CURRICULUM VITA
Shane L. Larson

Contact Information

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Scientific Background

- *Research Associate Professor of Physics*, CIERA/Northwestern University (2013-present)
  Astronomer, Department of Astronomy, Adler Planetarium (2013-present)
  Research Associate Professor of Physics, Utah State University (2013-present)
- *Associate Professor of Physics (tenured)*, Utah State University (2013)
  Assistant Professor of Physics, Utah State University (2008-2013)
- *Assistant Professor of Physics*, Weber State University (2006-2008)
  Adjunct Professor of Physics, Weber State University (2008-present)
- *Postdoctoral Scholar*, Center for Gravitational Wave Physics & Institute for Gravitational Physics, The Pennsylvania State University (2004-2006)
- *Postdoctoral Scholar*, Space Radiation Laboratory & TAPIR, California Institute of Technology (2001-2004)
- *NASA EPSCoR Postdoctoral Research Associate*, Jet Propulsion Laboratory & Montana State University (1999-2001)
- *Ph.D., Theoretical Physics*, Montana State University (1999)
- *M.S., Physics*, Montana State University (1994)
- *B.S., Physics (with High Scholarship)*, Oregon State University (1991)

Interests

Gravitational wave astronomy, relativistic astrophysics, general relativity, cosmology. Science for the public, science advocacy in society, mentoring young scientists.

Experience

- 2013-present: *Research Associate Professor, CIERA/Northwestern University*, and *Astronomer, Department of Astronomy, Adler Planetarium.*
  Joint appointment between the Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA) and the Adler Planetarium. I maintain an active, funded research program and group in gravitational astrophysics, and work at the public science communications interface.

- 2013: *Associate Professor of Physics (tenured).*
  2008 - 2013: *Assistant Professor of Physics, Utah State University.*
  Assistant professor in 29,000 student research university (Carnegie RU/H). I have a standard teaching load (3 semester credit hours), and I maintain an active, funded research program in gravitational astrophysics.

- 2006 - 2008: *Assistant Professor of Physics, Weber State University.*
  Assistant professor in 18,000 student regional undergraduate institution. Full teaching load (12 semester credit hours; courses + laboratories), maintained an active research program.

- 2004 - 2006: *Postdoctoral Scholar, Center for Gravitational Wave Physics.* [Center Postdoc]
  Research in low frequency gravitational wave astrophysics and phenomenology: galactic binaries, extreme mass ratio inspirals, and supermassive black holes.

- 2001 - 2004: *Postdoctoral Scholar in Physics, California Institute of Technology.* [Tom Prince]
  Research in gravitational wave physics pertaining to the proposed LISA space interferometer: binary data analysis, time delay interferometry, and observatory sensitivity.

- 1999 - 2001: *NASA EPSCoR Postdoctoral Associate, Jet Propulsion Laboratory.* [Ron Hellings]
  Research in gravitational wave astrophysics, studying possible astrophysical sources of gravitational radiation and design aspects of the proposed LISA space interferometer.

- 1991 - 1999: *Graduate Research Student, Montana State University.* [Bill Hiscock]
  Ph. D. student in theoretical physics: gravitational wave physics, classical relativity and semiclassical gravity.

- 1990: *Summer Intern, National Radio Astronomy Observatory, Charlottesville, VA.* [Glen Langston]
  Work on characterization of core-jet radio sources based on luminosity, internal structure of fields (from polarization), and external morphology from VLA survey data.

- 1989 - 1991: *Research Assistant, Biophysics, Oregon State University.* [Jeanne Rudzki Small]
  Experimental work on protein (predominantly carboxymyoglobin) dynamics using time-resolved pulsed laser photoacoustic calorimetry.

- 1987 - 1988: *Research Technician, Oregon State University (Union County Station).*
  Worked on projects relating to land management practices in rangeland ecosystems (and built a lot of barbed wire fence!).

