

Ross J. Jennings

CURRICULUM VITÆ

- ✉ rossjennings@gmail.com
- 🌐 www.rossjennings.net
- 🐙 github.com/rossjennings
- 🆔 orcid.org/0000-0003-1082-2342

Education

- 2015–present ▶ **Ph.D., Cornell University** • Astrophysics
Adviser: James M. Cordes
- 2011–2015 ▶ **B.A., Carleton College** • Mathematics; Physics and Astronomy
Thesis Adviser (Mathematics): Helen Wong
Thesis Adviser (Physics and Astronomy): Joel Weisberg

Awards

- 2020 ▶ **New York Space Grant Fellow** • NASA New York Space Grant Consortium
- 2015 ▶ **Phi Beta Kappa, Sigma Xi** • Carleton College
- 2011 ▶ **National Merit Scholar** • National Merit Scholarship Corporation

Publications

Journal Articles

- ▶ Nihan Pol, Stephen R. Taylor, Luke Zoltan Kelley, and 49 others, including **Ross J. Jennings** (2020). *Astrophysics Milestones for Pulsar Timing Array Gravitational Wave Detection*. Submitted to Nature Astronomy.
- ▶ Zaven Arzoumanian, Paul T. Baker, Harsha Blumer, and 58 others, including **Ross J. Jennings** (2020). *The NANOGrav 12.5-year Data Set: Search for an Isotropic Stochastic Gravitational Wave Background*. ApJL 905, L34.
- ▶ Zaven Arzoumanian, Paul T. Baker, Adam Brazier, and 57 others, including **Ross J. Jennings** (2020). *Multimessenger Gravitational-Wave Searches with Pulsar Timing Arrays: Application to 3C 66B Using the NANOGrav 11-year Data Set*. ApJ 900, 102.
- ▶ **Ross J. Jennings**, James M. Cordes, and Shami Chatterjee (2020). *Pulsar Timing Signatures of Circumbinary Asteroid Belts*. ApJ 904, 191.

Publications (continued)

- ▶ Jing Luo, Scott Ransom, Paul Demorest, and 12 others, including **Ross J. Jennings** (2020). *PINT: A Modern Software Package for Pulsar Timing*. Accepted for publication in ApJ.
- ▶ Md. Faisal Alam, Zaven Arzoumanian, Harsha Blumer, and 68 others, including **Ross J. Jennings** (2020). *The NANOGrav 12.5-year Data Set: Wideband Timing of 47 Millisecond Pulsars*. ApJS 252, 5.
- ▶ Md. Faisal Alam, Zaven Arzoumanian, Harsha Blumer, and 68 others, including **Ross J. Jennings** (2020). *The NANOGrav 12.5-year Data Set: Observations and Narrowband Timing of 47 Millisecond Pulsars*. ApJS 252, 4.
- ▶ M. Vallisneri, S. R. Taylor, J. Simon, and 61 others, including **R. J. Jennings** (2020). *Modeling the Uncertainties of Solar System Ephemerides for Robust Gravitational Wave Searches with Pulsar Timing Arrays*. ApJ 893, 112.
- ▶ **Ross J. Jennings**, James M. Cordes, and Shami Chatterjee (2020). *Detecting Gravitational Scattering of Interstellar Objects Using Pulsar Timing*. ApJ 889, 145.
- ▶ J. S. Hazboun, J. Simon, S. R. Taylor, and 60 others, including **R. J. Jennings** (2020). *The NANOGrav 11 yr Data Set: Evolution of Gravitational-Wave Background Statistics*. ApJ 890, 108.
- ▶ K. Aggarwal, Z. Arzoumanian, P. T. Baker, and 58 others, including **R. J. Jennings** (2020). *The NANOGrav 11 yr Data Set: Limits on Gravitational Wave Memory*. ApJ 889, 38.
- ▶ K. Aggarwal, Z. Arzoumanian, P. T. Baker, and 61 others, including **R. Jennings** (2019). *The NANOGrav 11 yr Data Set: Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries*. ApJ 880, 116.
- ▶ **Ross J. Jennings**, David L. Kaplan, Shami Chatterjee, James M. Cordes, and Adam T. Deller (2018). *Binary Pulsar Distances and Velocities from Gaia Data Release 2*. ApJ 864, 26.
- ▶ **Ross J. Jennings**, Jay D. Tasson, and Shun Yang (2016). *Matter-sector Lorentz Violation in Binary Pulsars*. PRD 92, 125028.
- ▶ D. W. Gerdes, **R. J. Jennings**, G. M. Bernstein, M. Sako, et al. (2016). *Observation of Two New L4 Neptune Trojans in the Dark Energy Survey Supernova Fields*. AJ 151, 39.

