

Dr. Teviet Creighton

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Education

PhD, California Institute of Technology, 2000.
Major: Physics

BS, University of Calgary, 1994.

Current Employment

Full Professor, September 1, 2021.

Employment History

Academic - Post-Secondary

Teaching Assistant, California Institute of Technology. (1994 - 1998).

Research Assistant, University of Calgary. (1992 - 1994).

Professional

Professor, University of Texas Rio Grande Valley. (September 1, 2021 - Present).

Associate Professor, University of Texas Rio Grande Valley. (2015 - 2021).

Associate Professor, The University of Texas at Brownsville and Texas Southmost College. (2013 - 2015).

Assistant Professor, The University of Texas at Brownsville and Texas Southmost College. (2007 - 2013).

Postdoctoral Researcher, Jet Propulsion Laboratory. (2005 - 2006).

Postdoctoral Researcher, California Institute of Technology. (2001 - 2005).

Postdoctoral Researcher, University of Wisconsin D Milwaukee. (1999 - 2001).

Awards and Honors

Albert Einstein Medal for outstanding scientific findings, works, or publications related to Albert Einstein, Albert Einstein Society. (2017)

Princess of Asturias Award for Technical & Scientific Research, Princess of Asturias Foundation. (June 14, 2017)

Bruno Rossi Prize, American Astronomical Society. (January 25, 2017)

Gruber Prize in Cosmology for the first detection of gravitational waves, Gruber Foundation. (2016)

Special Breakthrough Prize in Fundamental Physics for the detection of gravitational waves, Breakthrough Prize Board. (2016)

Jocelyn Bell Prize for best student presentation at 15th Pacific Coast Gravity Meeting. (1999)

Jocelyn Bell Prize for best student presentation at 13th Pacific Coast Gravity Meeting. (1997)

Lieutenant Governor's Gold Medal for highest achievement in the Faculty of Science at University of Calgary. (1994)

Natural Sciences and Engineering Research Council of Canada (NSERC) Postgraduate Scholarship (awarded but not received due to studies in the US). (1994)

The Department of Physics Venkatesan Silver Medallion for achievement of the highest proficiency in field of study. (1994)

Canada Science Scholarships. (1992)

NSERC Undergraduate Student Research Awards. (1992)

Chem 13 News Research Assistantship Examination, placed 4th in Canada. (1990)

Euclid Mathematics Contest, placed 5th out of 10 000 in Canada. (1990)

The Chemical Institute of Canada High School Chemistry Exam, Special Merit Award, placed first in Alberta. (1990)

University of Calgary Maths Extension Programme Prize. (1990)

Professional Memberships

LSC. (1997 - Present)

Review Committee Chair, LSC CW. (2007 - March 2021)

RESEARCH

Published Intellectual Contributions

Conference Proceeding

Dolch, T., Andrews, P., Cole, B., Creighton, T., Dartez, L. P., Dulemba, A., Jenet, F. A., Niedbalski, S., Ramette, C., Smith, S. (2020). First Light for Station V of the Low-Frequency All-Sky Monitor Radio Telescope. *2020 IEEE USNC-CNC-URSI North American Radio Science Meeting (Joint with AP-S Symposium)* (pp. 171-172). IEEE.
<https://doi.org/10.23919/usnc/ursi49741.2020.9321664>
10.23919/usnc/ursi49741.2020.9321664

Price, R. H., Creighton, T., Jenet, F. A., Wang, Y. (2009). Black hole spacetimes and pulsar timing. *APS Meeting Abstracts*.

Hobill, D.~W., Creighton, T. (1996). Continuous Time Dynamics and Iterative Maps of Expansion Normalized Variables for Mixmaster Cosmologies. In Jantzen, Robert T.; Mac Keiser, G.; Ruffini, Remo (Ed.), *Proceedings of the Seventh Marcel Grossman Meeting on recent developments in theoretical and experimental general relativity, gravitation, and relativistic field theories* (pp. 708).

Creighton, T., Hobill, D. W. (1993). *Continuous Time Dynamics and Iterative Maps of Ellis-MacCallum-Wainwright Variables*.

Encyclopedia Entry

Price, R., Creighton, T. (2008). *Black Holes*. Scholarpedia.
http://www.scholarpedia.org/article/Black_holes

Journal Article, Academic Journal

Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). GWTC-4.0: An Introduction to Version 4.0 of the Gravitational-Wave Transient Catalog. *Astrophysical Journal Letters*, 995(1), L18. 10.3847/2041-8213/ae0c06

Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). All-sky search for short gravitational-wave bursts in the first part of the fourth LIGO-Virgo-KAGRA observing run. *Physical Review D*, 112(10), 102005.
10.1103/wjdz-jdby

Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). GW231123: A Binary Black Hole Merger with Total Mass $190\text{--}265\text{ }M_{\odot}$. *Astrophysical Journal Letters*, 993(1), L25.
10.3847/2041-8213/ae0c9c

Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). GW241011 and GW241110: Exploring Binary Formation and Fundamental Physics with Asymmetric, High-spin Black Hole Coalescences. *Astrophysical Journal Letters*, 993(1), L21. 10.3847/2041-8213/ae0d54

Abbott, R., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). Tests of general relativity with GWTC-3. *Physical Review D*, 112(8), 084080. 10.1103/PhysRevD.112.084080

Abac, A.~G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). GW250114: Testing Hawking's Area Law and the Kerr Nature of Black Holes. *Physical Review Letters*, 135(11), 111403. 10.1103/kw5g-d732

Abac, A.~G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). Search for Gravitational Waves Emitted from SN 2023ixf. *Astrophysical Journal*, 985(2), 183. 10.3847/1538-4357/ad681

Abac, A.~G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). Search for Continuous Gravitational Waves from Known Pulsars in the First Part of the Fourth LIGO-Virgo-KAGRA Observing Run. *Astrophysical Journal*, 983(2), 99. 10.3847/1538-4357/adb3a0

Raman, G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2025). Swift-BAT GUANO Follow-up of Gravitational-wave Triggers in the Third LIGO-Virgo-KAGRA Observing Run. *Astrophysical Journal*, 980(2), 207.
10.3847/1538-4357/ad9749

- Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). A Search Using GEO600 for Gravitational Waves Coincident with Fast Radio Bursts from SGR 1935+2154. *Astrophysical Journal*, 977(2), 255. 10.3847/1538-4357/ad8de0
- Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). Search for Eccentric Black Hole Coalescences during the Third Observing Run of LIGO and Virgo. *Astrophysical Journal*, 973(2), 132. 10.3847/1538-4357/ad65ce
- Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). Observation of Gravitational Waves from the Coalescence of a 2.5 - 4.5 M $_{\odot}$ Compact Object and a Neutron Star. *Astrophysical Journal Letters*, 970(2), L34. 10.3847/2041-8213/ad5beb
- Abbott, R., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). Search for Gravitational-lensing Signatures in the Full Third Observing Run of the LIGO - Virgo Network. *Astrophysical Journal*, 970(2), 191. 10.3847/1538-4357/ad3e83
- Abac, A. G., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). Ultralight vector dark matter search using data from the KAGRA O3GK run. *Physical Review D*, 110(4), 042001. 10.1103/PhysRevD.110.042001
- Abbott, R., ..., Creighton, T., et al., LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). Search for Gravitational-wave Transients Associated with Magnetar Bursts in Advanced LIGO and Advanced Virgo Data from the Third Observing Run. *Astrophysical Journal*, 966(1), 137. 10.3847/1538-4357/ad27d3
- Fletcher, C., ..., Creighton, T., et al., Fermi Gamma-Ray Burst Monitor Team, LIGO Scientific Collaboration, Virgo Collaboration, KAGRA Collaboration (2024). A Joint Fermi-GBM and Swift-BAT Analysis of Gravitational-wave Candidates from the Third Gravitational-wave Observing Run. *Astrophysical Journal*, 964(2), 149. 10.3847/1538-4357/ad1eed
- Tariq, Z. B., Creighton, T., Dartez, L. P., Al-Dhahir, N., Torlak, M. (2024). Low Complexity Radio Frequency Interference Mitigation for Radio Astronomy Using Large Antenna Array. *Journal of Astronomical Instrumentation*, 13(1), 2450003. <https://doi.org/10.1142/s225117172450003x> 10.1142/S225117172450003X
- Romano, J. D., Creighton, T. (2024). Comment on "Spectral shifts in general relativity," [Am. J. Phys. 62(10), 903-907 (1994)]. *American Journal of Physics*, 92(3), 239-239. <https://doi.org/10.1119/5.0195020> 10.1119/5.0195020
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, Virgo Collaboration (2024). GWTC-2.1: Deep extended catalog of compact binary coalescences observed by LIGO and Virgo during the first half of the third observing run. *Physical Review D*, 109(2), 022001. 10.1103/PhysRevD.109.022001
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2023). GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo during the Second Part of the Third Observing Run. *Physical Review X*, 13(4), 041039. 10.1103/PhysRevX.13.041039
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration, Chime/Frb Collaboration (2023). Search for Gravitational Waves Associated

