and time to detection by pulsar timing arrays"
 L. Z. Kelley, L. Blecha, L. Hernquist, A. Sesana, **S. R. Taylor**
[Monthly Notices of the Royal Astronomical Society](#), **477**, 1 (2018)
 • 36 citations.
 25. "The Local Nanohertz Gravitational-Wave Landscape From Supermassive Black Hole Binaries"
 C. Mingarelli, J. Lazio, A. Sesana, J. E. Greene, J. A. Ellis, C. P. Ma, S. Croft, S. Burke-Spolaor, **S. R. Taylor**
[Nature Astronomy](#), **Vol. 1**, p. 886-892 (2017)
 • 69 citations. Press release.
 24. "The gravitational wave background from massive black hole binaries in Illustris: spectral features and time to detection with pulsar timing arrays"
 L. Z. Kelley, L. Blecha, L. Hernquist, A. Sesana, **S. R. Taylor**
[Monthly Notices of the Royal Astronomical Society](#), **471**, 4 (2017)
 • 62 citations.
 23. "Constraints on the dynamical environments of supermassive black-hole binaries using pulsar-timing arrays"
S. R. Taylor, J. Simon, L. Sampson.
[Physical Review Letters](#), **118**, 181102 (2017)

- 29 citations.
- 22. “All correlations must die: assessing the significance of a stochastic gravitational-wave background in pulsar timing arrays”
S. R. Taylor, L. Lentati, S. Babak, S. P. Brem, J. R. Gair, A. Sesana, A. Vecchio
[Physical Review D](#), **95**, 042002 (2017)
• 25 citations.
- 21. “High-precision timing of 42 millisecond pulsars with the European Pulsar Timing Array”
G. Desvignes, R. N. Caballero, L. Lentati, [and 40 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **458**, 3 (2016)
• 179 citations.
- 20. “From spin noise to systematics: stochastic processes in the first International Pulsar Timing Array data release”
L. Lentati, R. M. Shannon, W. A. Coles, [and 80 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **458**, 2 (2016)
• 58 citations.
- 19. “The International Pulsar Timing Array: first data release”
J. P. W. Verbiest, L. Lentati, G. Hobbs, [and 89 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **458**, 2 (2016)
• 238 citations.
- 18. “The NANOGrav nine-year data set: limits on the isotropic stochastic gravitational wave background”
Z. Arzoumanian, A. Brazier, S. Burke-Spolaor, [and 48 others, including **S. R. Taylor**]
[The Astrophysical Journal](#), **821**, 1 (2016)
• 210 citations. Press release.
- 17. “The noise properties of 42 millisecond pulsars from the European Pulsar Timing Array and their impact on gravitational-wave searches”
R. N. Caballero, K. J. Lee, L. Lentati, [and 36 others, including **S. R. Taylor**]
[Monthly Notices of the Royal Astronomical Society](#), **457**, 4 (2016)
• 37 citations.
- 16. “Are we there yet? Time to detection of nanohertz gravitational waves based on pulsar-timing array limits”
S. R. Taylor, M. Vallisneri, J. A. Ellis, C. M. F. Mingarelli, T. J. W. Lazio, and R. van Haasteren
[The Astrophysical Journal Letters](#), **819**, 1 (2016)
• 77 citations. Press release, and cited in popular-science book.
- 15. “Detecting eccentric supermassive black hole binaries with pulsar timing arrays: resolvable source strategies”
S. R. Taylor, E. A. Huerta, J. R. Gair, and S. T. McWilliams
[The Astrophysical Journal](#), **817**, 1 (2016)
• 22 citations.
- 14. “European Pulsar Timing Array limits on continuous gravitational waves from individual supermassive black hole binaries”
S. Babak, A. Petiteau, A. Sesana, P. Brem, P. A. Rosado, **S. R. Taylor**, [and 30 others]
[Monthly Notices of the Royal Astronomical Society](#), **455**, 2 (2016)
• 120 citations.
- 13. “Mapping gravitational-wave backgrounds of arbitrary polarisation using pulsar timing arrays”
J. R. Gair, J. D. Romano, and **S. R. Taylor**
[Physical Review D](#), **92**, 102003 (2015)
• 25 citations.
- 12. “European Pulsar Timing Array limits on an isotropic stochastic gravitational-wave background”
L. Lentati, **S. R. Taylor**, C. M. F. Mingarelli, [and 33 others]
[Monthly Notices of the Royal Astronomical Society](#), **453**, 3 (2015)
• 304 citations.
- 11. “Detection of eccentric supermassive black hole binaries with pulsar timing arrays: signal-to-noise ratio calculations”
E. A. Huerta, S. T. McWilliams, J. R. Gair, and **S. R. Taylor**
[Physical Review D](#), **92**, 063010 (2015)
• 37 citations.
- 10. “Phase-coherent mapping of gravitational-wave backgrounds using ground-based laser interferometers”