Leadership and Service Roles

- Inaugural Editor, Astronomy Section of *Frontiers for Young Minds* Journal (2014-present)
- *American Journal of Physics* Resource Letters Editorial Board (2014-2017)
- *Citizen Science Alliance Board* (representing Adler Planetarium) (2014-present)
- Member of General Relativity Centennial *Speakers Bureau* (2014-2015)
- Member of General Relativity Centennial Scientific Organizing Committee (APS Topical Group on Gravitation) (2013-2015)
- *Chair*, American Physical Society Four Corners Section (Elected to Chair line 2012; Past-chair 2015)
- APS 4CS Meeting Scientific Organizing Committee (2012-2015)

- *Chair, Ultra-compact Binary Science Working Group*, Gravitational Wave Science Analysis Group (GWSAG) (2012-present)
- *Science Advocacy Working Group*, Gravitational Wave Science Analysis Group (GWSAG) (2012-present)
- *Member, LIGO-Virgo Scientific Collaboration* (2012-present)
- LISA X Symposium Scientific Organizing Committee (Gainesville, FL) (2014)
- *Program Director for Communications and Faculty Development*, STE^{2}M Center Executive Committee, Utah State University (2012-2013)
- *Creator and Director of Science Unwrapped*, USU College of Science Public Engagement Program (2009-2013)
- Member of APS Topical Group in Gravitation *Speakers Bureau*, World Year of Physics (2004-2005)

Honors & Awards

- *Speaker, TEDx Northwestern*, "Pluto's Day of Reckoning", Northwestern University (2014)
  TEDx Editors' Pick, 19 May 2014
  `http://tinyurl.com/shanePluto/`
- *College of Science Public Engagement Award*, Utah State University (2013)
- *Sigma Pi Sigma/SPS Professor of the Year*, Utah State University (2012)
- Invited to *Physics Research & Education: Astronomy's Discoveries and Physics Education*, Gordon Research Conference, Waterville, Maine (June 2012)
- *Exemplary Collaboration Award*, Weber State University, for the HARBOR High Altitude Balloon Project (2009)
- Aspen Center for Physics Workshops
  - *Pulsar Timing Arrays* (June 2015)
  - *Ultra-compact binaries* (June 2014)
  - *Gravitational Wave Astronomy* (June 2008)
  - *LISA Data: Analysis, Sources and Science* (June 2005)
- Classical and Quantum Gravity, Research Highlight (2002), for N. J. Cornish and S. L. Larson, CQG **18**, 3473 (2001)
- NASA Space Grant Graduate Student Internship, Montana Space Grant Consortium, Montana State University (1994-1999)
- Graduate Teaching Assistant of the Year, Department of Physics, Montana State University (1993)
- Graduate Teaching Assistant of the Year (Honorable Mention), Department of Physics, Montana State University (1992)
- Presidential Scholar, Oregon State University (1987 - 1991)
- DeWuhs-Keckritz Scholar, Oregon State University (1987)

Student co-authors are indicated in ***bold italics.***

53. *Busting up binaries: encounters between compact binaries and a supermassive black hole*
Eric Addison, Pablo Laguna and Shane L. Larson
submitted to *Astorphysical Journal* (2015); arxiv/1501.07856

52. *Measuring accretion impact radii with optical and gravitational-wave observations of compact binaries*
Eric Addison, Katelyn Breivik and Shane L. Larson
submitted to *Astrophysical Journal* (2014)

51. *Limiting alternative theories of gravity using gravitational wave observations*
Jeffrey S. Hazboun, Manuel Pichardo Marcano and Shane L. Larson
submitted to *Classical & Quantum Gravity* (2014); arxiv/1311.3153

50. *Ultra-compact binaries as gravitational wave sources*
Sweta Shah, Shane L. Larson and Warren Brown
accepted in *LISA X Proceedings* (2015)