- with Fast Radio Bursts Detected by CHIME/FRB during the LIGO-Virgo Observing Run O3a. *Astrophysical Journal*, 955(2), 155. 10.3847/1538-4357/acd770
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2023). Open Data from the Third Observing Run of LIGO, Virgo, KAGRA, and GEO. *Astrophysical Journal Supplement*, 267(2), 29. 10.3847/1538-4365/acdc9f
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2023). Constraints on the Cosmic Expansion History from GWTC-3. *Astrophysical Journal*, 949(2), 76. 10.3847/1538-4357/ac74bb
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Model-based Cross-correlation Search for Gravitational Waves from the Low-mass X-Ray Binary Scorpius X-1 in LIGO O3 Data. *Astrophysical Journal Letters*, 941(2), L30. 10.3847/2041-8213/aca1b0
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data. *Phys. Rev. D*, 106(10), 102008. 10.1103/PhysRevD.106.102008
- Abbott, R., ..., Creighton, T. D., et al., Ligo Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data. *Phys. Rev. D*, 106(6), 062002. 10.1103/PhysRevD.106.062002
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data. *Phys. Rev. D*, 106(4), 042003. 10.1103/PhysRevD.106.042003
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, Virgo Collaboration (2022). Search for Substellar-Mass Binaries in the First Half of Advanced LIGO's and Advanced Virgo's Third Observing Run. *MNRAS*, 129(6), 061104. 10.1093/mnras/stad588
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, KAGRA Collaboration (2022). Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs. *ApJ*, 935(1), 1. 10.3847/1538-4357/ac6acf
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, KAGRA Collaboration (2022). All-sky, all-frequency directional search for persistent gravitational waves from Advanced LIGO's and Advanced Virgo's first three observing runs. *Phys. Rev. D*, 105(12), 122001. 10.1103/PhysRevD.105.122001
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, KAGRA Collaboration (2022). First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. *Progress of Theoretical and Experimental Physics*, 2022(6), 063F01. 10.1093/ptep/ptac073
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Narrowband Searches for Continuous and Long-duration Transient Gravitational Waves from Known Pulsars in the LIGO-Virgo Third Observing Run. *ApJ*, 932(2), 133. 10.3847/1538-4357/ac6ad0
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). All-sky search for gravitational wave emission from scalar boson clouds

- around spinning black holes in LIGO O3 data. *Phys. Rev. D*, 105(10), 102001.
10.1103/PhysRevD.105.102001
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3b. *ApJ*, 928(2), 186.
10.3847/1538-4357/ac532b
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10.1103/PhysRevD.105.082005
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Constraints on dark photon dark matter using data from LIGO's and Virgo's third observing run. *Phys. Rev. D*, 105(6), 063030. 10.1103/PhysRevD.105.063030
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Collaboration, K. (2022). Search for intermediate-mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo. *Astronomy and Astrophysics Reviews*, 659, A84. 10.1051/0004-6361/202141452
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2022). Search for continuous gravitational waves from 20 accreting millisecond x-ray pulsars in O3 LIGO data. *Phys. Rev. D*, 105(2), 022002.
10.1103/PhysRevD.105.022002
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2021). All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. *Phys. Rev. D*, 104(12), 122004.
10.1103/PhysRevD.104.122004
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- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2021). All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. *Phys. Rev. D*, 104(10), 102001.
10.1103/PhysRevD.104.102001
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2021). Constraints from LIGO O3 Data on Gravitational-wave Emission Due to R-modes in the Glitching Pulsar PSR J0537-6910. *ApJ*, 922(1), 71.
10.3847/1538-4357/ac0d52
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2021). Searches for Continuous Gravitational Waves from Young Supernova Remnants in the Early Third Observing Run of Advanced LIGO and Virgo. *ApJ*, 921(1), 80.
10.3847/1538-4357/ac17ea
- Abbott, R., ..., Creighton, T. D., et al., LIGO Scientific Collaboration, VIRGO Collaboration, Kagra Collaboration (2021). All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data. *Phys. Rev. D*, 104(8), 082004.
10.1103/PhysRevD.104.082004