- J. D. Romano, **S. R. Taylor**, N. J. Cornish, J. Gair, C. M. F. Mingarelli, and R. van Haasteren
[Physical Review D](#), **92**, 042003 (2015)
 • 18 citations.
9. “*Limits on anisotropy in the nanohertz stochastic gravitational wave background*”
S. R. Taylor, C. M. F. Mingarelli, J. R. Gair, [and 32 others]
[Physical Review Letters](#), **115**, 041101 (2015)
 • 45 citations.
 8. “*Estimating the sensitivity of pulsar timing arrays*”
 C. J. Moore, **S. R. Taylor**, and J. R. Gair
[Classical and Quantum Gravity](#), **32**, 5 (2015)
 • 37 citations.
 7. “*Accelerated Bayesian model-selection and parameter-estimation in continuous gravitational-wave searches with pulsar-timing arrays*”
S. R. Taylor, J. A. Ellis, and J. R. Gair
[Physical Review D](#), **90**, 104028 (2014)
 • 27 citations.
 6. “*Mapping gravitational-wave backgrounds using methods from CMB analysis: Application to pulsar timing arrays*”
 J. R. Gair, J. D. Romano, **S. R. Taylor**, and C. M. F. Mingarelli
[Physical Review D](#), **90**, 082001 (2014)
 • 56 citations. PRD Editors’ Suggestion.
 5. “*Searching for anisotropic gravitational-wave backgrounds using pulsar timing arrays*”
S. R. Taylor and J. R. Gair
[Physical Review D](#), **88**, 084001 (2013)
 • 55 citations.
 4. “*Hyper-efficient model-independent Bayesian method for the analysis of pulsar timing data*”
 L. Lentati, P. Alexander, M. P. Hobson, **S. R. Taylor**, J. Gair, S. T. Balan, and R. van Haasteren
[Physical Review D](#), **87**, 104021 (2013)
 • 61 citations.
 3. “*Weighing the evidence for a gravitational-wave background in the first International Pulsar Timing Array data challenge*”
S. R. Taylor, J. R. Gair, and L. Lentati
[Physical Review D](#), **87**, 044035 (2013)
 • 14 citations.
 2. “*Cosmology with the lights off: standard sirens in the Einstein Telescope era*”
S. R. Taylor and J. R. Gair
[Physical Review D](#), **86**, 023502 (2012)
 • 102 citations.
 1. “*Cosmology using advanced gravitational-wave detectors alone*”
S. R. Taylor, J. R. Gair, and I. Mandel
[Physical Review D](#), **85**, 023535 (2012)
 • 96 citations.

Books, book chapters, conference proceedings, white papers, and online articles.....