49. *The Space Public Outreach Team (SPOT): Adapting a Successful Outreach Program to a New Region*
K. Williamson, I. Grimberg, J. Key, S. Heatherly, A. DesJardins, Shane L. Larson and M. Larson
submitted to *Communicating Astronomy with the Public* (2014)

48. *Testing General Relativity with Space-based Gravitational Wave Detectors*
Jonathan Gair, Michele Vallisneri, Shane L. Larson and John Baker
Living Reviews in Relativity, **16**, 7 (2013). [109 pages]

47. *Prospects for observing ultra-compact binaries with space-based gravitational wave interferometers and optical telescopes*
Tyson B. Littenberg, Shane L. Larson, Gijs Nelemans and Neil J. Cornish
MNRAS, **429**, 2361 (2013).

46. *The Gravitational Universe*
eLISA Consortium
submitted to *European Space Agency* (2013); arxiv/1305.5720

45. *TARA: Forward-Scattered Radar Detection of UHECR at the Telescope Array*
J. Belz, M. Abu Bakr Othman, C. Allen, E. Barcikowski, D. Besson, B. Farhang-Boroujeny, D. Ikeda, W. Hanlon, S. Kunwar, J. Lundquist, I. Kravchenko, S. L. Larson, I. Myers, T. Nakamura, J. Rankin, H. Sagawa, P. Sokolsky, H. Takia, T. Terasawa, and G. Thomson (the TARA Collaboration)
to appear in *European Physical Journal* (2012); proceedings of International Symposium on Future Directions in UHECR Physics.

44. *The LISA gravitational wave foreground: a study of double white dwarfs*
Ashley J. Ruiter, Krzysztof Belczynski, Matthew Benacquista, Shane L. Larson and *Gabriel Williams*
Astrophysical Journal **717**, 1006-1021 (2010).

43. *Integrated Sachs-Wolfe Effect for Gravitational Radiation*, Pablo Laguna, Shane L. Larson, David Spergel and Nicolas Yunes, *Astrophysical Journal Letters* **715**, L12-L15 (2010).

42. *The Mock LISA Data Challenges: from Challenge 3 to Challenge 4*, Stanislav Babak et al. (The Mock LISA Data Challenge Task Force), *Classical & Quantum Gravity* **27**, 084009-1,12 (2010).

41. *Constraining the black hole mass spectrum with gravitational wave observations I: the error kernel*, ***Danny C. Jacobs, Joseph E. Plowman***, Ronald W. Hellings, Sachiko Tsuruta and Shane L. Larson, *Monthly Notices of the Royal Astronomical Society*, **401**, 2706-2714 (2010)

40. *LISA: Seeing the low frequency gravitational wave Cosmos*, Shane L. Larson, *Proceedings of the 2009 Snowbird Particle Astrophysics and Cosmology Workshop*, Astronomical Society of the Pacific Conference Series, **426**, 123-130 (2010)

39. *Detecting a Stochastic Gravitational-Wave Background: The Overlap Reduction Function*
Lee Samuel Finn, Shane L. Larson and Joseph D. Romano
Physical Review D, **79**, 062003-1,7 (2009)

38. *The First Frontier: High altitude ballooning as a platform for student research experiences in science and engineering*
Shane L. Larson, John C. Armstrong and William A. Hiscock
American Journal of Physics **77**, 489-497 (2009)

37. *The Mock LISA Data Challenges: from Challenge 1B to Challenge 3*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Task Force)
Classical & Quantum Gravity, **25**, 184026-1,20 (2008).