- Abbott, R., ..., Creighton, T., et al. (2021). Observation of Gravitational Waves from Two Neutron Star-Black Hole Coalescences. *Astrophysical Journal Letters*, 915(1), L5. 10.3847/2041-8213/ac082e
- Abbott, R., ..., Creighton, T., et al. (2021). Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO and Advanced Virgo's first three observing runs. *Phys. Rev. D*, 104(2), 022005. 10.1103/PhysRevD.104.022005
- Abbott, R., ..., Creighton, T., et al. (2021). Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3a. *Astrophysical Journal*, 915(2), 86. 10.3847/1538-4357/abee15
- Abbott, R., ..., Creighton, T., et al. (2021). Upper limits on the isotropic gravitational-wave background from Advanced LIGO and Advanced Virgo's third observing run. *Phys. Rev. D*, 104(2), 022004. 10.1103/PhysRevD.104.022004
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- Abbott, R., ..., Creighton, T., et al. (2021). Diving below the Spin-down Limit: Constraints on Gravitational Waves from the Energetic Young Pulsar PSR J0537-6910. *Astrophysical Journal Letters*, 913(2), L27. 10.3847/2041-8213/abffcd
- Abbott, R., ..., Creighton, T., et al. (2021). Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog. *Physical Review D*, 103(12), 122002. 10.1103/PhysRevD.103.122002
- Abbott, T., ..., Creighton, T., et al. (2021). Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog. *Astrophysical Journal Letters*, 913(1), L7. 10.3847/2041-8213/abe949
- Abbott, R., ..., Creighton, T., et al. (2021). GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run. *Physical Review X*, 11(2), 021053. 10.1103/PhysRevX.11.021053
- Abbott, B. P., ..., Creighton, T., et al. (2021). A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. *Astrophysical Journal*, 909(2), 218. 10.3847/1538-4357/abdcbb7
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- Abbott, R., ..., Creighton, T., et al. (2020). Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars. *Astrophysical Journal Letters*, 902(1), L21. 10.3847/2041-8213/abb655
- Abbott, R., ..., Creighton, T., et al. (2020). Properties and Astrophysical Implications of the 150 $M_{\odot}$ Binary Black Hole Merger GW190521. *Astrophysical Journal Letters*, 900(1), L13. 10.3847/2041-8213/aba493
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- Hamburg, R., ..., Creighton, T., et al. (2020). A Joint Fermi-GBM and LIGO/Virgo Analysis of Compact Binary Mergers from the First and Second Gravitational-wave Observing Runs. *Astrophysical Journal*, 893(2), 100. 10.3847/1538-4357/ab7d3e
- Abbott, B. P., ..., Creighton, T., et al. (2020). Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo. *Phys. Rev. D*, 101(8), 084002. 10.1103/PhysRevD.101.084002
- Abbott, B. P., ..., Creighton, T., et al. (2020). A guide to LIGO-Virgo detector noise and extraction of transient gravitational-wave signals. *Classical and Quantum Gravity*, 37(5), 055002. 10.1088/1361-6382/ab685e
- Abbott, B. P., ..., Creighton, T., et al. (2020). GW190425: Observation of a Compact Binary Coalescence with Total Mass $\sim 3.4 M_{\odot}$. *Astrophysical Journal Letters*, 892(1), L3. 10.3847/2041-8213/ab75f5
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- Abbott, B. P., ..., Creighton, T., et al. (2019). Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model. *Physical Review D*, 100(12), 122002. 10.1103/PhysRevD.100.122002
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- Abbott, B. P., ..., Creighton, T., et al. (2019). Tests of general relativity with the binary black hole signals from the LIGO-Virgo catalog GWTC-1. *Physical Review D*, 100(10), 104036. 10.1103/PhysRevD.100.104036
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Creighton, T. (2003). Advanced LIGO: sources and astrophysics. *Classical and Quantum Gravity*, 20(17), S853-S869. <https://doi.org/10.1088/0264-9381/20/17/328>
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Brady, P. R., Creighton, T., Cutler, C., Schutz, B. F. (1998). Searching for periodic sources with LIGO. *Physical Review D*, 57(4), 2101-2116. <https://doi.org/10.1103/physrevd.57.2101>
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Magazine/Trade Publication

Jenet, F. A., Creighton, T. (2015). *If Earth Falls, will interstellar space travel be our salvation?*. The Conversation. <https://theconversation.com/if-earth-falls-will-interstellar-space-travel-be-our-salvation-35523>

Research Report

Prince, T., et al., ..., Creighton, T. (2007). *LISA: Probing the Universe with Gravitational Waves* (LISA-LIST-RP-436 ed., pp. 109p). Pasadena, California: LISA International Science Team. https://lisa.nasa.gov/archive2011/Documentation/LISA-LIST-RP-436_v1.2.pdf

Contracts, Grants and Sponsored Research

Funded Contract

Creighton, T. (PI), "[Astronaut Photography Cataloging & Image Labeling.](#)", Sponsored by Jacobs, Corporate, \$10,000.00. (March 8, 2022 - March 7, 2023).

Creighton, T., "Astronaut Photography Cataloging," Sponsored by Jacobs Engineering, Corporate, \$10,000.00. (December 15, 2020 - August 31, 2021).

Creighton, T., "Astronaut Photography Cataloging," Sponsored by Jacobs Engineering, Corporate, \$10,000.00. (November 6, 2018 - December 31, 2019).

Funded Grant

Quetschke, V. M. (PI), Creighton, T. (Co-PI), "Support for LIGO Calibration and Newtonian Noise Suppression by the University of Texas Rio Grande Valley," Sponsored by NSF, Federal, \$200,000.00. (August 1, 2025 - July 31, 2027).

Quetschke, V. M. (PI), Creighton, T. (Co-PI), "Support for LIGO Data Analysis and Instrumentation Research at the University of Texas," Sponsored by NSF, Federal, \$320,000.00. (June 1, 2022 - May 31, 2025).