11. “*The Nanohertz Gravitational Wave Astronomer*”
S. R. Taylor
 Technical book to be published by Taylor & Francis, arXiv:2105.13270
10. “*Inferring the properties of a population of compact binaries in presence of selection effects*”
 S. Vitale, D. Gerosa, W. M. Farr, **S. R. Taylor**
 Chapter of “*Handbook of Gravitational Wave Astronomy*” [Eds. C. Bambi, S. Katsanevas, K. Kokkotas; Springer Singapore, (2021)], arXiv:2007.05579
9. “*Fundamental Physics with Pulsar Timing Arrays*”
 X. Siemens, J. Hazboun, P. T. Baker, S. Burke-Spolaor, T. Dolch, E. Howard, D. R. Madison, C. Mingarelli, J. Simon, T. Smith, **S. R. Taylor**; for the NANOGrav Collaboration

[Submitted to the Particle Physics Community Planning Exercise \(a.k.a “SnowMass”\) 2021 LOI call](#)

8. “*NANOGrav Education and Outreach: Growing a Diverse and Inclusive Collaboration for Low-Frequency Gravitational Wave Astronomy*”
The NANOGrav Collaboration; P. T. Baker, H. Blumer, A. Brazier, S. Chatterjee, B. Christy, F. Crawford, M. E. DeCesar, T. Dolch, N. E. Garver-Daniels, J. S. Hazboun, K. Holley-Bockelmann, D. L. Kaplan, J. S. Key, T. C. Klein, M. T. Lam, N. Lewandowska, D. R. Lorimer, R. S. Lynch, M. A. McLaughlin, N. McMann, J. Page, N. T. Palliyaguru, J. D. Romano, X. Siemens, J. K. Swiggum, **S. R. Taylor**, K. Williamson
[Submitted to the Astronomy & Astrophysics 2020 Decadal Survey \(2019\)](#), [arXiv:1907.07348](#)
7. “*The NANOGrav Program for Gravitational Waves and Fundamental Physics*”
A. Brazier, S. Chatterjee, T. Cohen, J. M. Cordes, M. E. DeCesar, P. B. Demorest, J. S. Hazboun, M. T. Lam, R. S. Lynch, M. A. McLaughlin, S. M. Ransom, X. Siemens, **S. R. Taylor**, S. J. Vigeland
[Submitted to the Astronomy & Astrophysics 2020 Decadal Survey \(2019\)](#), [arXiv:1908.05356](#)
6. “*Supermassive Black-hole Demographics & Environments With Pulsar Timing Arrays*”
S. R. Taylor, S. Burke-Spolaor, P. T. Baker, M. Charisi, K. Islo, L. Z. Kelley, D. R. Madison, J. Simon, S. Vigeland
[Submitted to the Astronomy & Astrophysics 2020 Decadal Survey \(2019\)](#), [arXiv:1903.08183](#)
5. “*Astro2020 Science White Paper: The Next Decade of Astroinformatics and Astrostatistics*”
A. Siemiginowska, G. Eadie, I. Czekala, [and 49 others, including **S. R. Taylor**]
[Submitted to the Astronomy & Astrophysics 2020 Decadal Survey \(2019\)](#), [arXiv:1903.06796](#)
4. “*From Megaparsecs To Milliparsecs: Galaxy Evolution & Supermassive Black Holes with NANOGrav and the ngVLA*”
S. R. Taylor and J. Simon
[Science With A Next-Generation Very Large Array \[ngVLA science book\] \(2018\)](#)
3. “*Solar System Ephemerides, Pulsar Timing, Gravitational Waves, & Navigation*”
T. J. W. Lazio, S. Bhaskaran, C. Cutler, W. M. Folkner, R. S. Park, J. A. Ellis, T. Ely, **S. R. Taylor**, M. Vallisneri
[Pulsar Astrophysics the Next Fifty Years, Proceedings of the International Astronomical Union, IAU Symposium, Volume 337, pp. 150-153 \(2018\)](#)
2. “*Summary of Session C1: pulsar timing arrays*”
R. M. Shannon, S. Chamberlin, N. J. Cornish, J. A. Ellis, C. M. F. Mingarelli, D. Perrodin, P. Rosado, A. Sesana, **S. R. Taylor**, [and 14 others]
[General Relativity and Gravitation](#), **46**:1765 (2014)
1. “*Using Swarm Intelligence To Accelerate Pulsar Timing Analysis*”
S. R. Taylor, J. R. Gair, L. Lentati
[arXiv:1210.3489 \(2012\)](#)

Full Presentation List

Invited talks.....

54. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Joint DAA-DTP-InPTA Seminar (via Zoom), Tata Institute of Fundamental Research, **Mar 2021**
53. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Theoretical Astrophysics Seminar (via Zoom), University of Florida, **Mar 2021**
52. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Department of Physics & Astronomy Colloquium (via Zoom), Western Kentucky University, **Feb 2021**
51. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Department of Physics Seminar (via Zoom), Southern Methodist University, **Nov 2020**
50. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Bahcall Lunch (via Zoom), Princeton University, **Oct 2020**
49. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
SITP Seminar (via Zoom), Stanford University, **Oct 2020**
48. *New Results From The Pulsar Timing Array Hunt For Nanohertz-frequency Gravitational Waves*
Birmingham Astrophysics Seminar (via Zoom), University of Birmingham, Birmingham, UK, **Oct 2020**
47. *Charting The Next Frontier Of Gravitational Wave Astronomy With Pulsar Timing Arrays*
CIERA Astrophysics Seminar (via Zoom), CIERA, Northwestern University, **Sep 2020**
46. *Charting The Next Frontier Of Gravitational Wave Astronomy With Pulsar Timing Arrays*
Astrophysical and Cosmological Relativity Seminar (via Zoom), Albert Einstein Institute, Potsdam, Germany, **Jul 2020**
45. *Pulsar Timing Arrays: The Next Window On The Warped Universe*
NSF QuarkNet Seminar (via Zoom), Vanderbilt University, Nashville TN, USA, **Jun 2020**
44. *Charting The Next Frontier Of Gravitational Wave Astronomy With Pulsar Timing Arrays*
Deutsche Forschungsgemeinschaft Research Training Group "Models Of Gravity" Colloquium (via Zoom), University of Bielefeld, Bielefeld, Germany, **Jun 2020**
43. *Charting The Next Frontier Of Nanohertz Gravitational Wave Astronomy With The International Pulsar Timing Array*
Invited seminar, l'Observatoire de Paris, Paris, France, **Dec 2019**
42. *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*
Department of Physics Colloquium, Franklin & Marshall College, Lancaster PA, USA, **Nov 2019**
41. *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*
Astrophysics Division Seminar, NASA Goddard Space Flight Center, MD, USA, **Nov 2019**
40. *Supermassive Black Hole Demographics In The Era Of Multimessenger Pulsar Timing Array Detection*
Invited talk, SESAPS 2019 (South Eastern Section of the APS), Wilmington NC, USA, **Nov 2019**
39. *Pulsar Timing Arrays: The Next Frontier of Gravitational Wave Astronomy*
The Josephine Lawrence Hopkins Foundation Colloquium, Cornell University, Ithaca NY, USA, **Oct 2019**
38. *Pulsar Timing Arrays: The Next Frontier Of Gravitational Wave Astronomy*
Plenary presentation, 22nd International Conference on General Relativity and Gravitation (GR22) & 13th Edoardo Amaldi Conference on Gravitational Waves (Amaldi13), Valencia, Spain, **Jul 2019**
37. *Solar System Ephemeris Noise*
OzGrav Pulsar Timing Workshop, Swinburne University of Technology, Melbourne, Australia, **May 2019**
36. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department colloquium, Institute of Astronomy, University of Cambridge, Cambridge, UK, **Mar 2019**
35. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
CGCA Seminar, University of Wisconsin–Milwaukee, Milwaukee WI, USA, **Mar 2019**
34. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Invited seminar, Flatiron Center for Computational Astrophysics, New York NY, USA, **Feb 2019**
33. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department of Physics & Astronomy colloquium, University of Mississippi, Oxford MS, USA, **Feb 2019**
32. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department of Physics & Astronomy colloquium, Vanderbilt University, Nashville TN, USA, **Jan 2019**

31. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department of Physics & Astronomy colloquium, Carnegie Mellon University, Pittsburgh PA, USA, **Jan 2019**
30. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department of Physics & Astronomy colloquium, University of Minnesota, Minneapolis MN, USA, **Jan 2019**
29. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Department of Physics colloquium, University of Virginia, Charlottesville VA, USA, **Jan 2019**
28. *Supermassive Black-hole Demographics In The Era of Nanohertz Multi-messenger Astronomy*
American Astronomical Society, Seattle WA, USA, **Jan 2019**
27. *Compact Object Genealogy Across The Gravitational Wave Spectrum*
UVA+NRAO WUNA Lunch Talk, University of Virginia, Charlottesville VA, USA, **Oct 2018**
26. *Frontiers Of Pan-Spectral Gravitational-Wave Astrophysics*
Invited departmental seminar, Radboud University, Nijmegen, Netherlands, **Oct 2018**
25. *Compact Object Genealogy Across The Gravitational Wave Spectrum*
CGCA Seminar, University of Wisconsin–Milwaukee, Milwaukee WI, USA, **Sep 2018**
24. *Compact Object Genealogy Across The Gravitational Wave Spectrum*
USC Colloquium, University of Southern California, Los Angeles CA, USA, **Sep 2018**
23. *Compact Object Genealogy Across The Gravitational Wave Spectrum*
TAPIR Seminar, California Institute of Technology, Pasadena CA, USA, **Sep 2018**
22. *Nanohertz-frequency gravitational-wave astrophysics with pulsar-timing arrays*
COSPAR 2018, Pasadena CA, USA, **Jul 2018**
21. *Pulsar Timing Arrays: new advances toward detecting low-frequency gravitational waves*
American Physical Society, Columbus OH, USA, **Apr 2018**
20. *Beyond black holes with pulsar-timing arrays*
University of Virginia colloquium, Charlottesville VA, USA, **Mar 2018**
19. *Non-BH science with pulsar-timing arrays*
Black Holes Across The GW Spectrum, International Institute of Physics, Natal, Brazil, **Aug 2017**
18. *Bayesian inference for pulsar-timing arrays*
Black Holes Across The GW Spectrum, International Institute of Physics, Natal, Brazil, **Aug 2017**
17. *Supermassive black-hole binary astrophysics with pulsar-timing arrays*
Black Holes Across The GW Spectrum, International Institute of Physics, Natal, Brazil, **Aug 2017**
16. *Probing the nanohertz GW landscape with PTAs: a status report*
Gravitational Wave Physics & Astronomy Workshop (GWPAW), Annecy, France, **May 2017**
15. *GW constraints on disc migration via pulsar timing*
The disc migration issue (Kavli workshop), Institute of Astronomy, Cambridge, UK, **May 2017**
14. *Constraining the physics of the final parsec of supermassive black-hole binary evolution*
Astronomy Colloquium, Swinburne University of Technology, Melbourne, Australia, **Feb 2017**
13. *Astrophysical inference of supermassive black-hole binaries with pulsar-timing arrays*
Leonard E. Parker Center seminar, University of Wisconsin–Milwaukee, Milwaukee WI, USA, **Oct 2016**
12. *Astrophysical inference of supermassive black-hole binaries with pulsar-timing arrays*
CIERA seminar, Northwestern University, Evanston IL, USA, **Oct 2016**
11. *New data-analysis approaches for gravitational-wave searches with pulsar-timing arrays*
Montana State University seminar, Bozeman MT, USA, **Oct 2016**
10. *New horizons in gravitational-wave astronomy with pulsar-timing arrays*
Armagh Observatory seminar, Armagh, UK, **Jul 2016**
9. *Probing the final-parsec problem with pulsar-timing arrays*
Anton Pannekoek Instituut seminar, University of Amsterdam, Amsterdam, Netherlands, **Jul 2016**
8. *Probing the final-parsec problem with pulsar-timing arrays*
Radboud University astrophysics seminar, Radboud, Netherlands, **Jul 2016**
7. *Gravitational-wave data-analysis techniques for pulsar-timing arrays*
IPTA conference, Stellenbosch, South Africa, **Jun 2016**
6. *Sources of nanohertz gravitational-waves for pulsar-timing array searches*
NANOGrav student workshop, Caltech, Pasadena CA, USA, **Mar 2016**