36. *Report on the second Mock LISA Data Challenge*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Task Force)
Classical & Quantum Gravity **25**, 114037-1,8 (2008)

35. *Spurious acceleration noise in spaceborne gravitational wave interferometers*
Patricia Purdue and Shane L. Larson
Classical & Quantum Gravity **24**, 5869-5887 (2007)

34. *Selection effects in resolving Galactic binaries with LISA*
Matthew J. Benacquista, Shane L. Larson and Brett E. Taylor
Classical & Quantum Gravity **24**, S513-520 (2007)

33. *An overview of the second round of the Mock LISA Data Challenges*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Task Force)
Classical & Quantum Gravity **24**, S551-564 (2007)

32. *Report on the first round of the Mock LISA Data Challenges*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Team)
Classical & Quantum Gravity **24**, S529-539 (2007)

31. *Gravitational wave bursts from the Galactic massive black hole*
Clovis Hopman, Marc Freitag and Shane L. Larson
Monthly Notices of the Royal Astronomical Society **378**, 129-136 (2007)

30. *Hands-on Gravitational Wave Astronomy: Extracting astrophysical information from simulated signals*

Louis J. Rubbo, Shane L. Larson, Michelle B. Larson and Dale R. Ingram
The American Journal of Physics **75**, 597-601 (2007)

29. *Observing IMBH-IMBH binary coalescences via gravitational radiation*
John M. Fregeau, Shane L. Larson, M. Coleman Miller, Richard O'Shaughnessy, and Frederic A. Rasio
Astrophysical Journal **646**, L135-L138 (2006)

28. *Gravitational radiation timescales for extreme mass ratio inspirals*
Jonathan R. Gair, Daniel J. Kennefick and Shane L. Larson
Astrophysical Journal **639**, 999-1006 (2006)

27. *Gravitational Waves: new observatories for new astronomy*
Louis J. Rubbo, Shane L. Larson and Michelle B. Larson
The Physics Teacher **44**, 420-423 (2006)

26. *Science icebreaker activities: an example from gravitational wave astronomy*
Michelle B. Larson, Louis J. Rubbo, Kristina D. Zaleski and Shane L. Larson
The Physics Teacher **44**, 416-419 (2006)

25. *LISA: A modern astrophysical observatory*
Shane L. Larson
review paper in the proceedings of the 33rd SLAC Summer Institute, *Gravity in the Quantum World and the Cosmos*, SLAC-R-819, T023-1,41 (2005)

24. *Semi-relativistic approximation to gravitational radiation from encounters with non-spinning black holes*
Jonathan R. Gair, Daniel J. Kennefick and Shane L. Larson
Physical Review D **72**, 084009-1,20 (2005)

23. *The LISA zero-signal solution*
Massimo Tinto and Shane L. Larson
Classical and Quantum Gravity **22**, S531-535 (2005)

22. *The LISA time-delay interferometry zero-signal solution I: geometrical properties*
Massimo Tinto and Shane L. Larson
Phys. Rev. D **70**, 062002-1,13 (2004)

21. *Event rate estimates for LISA extreme mass ratio capture sources*
J. Gair, L. Barack, T. Creighton, C. Cutler, Shane L. Larson, E. S. Phinney and M. Vallisneri
Classical and Quantum Gravity **21**, S1595-1606 (2004)

20. *Constraining the properties of the proposed supermassive black hole system in 3C66B: Limits from pulsar timing*
Frederick A. Jenet, Andrea Lommen, Shane L. Larson and Linqing Wen
Astrophysical Journal **606**, 799-803 (2004)

19. *LISA data analysis: doppler demodulation*
Neil J. Cornish and Shane L. Larson
Classical and Quantum Gravity **20**, S163-170 (2003)

18. *LISA data analysis: source identification and subtraction*
Neil J. Cornish and Shane L. Larson
Phys. Rev. D **67**, 103001-1,15 (2003)

17. *LISA, binary stars and the graviton mass*
Curt Cutler, William A. Hiscock and Shane L. Larson
Phys. Rev. D **67**, 024015-1,5 (2003)

16. *The LISA Optimal Sensitivity*
Thomas A. Prince, Massimo Tinto, Shane L. Larson and J. W. Armstrong
Phys. Rev. D **66**, 122002-1,7 (2002)

15. *Unequal arm space-borne gravitational wave interferometers*
Shane L. Larson, Ronald W. Hellings and William A. Hiscock
Phys. Rev. D **66**, 062001-1,7 (2002)