Quetschke, V. M. (PI), Mukherjee, S. (PI), Creighton, T. (Co-PI), "Support for LIGO Data Analysis and Instrumentation Research at the University of Texas," Sponsored by NSF, Federal, \$375,000.00. (July 1, 2019 - June 30, 2022).

Jenet, F. A. (Co-PI), Creighton, T. (PI), "Collaborative Research: Radio Frequency Interference Aware Radio Astronomy Systems," Sponsored by NSF, Federal, \$325,000.00. (January 2016 - December 2020).

Jenet, F. (PI), Creighton, T. (Co-PI), Price, R. (Co-PI), "LoFASM: A Low Frequency All Sky Monitor for Radio Transients and Student Training," Sponsored by DoD, Federal, \$610,082.00. (2012 - 2015).

Jenet, F. (PI), Creighton, T. (Co-PI), Zerneno-Rodriguez, A. (Co-PI), Benacquista, M. (Co-PI), "Pulsar Search Partnerships: Attracting Talented Young Hispanic Students into Careers in Astrophysics," Sponsored by NSF, Federal, \$1,055,565.00. (2008 - 2014).

Creighton, T., "Radio telescopes and gravitational-wave observatories: Two windows on the same Universe," Sponsored by NSF, Federal, \$80,000.00. (2009 - 2012).

Presentations Given

Quetschke, V. M., Creighton, T., Lognonné, P., Shapiro, B., Trippe, J., Eikenberry, S., Shoemaker, D., International LILA Meeting, 2025 Lunar GW Workshop, "Panel: LILA-Pioneer & LILA-Horizon Noise Curves," Applied Physics Laboratory, Laurel, MD. (November 13, 2025).

Creighton, T. (Author & Presenter), STSSI Research Experience for Undergraduates Seminar, "The Physics and Perception of Colour," South Texas Space Science Institute, Brownsville, Texas, USA. (July 2025).

Creighton, T. (Author & Presenter), International Space Development Conference, "International Science Efforts Fostering Space Development," National Space Society, Orlando, Florida, USA. (June 20, 2025).

Creighton, T. (Author & Presenter), Wang, W. (Author), Gravitational Wave Advanced Detector Workshop, "Atmospheric Newtonian Noise May Constrain Third-Generation Gravitational-Wave Detectors," University of Florida, Cocoa Beach, Florida, USA. (May 23, 2025).

Creighton, T. (Author & Presenter), Gravitational Wave Advanced Detector Workshop, "International Lunar Development and Astronomy under the Artemis Accords," University of Florida, Cocoa Beach, Florida, USA. (May 23, 2025).

Wang, W. (Author & Presenter), Creighton, T. (Author), Stanford LIGO Seminar, "Atmospheric Newtonian Noise," Stanford University, Stanford, California. (August 1, 2023).

Wang, W. (Author & Presenter), Creighton, T. (Author), LIGO Virgo Kagra Meeting, "Improving models of thermal atmospheric Newtonian noise for advanced and 3rd generation gravitational-wave detectors," LIGO Scientific Collaboration, Virgo Collaboration, and Kagra Collaboration, Virtual. (March 14, 2022).

Creighton, T. (Author & Presenter), Hillsdale College Colloquium, "If Earth falls, could interstellar travel be our salvation?," Hillsdale College, Hillsdale, MI. (October 22, 2018).

Creighton, T. (Author & Presenter), ARCCNet Workshop, "The Low-Frequency All-Sky Monitor - Current Status," ARCCNet, Washington, DC. (June 6, 2018).

Creighton, T. (Panelist), Rockets & Rigs Symposium, "Remote Sensing: An Astrophysicist's Perspective," Center for Advanced Radio Astronomy and Pioneer Natural Resources, South Padre Island, Texas. (February 20, 2018).

Creighton, T. (Author & Presenter), ARCCNet Workshop, "The Low-Frequency All-Sky Monitor," ARCCNet, Lancaster, PA. (June 16, 2017).

Creighton, T., Wireless Innovation Forum Convention, "Radio Frequency Interference Aware Radio Astronomy Systems," NSF, Reston, Virginia. (March 2016).

Creighton, T. (Author & Presenter), Gravitational Waves Advanced Detectors Workshop, "A Sound of Thunder: Atmospheric Gravitational Noise," Anchorage, Alaska. (May 2015).

Creighton, T., Astronomy Ambassadors summer academy, "Planets and Starsystems," University of Texas, Brownsville, Brownsville, Texas. (June 2012).

Creighton, T., Joint Conference of the National Society of Black Physicists and National Society of Hispanic Physicists, "Tuning in to gravitational waves with radio telescopes," Austin, Texas. (September 2011).

Creighton, T., American Physical Society meeting, "Exploring the galactic neutron star population with gravitational waves," American Physical Society, Anaheim, California. (May 2011).

Creighton, T., "Extreme Astronomy," Science Academy of South Texas, Mercedes, Texas. (November 2010).