Talks

- ▶ “Asteroid Belts and Pulsar Binaries”. Contributed talk. Spring 2020 NANOGrav collaboration meeting, University of Central Florida.
- ▶ “Detecting Interstellar Objects on Hyperbolic Orbits Using Pulsar Timing”. Contributed talk. Fall 2019 NANOGrav collaboration meeting, Cornell University.
- ▶ “Correcting Jitter Noise in Pulsar Timing.” Contributed talk. Fall 2018 NANOGrav collaboration meeting, Green Bank Observatory.

Publications (continued)

- ▶ “Parallax Measurements and the Kinematics of the Galactic MSP Population.” Contributed talk. Spring 2018 NANOGrav collaboration meeting, Charlottesville, VA.

Posters

- ▶ S. K. Ocker, J. Cordes, S. Chatterjee, M. Lam, and **R. Jennings**. “Assessing Chromatic Arrival Time Perturbations for NANOGrav’s Error Budget”. January 2020 AAS Meeting, Honolulu, HI.
- ▶ **Ross J. Jennings**. “Detecting Hyperbolic Scattering of Interstellar Objects with NANOGrav Pulsar Timing Data”. January 2019 AAS Meeting, Seattle, WA.
- ▶ Karen I. Perez, **Ross J. Jennings**, and James Cordes. “A Method for Mitigating Jitter Noise in Pulsar Timing.” January 2019 AAS Meeting, Seattle, WA.
- ▶ Carly Snell, Illeana Gomez Leal, Lisa Kaltenegger, and **Ross Jennings**. “How Obliquity Influences the Climate of Aquaplanets.” January 2017 AAS Meeting, Grapevine, TX.
- ▶ **Ross Jennings**, Zhilu Zhang, David W. Gerdes, and the Dark Energy Survey Collaboration. “Observation of New Trans-Neptunian Objects in the Dark Energy Survey Supernova Fields.” January 2015 AAS Meeting, Seattle, WA.

Minor Planet Electronic Circulars

- ▶ D. James, R. Ogando, R. Cawthon, M. Schubnell, D. Gerdes, and **R. Jennings**. “2013 RB98”.
- ▶ J. Frieman, D. Gerdes, K. Honscheid, P. Martini, **R. Jennings**, and Z. Zhang. “2012 VS113”.

Research Experiences and Professional Activities

- 2019 ▶ **Observer Training Workshop** • Green Bank Observatory
- 2018 ▶ **NANOGrav Collaboration** • Full Member
- 2015 ▶ **American Astronomical Society** • Junior Member
 - ▶ **American Physical Society** • Junior Member
 - ▶ **IAS Park City Math Institute** • Undergraduate Participant
- 2014 ▶ **NSF REU** • University of Michigan
Supervisor: David Gerdes
- 2013 ▶ **Budapest Semester in Mathematics**

Teaching Experience

- 2016 ▶ **Physics II: Electromagnetism** • Teaching Assistant
Led discussion sections; prepared solutions to problem sets; graded problem sets and exams.
- ▶ **General Physics I (Autotutorial)** • Teaching Assistant
Provided one-on-one instruction and tutoring to students; administered exams.
- 2015 ▶ **Why the Sky Is Blue: Aspects of the Physical World** • Teaching Assistant
Led discussion sections; wrote review quizzes; graded homework.

Software

- ▶ **Contributions:** PINT, PyPulse
- ▶ **High Proficiency:** Python, Mathematica, L^AT_EX, git, bash
- ▶ **Some Proficiency:** Inkscape, Julia, Rust, C, C++, Fortran, Docker