14. *Perspectives on water flow and FLIR imagery*
Shane L. Larson, Larry L. Larson and P. A. Larson
Journal of Rangeland Management **55**, 106-111 (2002)

13. *Space missions to detect the cosmic gravitational-wave background*
Neil J. Cornish and Shane L. Larson
Classical and Quantum Gravity **18**, 3473-3495 (2001)

12. *Determination of meteor showers on other planets using comet ephemerides*
Shane L. Larson
Astronomical Journal **121**, 1722-1729 (2001)

11. *Ripples on a cosmic sea: Gravitational waves and the new astronomy*
Shane L. Larson
Quantum **11**, 4-9 (2001)

10. *Low frequency gravitational waves from binary white dwarf MACHOs*
William A. Hiscock, Shane L. Larson, Joshua Routzahn, and Ben Kulick
Astrophysical Journal **540**, L5-L8 (2000)

9. *Sensitivity curves for spaceborne gravitational wave interferometers*
Shane L. Larson, William A. Hiscock and Ronald W. Hellings
Phys. Rev. D **62**, 062001-1,10 (2000)

8. *Using binary star observations to bound the mass of the graviton*
Shane L. Larson and William A. Hiscock
Phys. Rev. D **61**, 104008-1,8 (2000)

7. *Null geodesics in the Alcubierre warp drive spacetime: the view from the bridge*
Chad Clark, William A. Hiscock and Shane L. Larson
Classical and Quantum Gravity **16**, 3965-3972 (1999)

6. *Astrophysical bounds on global strings*
Shane L. Larson and William A. Hiscock
Phys. Rev. D **56**, 3242-3247 (1997)

5. *Semiclassical effects in black hole interiors*
William A. Hiscock, Shane L. Larson and Paul R. Anderson
Phys. Rev. D **56**, 3571-3581 (1997)

4. *Riparian shade and stream temperature: a perspective*
Larry L. Larson and Shane L. Larson
Rangelands **18**, 149-152 (1996)

3. *Effects of solvent viscosity on the microsecond protein motions of myoglobin determined by pulsed-laser photoacoustics*
   M. L. Pearson, K. L. Mrakovcich, S. L. Larson and J. Rudzki Small
   Biophysical J. **59**, 289a (1991)

2. *Photoacoustic studies of carboxymyoglobin*
   S. L. Larson and J. Rudzki Small
   Biophysical J. **57**, 229a (1990)

1. *Photoacoustic determination of fluorescent quantum yields of protein probes*
   J. Rudzki Small and S. L. Larson
   in *Time-Resolved Laser Spectroscopy in Biochemistry II*, J. R. Lakowicz, ed.,
   SPIE Proceedings **1204**, 126 (1990)

Discipline Publications

The 2011-2012 timeframe has been dominated by significant turmoil surrounding the proposed LISA gravitational wave mission. After the dissolving of the NASA/ESA partnership on LISA, NASA's Physics of the Cosmos directorate initiated a Gravitational Wave Mission Architecture study (`http://pcos.gsfc.nasa.gov/studies/gravitational-wave-mission.php`) that solicited new mission concepts; they received 17 proposals covering approximately 21 mission designs. During this time, I have been a member of the SGO Core Concept Team, and the Gravitational-wave Science Task Force supporting the analysis of new mission proposals, as well as the co-PI on the OMEGA proposal submitted to the gravitational wave study. OMEGA was selected as one of the three missions to be studied in extensive detail for the full gravitational wave study. My research efforts during this timeframe have been devoted to this community work, as well as to diversifying my research portfolio (resulting in admission to the LIGO Science Collaboration in the spring of 2012). The following documents were produced during this time frame. These documents are all archived, once publicly available, at NASA's Physics of the Cosmos site: `http://pcos.gsfc.nasa.gov/studies/gravwave/gravitational-wave-mission-rfis.php`

1. *Final Report of the Gravitational-wave Mission Concept Study*, Gravitational-Wave Community Science Team, Gravitational-Wave Core Team and Gravitational-Wave Science Task Force (2012).