5. *Prospects for near future detection and astrophysical inference with PTAs*
Gravitational-wave group seminar, University of Birmingham, UK, **Dec 2015**
4. *Prospects for near future detection and astrophysical inference with PTAs*
Statistics group seminar (School of Mathematics), University of Edinburgh, UK, **Dec 2015**
3. *Prospects for near future detection and astrophysical inference with PTAs*
CaJAGWR seminar, California Institute of Technology, Pasadena, USA, **Dec 2015**
2. *Searching For Anisotropic Gravitational-wave Backgrounds Using Pulsar Timing Arrays*
Albert Einstein Institute (AEI) GW seminar, Hanover, Germany, **May 2013**
1. *Weighing the evidence for a gravitational-wave background*
Gravitational-wave group seminar, University of Birmingham, UK, **Dec 2012**

Contributed presentations.....

37. *Mapping The Ultra Low-Frequency Gravitational-Wave Sky With A Network Of Pulsars*
14th Amaldi Meeting (Virtual), **Jul 2021**
36. *Fast Bayesian GWB Amplitude Estimation Through Parallelized Methods*
IPTA Meeting (Virtual), **Jun 2021**
35. *Fast Bayesian GWB Amplitude Estimation Through Parallelized Methods*
NANOGrav Spring Meeting (Virtual), **May 2021**
34. *Mapping The Supermassive Binary Black-Hole Sky With Pulsar Timing Arrays*
AAS Winter Meeting (Virtual), **Jan 2021**
33. *Spatiotemporal Inference Strategies In The Quest For Gravitational Wave Detection With PTAs*
ICERM: Statistical Methods for the Detection, Classification, and Inference of Relativistic Objects (via Zoom), Brown University, **Nov 2020**
32. *The First 10 Years Of PTA Nanohertz GW Astronomy*
APS April Meeting (Virtual), **Apr 2020**
31. *Supermassive Black Hole Demographics In The Era Of Multimessenger Pulsar Timing Array Detection*
30th Texas Symposium on Relativistic Astrophysics, Portsmouth, UK, **Dec 2019**
30. *From Bright Binaries To Bumpy Backgrounds: Mapping Realistic Gravitational Wave Skies With PTAs*
NANOGrav Fall Meeting, **Oct 2019**
29. *Constraining the environments & progenitors of binary black holes across the gravitational-wave spectrum*
12th International LISA Symposium, Chicago IL, **Jul 2018**
28. *The first 10 years of nanohertz gravitational-wave astronomy*
International Pulsar Timing Array meeting, Albuquerque NM, **Jun 2018**
27. *Progress updates in the NANOGrav gravitational-wave detection working group*
NANOGrav Spring 2018 meeting, University of Virginia, Charlottesville VA, **Mar 2018**
26. *The First Bayesian Solar-System Ephemeris*
NANOGrav Fall 2017 meeting, Lafayette College, Easton PA, **Nov 2017**
25. *GW constraints in the presence of solar-system ephemeris uncertainties*
International Pulsar Timing Array meeting, Sèvres, France, **Jul 2017**
24. *Solar-system ephemeris uncertainties & GW constraints*
NANOGrav Spring meeting, West Virginia University, Morgantown WV, **Apr 2017**
23. *Modeling solar-system ephemeris uncertainties & the impact on GW constraints*
EPTA meeting, Amsterdam, Netherlands, **Apr 2017**
22. *Bayesian model emulation of GW spectra for probes of the final parsec problem with pulsar-timing arrays*
American Astronomical Society meeting, Grapevine TX, USA, **Jan 2017**
21. *Bayesian model emulation of GW spectra for probes of the final parsec problem with pulsar-timing arrays*
American Physical Society April meeting, Washington DC, USA, **Jan 2017**
20. *Optimized gravitational-wave sky mapping with pulsar-timing arrays*
NANOGrav Fall Meeting 2016, NCSA, Urbana-Champaign IL, USA, **Oct 2016**
19. *Carrying the physics of supermassive black-hole binary evolution into pulsar-timing array searches*
EPTA meeting, Bielefeld, Germany, **May 2016**
18. *Are we there yet? Time to detection of nanohertz gravitational waves*

