

Kent Yagi

(University of Virginia, Physics)

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Research Objectives

To probe fundamental physics, such as gravitational and nuclear physics and cosmology, with gravitational wave and electromagnetic wave observations. Primary interests include (i) strong-field tests of general relativity, (ii) gravitational waveform modeling, (iii) nuclear astrophysics, and (iv) gravitational wave cosmology.

Professional Appointments	▪ Associate Professor University of Virginia	Aug. 2023 – Present
	▪ Assistant Professor University of Virginia	Aug. 2017 – Aug. 2023
	▪ Postdoctoral Researcher (JSPS Fellow) Princeton University	Sept. 2015 – Aug. 2017
	▪ Postdoctoral Researcher Montana State University	Apr. 2012 – Aug. 2015
Education	▪ Ph.D. in Physics , Kyoto University, Kyoto, Japan	Mar. 2012
	▪ M.S. in Physics , Kyoto University, Kyoto, Japan	Mar. 2009
	▪ B.S. in Physics , Kyoto University, Kyoto, Japan	Mar. 2007
Grants	▪ National Aeronautics and Space Administration (NASA)	May 2020 – Apr. 2024
	▪ National Science Foundation (NSF)	Sept. 2018 – Aug. 2028
	▪ Owens Family Foundation	Aug. 2019 – Aug. 2025
Selected Awards and Fellowships	▪ NSF CAREER Award	Dec. 2023 – Nov. 2028
	▪ Sloan Research Fellow	Sept. 2019 – Sept. 2021
	▪ IUPAP Young Scientist Prize for the International Commission on General Relativity Gravitation	2019
	▪ Mead Honored Faculty	2018 – 2019
	▪ “Department of Physics 2014 Outstanding Technical Staff Award” by the Montana State University Physics Department	2014
	▪ Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellow for Research Abroad	Sept. 2015 – Mar. 2017
Professional Services	▪ Executive Committee Member of the Chesapeake Section of the American Association of Physics Teachers (CSAAPT)	2022 – Present
	▪ Chair of the DGRAV seminar series	2022 – 2024
	▪ Executive Committee Member of the APS Division of Gravitational Physics (DGRAV)	2021 – 2024

- Co-chair of Working Package "Foundations of the Gravitational Interaction" for Laser Interferometer Space Antenna (LISA) Consortium 2019 – Present
- Review panels on NSF and NASA grants/fellowships
- Associate Editor of General Relativity and Gravitation 2022 – Present

Selected Publications

- L. Shao and **K. Yagi**,
"Neutron stars as extreme laboratories for gravity tests,"
Sci. Bull. **67**, 1946 (2022)
- N. Yunes, M. C. Miller and **K. Yagi**,
"Gravitational-Wave and X-ray Probes of the Neutron Star Equation of State,"
Nature Reviews Physics **4**, 237 (2022)
- A. Wolz, **K. Yagi**, N. Anderson and A. J. Taylor,
"Measuring Individual Masses of Binary White Dwarfs with Space-based Gravitational-wave Interferometers,"
Mon. Not. Roy. Astron. Soc. (Letters) **500**, no. 1, L52 (2020)
- Z. Carson and **K. Yagi**,
"Multi-band gravitational wave tests of general relativity,"
Class. Quant. Grav. (Letters) **37**, 02LT01 (2019)
- Z. Carson, A. W. Steiner and **K. Yagi**,
"Constraining nuclear matter parameters with GW170817,"
Phys. Rev. D **99**, no. 4, 043010 (2019)
- H. Yang, **K. Yagi** et al.
"Black hole spectroscopy with coherent mode stacking,"
Phys. Rev. Lett. **118**, 161101 (2017)
- **K. Yagi** and N. Yunes,
"Approximate Universal Relations among Tidal Parameters for Neutron Star Binaries,"
Class. Quant. Grav. **34**, 015006 (2017) [*selected as Highlights of 2017*]
- N. Yunes, **K. Yagi** and F. Pretorius,
"Theoretical Physics Implications of the Binary Black-Hole Mergers GW150914 and GW151226,"
Phys. Rev. D **94**, 084002 (2016) [*selected for an Editors' Suggestion*]
- **K. Yagi**, D. Blas, N. Yunes and E. Barausse,
"Strong Binary Pulsar Constraints on Lorentz Violation in Gravity,"
Phys. Rev. Lett. **112**, 161101 (2014)
- **K. Yagi** and N. Yunes,
"I-Love-Q: Unexpected Universal Relations for Neutron Stars and Quark Stars,"
Science **341**, 365 (2013)
- **K. Yagi**, N. Yunes and T. Tanaka,
"Gravitational Waves from Quasi-Circular Black Hole Binaries in Dynamical Chern-Simons Gravity,"
Phys. Rev. Lett. **109**, 251105 (2012)
- **K. Yagi**,
"A New constraint on scalar Gauss-Bonnet gravity and a possible explanation for the excess of the orbital decay rate in a low-mass X-ray binary,"
Phys. Rev. D (Rapid Communications) **86**, 081504(R) (2012)

**Selected
Invited Talks**

- LISA in Copenhagen, Denmark, August 9 – 11 (2023)
- Symposium on Gravitational Wave Physics and Astronomy: Genesis, (online), April 25 – 29 (2022)
- 7th Physics and Astrophysics at the Extreme (PAX-VII) Workshop, (online), August 23 – 27 (2021)
- The XXVIII International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2021), China (online), August 23 – 28 (2021)
- 16th Marcel Grossmann Meeting (MG16) (online), July 5 – 10 (2021)
- AAPPS DACG Workshop on Astrophysics, Cosmology and Gravitation, (online), November 9 – 13 (2020)
- TeVPA 2019, Sydney, Australia, December 2 – 6 (2019)
- GR22/Amaldi13, Valencia, Spain, July 8 – 12 (2019)
- APS April Meeting, Denver, CO, April 13 – 16 (2019)
- CLAS Meeting, Jefferson Laboratory, Newport News, VA, March 5 – 8 (2019)
- AAS Meeting, Seattle, WA, January 7 – 10 (2019)