Creighton, T., Astrophysics seminar, "Gamma-ray bursts, radio flares, and gravitational waves: Common sources and joint observations," Nanjing University, Nanjing, China. (October 2010).

Creighton, T., International Workshop on Gravitational Waves Detection with Atom Interferometry, "Gravity Gradient Noise: An Overview," Zhejiang University, Hangzhou, China. (October 2010).

Creighton, T., Astronomy Ambassadors summer academy, "Listening to the Universe with gravitational waves," University of Texas, Brownsville, Brownsville, Texas. (June 2010).

Creighton, T., CGWA seminar, "Gamma-ray bursts and gravitational waves," University of Texas, Brownsville, Brownsville, Texas. (September 2009).

Creighton, T., Gravitational-Wave Data Analysis Workshop, "Pulsar timing near supermassive black holes: I. Schwarzschild holes and eclipsing orbits," San Juan, Puerto Rico. (January 2009).

Creighton, T., Gravity seminar, "Pulsar timing near supermassive black holes," University of Wisconsin, Milwaukee, Milwaukee, Wisconsin. (December 2008).

Creighton, T., Space Odyssey public lecture, "Planets," Brownsville Museum of Fine Art, Brownsville, Texas. (September 2008).

Creighton, T., Monday Night Physics public lecture, "Sound and fury: Listening to black holes and the Big Bang with LISA," University of Texas, Brownsville, Brownsville, Texas. (February 2008).

Creighton, T., Caltech-JPL Gravitational Wave Research seminar, "Einstein@home: Tapping into global interest in LIGO for gravitational pulsar searches," California Institute of Technology, Pasadena, California. (June 2006).

Creighton, T., "Measuring supermassive black holes with LISA," Xiamen University, Xiamen, Fujian, China. (November 2005).

Creighton, T., Analysis Methods for Interferometric Gravitational-wave Observatories in Space (AMIGOS) meeting, "Data analysis methods for Galactic binaries," Jet Propulsion Laboratory, Pasadena, California. (October 2005).

Creighton, T., "Measuring properties of pulsar populations using LIGO," University of Texas, Brownsville, Brownsville, Texas. (October 2005).

Creighton, T., Chinese-American Frontiers of Science Symposium, "Gravitational Waves: Listening to the Universe," National Academy of Sciences, Irvine, California. (October 2004).

Creighton, T., 20th Pacific Coast Gravity Meeting, "Detecting black holes in globular clusters using pulsar timing," California Institute of Technology, Pasadena, California. (March 2004).

Creighton, T., World Year of Physics 2005 Second Preparatory Meeting, "Einstein@home: Massive distributed computing for gravitational wave detection," Montreal, Qu'ebec. (March 2004).

Creighton, T., Caltech-JPL Gravitational Wave Research Seminar, "First LIGO/GEO Upper Limits on Pulsar Gravitational Emissions," California Institute of Technology, Pasadena, California. (April 2003).

Creighton, T., 19th Pacific Coast Gravity Meeting, "Zoom, Whirl, and Chirp: Listening for extreme-mass-ratio inspirals with LISA," University of Utah, Salt Lake City, Utah. (March 2003).

Creighton, T., Gravitational Wave Data Analysis Workshop, "Gravitational Capture," Kyoto, Japan. (December 2002).

Creighton, T., Gravitational Wave Data Analysis Workshop, "LIGO-II: Sources and Astrophysics," Kyoto, Japan. (December 2002).

Creighton, T., Gravitational Radiation Source Simulation and Data Analysis Focus Session, "Bothrosdesy: The promise and challenges of extreme-mass-ratio inspirals," Pennsylvania State University, State College, Pennsylvania. (October 2002).

Creighton, T., Gravity seminar, "Extreme-mass-ratio inspirals: A data analysis problem for LISA," California Institute of Technology, Pasadena, CA. (October 2002).

Creighton, T., Gravity seminar, "Sonic booms and tumbleweeds as detectable gravitational signals in LIGO," University of Wisconsin, Milwaukee, Milwaukee, WI. (November 1999).

Creighton, T., 15th Pacific Coast Gravity Meeting, "Atmospheric gravity gradients: a low-frequency noise limit for LIGO," Institute for Theoretical Physics, University of California, Santa Barbara, Santa Barbara, CA. (February 1999).

Creighton, T., 14th Pacific Coast Gravity Meeting, "Cosmological Gravitational Waves," University of Oregon, Eugene, Oregon. (March 1998).

Creighton, T., Second Gravitational Wave Data Analysis Workshop, "Analysis of Caltech 40m interferometer data: Constructing the filter bank," Orsay, Essonne, France. (November 1997).

Creighton, T., 13th Pacific Coast Gravity Meeting, Institute for Theoretical Physics, "Search techniques for periodic gravitational waves," University of California, Santa Barbara, Santa Barbara, CA. (March 1997).