- American Physical Society meeting, Salt Lake City UT, USA, **Apr 2016**
17. *Carrying the physics of supermassive black-hole binary evolution into pulsar-timing array searches*
NANOGrav meeting, Caltech, Pasadena CA, USA, **Mar 2016**
 16. *Are we there yet? Time to detection of nanohertz gravitational waves*
NANOGrav meeting, McGill University, Montreal, Canada, **Oct 2015**
 15. *Eccentric supermassive black-hole binary signals in pulsar-timing data*
European Pulsar Timing Array meeting, Bonn, Germany, **Jun 2015**
 14. *Eccentric supermassive black-hole binary signals in pulsar-timing data*
American Physical Society meeting, Baltimore MD, USA, **Apr 2015**
 13. *Eccentric supermassive black-hole binary signals in pulsar-timing data*
NANOGrav meeting, Arecibo, Puerto Rico, **Feb 2015**
 12. *Exploring the cosmos with gravitational waves*
American Astronomical Society meeting, Seattle WA, USA, **Jan 2015**
 11. *EPTA constraints on gravitational-wave anisotropy*
European Pulsar Timing Array meeting, Cambridge, UK, **Nov 2014**
 10. *EPTA and IPTA searches for gravitational-wave background anisotropy*
International Pulsar Timing Array meeting, Banff, Canada, **Jun 2014**
 9. *EPTA limits on gravitational-wave anisotropy*
European Pulsar Timing Array meeting, Astron, Netherlands, **May 2014**
 8. *The pulsar-term in PTA continuous-wave searches: a blessing and a curse*
European Pulsar Timing Array meeting, Pula, Sardinia, **Oct 2013**
 7. *Probing anisotropy of the GW background with pulsar timing arrays*
20th International Conference on GR and Gravitation, 10th Amaldi Conference on GWs, Warsaw, **Jul 2013**
 6. *The first PTA search pipeline for anisotropy in the GW background*
International Pulsar Timing Array meeting, Krabi, Thailand, **Jun 2013**
 5. *Searching For Anisotropic Gravitational-wave Backgrounds Using Pulsar Timing Arrays*
European Pulsar Timing Array meeting, l'Observatoire de Paris, Paris, France, **Apr 2013**
 4. *Weighing the evidence for a gravitational-wave background*
Institute of Astronomy seminar, University of Cambridge, UK, **Feb 2013**
 3. *Weighing the evidence for a gravitational-wave background*
European Pulsar Timing Array meeting, Albert Einstein Institute (AEI), Potsdam, Germany, **Nov 2012**
 2. *Milestones in Spacetime: Double Neutron-Star Binaries as Gravitational-Wave Standard Sirens*
Institute of Astronomy seminar, University of Cambridge, UK, **Jun 2012**
 1. *Hubble without the Hubble: Cosmology using advanced gravitational-wave detectors alone*
Gravitational-Wave Meeting, Institut de Ciències de l'Espai, Barcelona, Spain, **Feb 2012**

Posters.....

5. *The NANOGrav 11-year Dataset: Pulsar Timing Constraints On The Stochastic GW Background*
American Astronomical Society Meeting, Seattle WA, **Jan 2019**
4. *The Black Hole Zoo: Populations, Pathways, & Origins*
Gravitational Wave Physics & Astronomy Meeting, Washington DC, **Dec 2018**
3. *Galactic environment effects on gravitational wave signals in pulsar timing arrays*
Postdoc Research Day, NASA Jet Propulsion Laboratory, **Aug 2015**
2. *Cosmology without EM counterparts: Standard sirens in the advanced era and beyond*
Rattle and Shine, KITP Santa Barbara, USA, **Aug 2012**
1. *Cosmology using advanced gravitational-wave detectors alone*
Graduate Student Conference 2011, Cavendish Laboratory, University of Cambridge, UK, **Dec 2011**