Creighton, T., 12th Pacific Coast Gravity Meeting, "Computational costs for continuous gravitational wave searches," University of Utah, Salt Lake City, Utah. (March 1996).

Media Contributions

Radio

Canadian Broadcasting Corporation. (February 12, 2016).

TEACHING

Teaching Experience

The University of Texas Rio Grande Valley

PHYS 2425, Phys Sci & Engineers I, 2 courses.
PHYS 2426, Phys Sci & Engineers II, 1 course.
PHYS 3301, Electromagnetic Theory I, 4 courses.
PHYS 3302, Electromagnetic Theory II, 6 courses.
PHYS 3305, Classical Mechanics, 8 courses.
PHYS 3402, Modern Physics, 22 courses.
PHYS 4101, Laboratory Research, 1 course.
PHYS 4300, UG Research, 2 courses.
PHYS 5310, Classical Mechanics I, 7 courses.
PHYS 6381, Introduction to Astrophysics, 2 courses.
PHYS 6396, Graduate Research I, 11 courses.
PHYS 7300, Thesis I, 2 courses.
PHYS 7301, Thesis II, 3 courses.
PHYS 8387, Sp: Methods EM & Data Analysis, 1 course.
PHYS 8398, Doctoral Research, 2 courses.
PHYS 8698, Doctoral Research, 5 courses.
PHYS 9301, Dissertation I, 3 courses.
PHYS 9302, Dissertation II, 2 courses.
UNIV 6100, Comp Exam Ext, 2 courses.

Directed Student Learning

Doctoral Advisory Committee Chair, "Antenna Design and Electronics for Phased-Array Systems," Department of Physics and Astronomy, (September 2024 - Present)
Hernandez Luis

Doctoral Advisory Committee Chair, "Development of a Phased-Array Spacecraft Communication System," Department of Physics and Astronomy, (September 2021 - Present)
Bres Luis

Master's Thesis Committee Chair, "Pulsar Search Pipeline for the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (August 2020 - Present)
Boehler Keith

Undergraduate Supervised Research, "Nuclear Thermal Propulsion: Alternative Propellants for Lunar Travel," Department of Physics and Astronomy, (April 2025 - December 2025)
Tyee Garcia

Undergraduate Supervised Research, "Commissioning of the STSSI Space Environment Simulator," Department of Physics and Astronomy, (May 2025 - August 2025)
Charles McIntosh

Doctoral Advisory Committee Chair, "Improving models of thermal atmospheric Newtonian noise for advanced and 3rd generation gravitational-wave detectors," Department of Physics and Astronomy, (September 2017 - May 2025)
Wenhui Wang

Master's Thesis Committee Chair, "Theoretical Insights and Analysis into Luneburg Lens," Department of Physics and Astronomy, (August 2021 - December 2024)
Aram Flores

Undergraduate Supervised Research, "Data Quality Monitoring for the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (April 2020 - May 2021)
Aram Flores

Doctoral Advisory Committee Chair, "Data Analysis with the Low-Frequency All Sky Monitor," Department of Physics and Astronomy, (June 2014 - May 12, 2021)
Louis Dartez

Master's Thesis Committee Member, "Absolute Power Measurements for Advanced LIGO Photon Calibrator," Department of Physics and Astronomy, (August 2019 - May 8, 2021)
Francisco Llamas

Master's Thesis Committee Member, "Numerical Modeling for Patch Antennas," Department of Physics and Astronomy, (August 2019 - May 8, 2021)
Luis Bres

Master's Thesis Committee Member, "Developing a UHF/VHF Phased-Array Satellite Ground Station," Department of Physics and Astronomy, (April 2020 - December 10, 2020)
Brent Cole

Master's Thesis Committee Chair, "Searching for Pulsars with the Long Wavelength Array Telescope," Department of Physics and Astronomy, (April 2020 - August 17, 2020)
Keeisi Caballero

Master's Thesis Committee Chair, "Searching for Low Frequency Fast Radio Bursts with VLITE," Department of Physics and Astronomy, (April 2020 - August 17, 2020)
Suryarao Bethapudi

Undergraduate Supervised Research, "Pulsar Search Pipeline for the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (September 2016 - May 2020)
Boehler Keith

Undergraduate Supervised Research, "Measuring the beam pattern of the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (January 1, 2018 - May 7, 2020)
Lee Ann Capistran

Master's Thesis Committee Member, "Topography Estimation Using Particle Swarm Optimization," Department of Physics and Astronomy, (October 2019 - December 2019)
Yelbir Kazhykarim

Undergraduate Supervised Research, "Calibrating the Low-Frequency All-Sky Monitor by Galactic background emissions," Department of Computer Science, (September 2017 - December 12, 2019)
Paulina Varela

Undergraduate Supervised Research, "LoFASM Data Analysis," Other (outside UTRGV), (June 18, 2019 - August 16, 2019)
Kyle Adams

Dissertation Defense Committee Member, "High Precision Pulsar Timing with "PINT", a New Software Package," Department of Physics and Astronomy, (November 2016 - August 2018)
Jing Luo

Master's Thesis Committee Member, "Design and Characterization of an Affordable Laser Communication System," Department of Physics and Astronomy, (September 2016 - August 2018)
Andrea Tellez

Undergraduate Supervised Research, "LoFASM Data Analysis," Other (outside UTRGV), (June 4, 2018 - August 10, 2018)
Conor Larison

Dissertation Defense Committee Member, "Prospects for observing dynamically formed Binary Black Holes in the Local Universe with Gravitational Waves," Department of Physics and Astronomy, (September 2016 - May 2018)
Dongming Jin

Undergraduate Supervised Research, "Calibration of the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (September 2016 - August 2017)
Alejandro Reyes

Undergraduate Supervised Research, "Data Viewer for the Low-Frequency All-Sky Monitor," Department of Physics and Astronomy, (September 2016 - August 2017)
Andrew Danford

Master's Thesis Committee Chair, "First Astrophysical Observations with the Low Frequency All Sky Monitor," Physics and Astronomy (UTB), (September 2014 - December 2015)
Emma Handzo

Master's Thesis Committee Chair, "A Digital Back End for the Low Frequency All-Sky Monitor," Physics and Astronomy (UTB), (September 2012 - May 2014)
Louis Dartez

Non-UTRGV Courses Taught

UT Arlington
PHYS 5694, Research in Physics.

UT Arlington
PHYS 5694, Research in Physics.

UT Arlington
PHYS 5694, Research in Physics.

UT Arlington
PHYS 6699, Dissertation.

UT Arlington
PHYS 6699, Dissertation.

SERVICE

Department Service

Committee Member, Departmental Documents Guidelines Committee. (April 2023 - Present).

Committee Member, Personnel Committee. (September 2021 - August 2025).

Committee Co-Chair, TT search committee. (May 2021 - May 2022).

Committee Member, TT search committee. (September 2020 - May 2021).

Committee Member, Peer Observation Committee. (September 1, 2016 - August 31, 2020).

Committee Member, Undergraduate Committee. (September 1, 2015 - August 31, 2020).

Committee Chair, Tenure Track Faculty Search Committee. (September 2019 - December 2019).

Committee Member, Tenure Track Faculty Search Committee. (September 2018 - June 2019).

Committee Member, 5-Year Task Force. (September 1, 2016 - August 31, 2017).

Committee Member, PhD Task Force. (September 1, 2016 - August 31, 2017).

College Service

Faculty Advisor, Space Engagement, Entrepreneurship, and Research (SEER) Student Group.
(March 1, 2022 - Present).

University Service

Chairperson, Center for Advanced Radio Astronomy. (July 10, 2018 - 2024).

Program Coordinator, UTRGV / ITM Collaboration Agreement. (October 2021 - October 2024).

Committee Member, Tenure & Promotion Committee. (September 1, 2018 - August 31, 2020).

Committee Co-Chair, Tenure & Promotion Committee. (February 21, 2018 - August 31, 2018).

Professional Service

Committee

Committee Member, LIGO Scientific Collaboration Council. (February 2019 - Present).

Committee Chair, Review Committee, Continuous Waves Working Group, LSC. (2009 - March 2021).

Public Service

Guest Speaker, International Space Development Conference, Los Angeles, California. (June 19, 2025 - June 22, 2025).

Advisory Board Member, Space Settlement Design Tournament, Brownsville, Texas. (October 3, 2024 - October 6, 2024).

Guest Speaker, International Space Development Conference, Los Angeles, California. (May 24, 2024 - May 27, 2024).

Advisory Board Member, Space Settlement Design Tournament, Brownsville, Texas. (November 30, 2023 - December 3, 2023).

Advisory Board Member, Space Settlement Design Tournament, Brownsville, Texas. (May 18, 2023 - May 21, 2023).

Program Coordinator, Space Entrepreneurship Summer Academy, Brownsville, Texas. (July 18, 2022 - July 22, 2022).

Judge, Space Settlement Design Tournament, Brownsville, Texas. (May 19, 2022 - May 22, 2022).

Session Chair, Space Entrepreneurial Summer Academy, Brownsville, Texas. (July 19, 2021 - July 23, 2021).

Advisory Board Member, Space Settlement Design Tournament, Brownsville, Texas. (March 11, 2021 - March 12, 2021).

Advisory Board Member, Space Settlement Design Tournament, Brownsville, Texas. (August 23, 2019 - August 25, 2019).

Session Chair, Space Entrepreneurial Summer Academy, Brownsville, Texas. (July 8, 2019 - July 26, 2019).

* indicates undergraduate student

** indicates graduate student