2. *A Low-Cost, High-Performance Space Gravitational Astronomy Mission (OMEGA)*, Ronald Hellings, Shane L. Larson, Scott Jensen, Chad Fish, Matt Benacquista, Neil Cornish and Ryan Lang (2011).

3. *SGO High: A LISA-Like Concept for the Space-based Gravitational-wave Observatory (SGO) at a High Cost-Point*, Robin Stebbins for the SGO Core Concept Team (2011).

4. *SGO Mid: A LISA-Like Concept for the Space-based Gravitational-wave Observatory (SGO) at a Middle Cost-Point*, Jeff Livas for the SGO Core Concept Team (2011).

5. *SGO Low: A LISA-Like Concept for the Space-based Gravitational-wave Observatory (SGO) at a Low Cost-Point*, J. I. Thorpe for the SGO Core Concept Team (2011).

6. *SGO Lowest: A LISA-Like Concept for the Space-based Gravitational-wave Observatory (SGO) at the Lowest Cost-Point*, John Baker for the SGO Core Concept Team (2011).

LIGO Publications

The LIGO Scientific Collaboration (LSC) is a large, international collaboration of almost 1000 scientists, all engaged in bringing gravitational wave astronomy to fruition in the form of the LIGO Gravitational

Wave Observatories. All members who commit a certain percentage of their time to the collaboration are automatically included on *all* LSC publications. The following publications include myself in the author list.

20. *Searches for continuous gravitational waves from nine young supernova remnants*
    Aasi et al. (LSC Author List)
    arxiv/1412.5942 (2014)

19. *A directed search for gravitational waves from Scorpius X-1 with initial LIGO*
    Aasi et al. (LSC Author List)
    arxiv/1410.8573 (2014)

18. *Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data*
    Aasi et al. (LSC Author List)
    arxiv/1410.8310 (2014)

17. *Characterization of the LIGO detectors during their sixth science run*
    Aasi et al. (LSC Author List)
    arxiv/1410.7764 (2014)

16. *Searching for stochastic gravitational waves using data from the two co-located LIGO Hanford detectors*
    Aasi et al. (LSC Author List)
    arxiv/1410.6211 (2014)

15. *Multimessenger Search for Sources of Gravitational Waves and High-Energy Neutrinos: Results for Initial LIGO-Virgo and IceCube*
    Aasi et al. (LSC Author List)
    arxiv/1407.1042 (2014)

14. *Improved Upper Limits on the Stochastic Gravitational-Wave Background from 2009-2010 LIGO and Virgo Data*
    Aasi et al. (LSC Author List)
    arxiv/1406.4556 (2014)

13. *First all-sky search for continuous gravitational waves from unknown sources in binary systems*
    Aasi et al. (LSC Author List)
    arxiv/1405.7904 (2014)

12. *Implementation of an F-statistic all-sky search for continuous gravitational waves in Virgo VSR1 data*
    Aasi et al. (LSC Author List)
    Class. Quant. Grav. **31**, 165014 (2014)

11. *Search for Gravitational Waves Associated with gamma-ray Bursts Detected by the Interplanetary Network*
    Aasi et al. (LSC Author List)
    Phys. Rev. Lett. **113**, 011102 (2014)

10. *Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO600, LIGO, and Virgo detectors*
    Aasi et al. (LSC Author List)
    Phys Rev D **89**, 122004 (2014)

9. *Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run*
Aasi et al. (LSC Author List)
Phys Rev D **89**, 122003 (2014)

8. *The NINJA-2 project: Detecting and characterizing gravitational waveforms modeled using numerical binary black hole simulations*
Aasi et al. (LSC Author List)
Class. Quant. Grav. **31**, 115004 (2014)

7. *Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005-2010*
Aasi et al. (LSC Author List)
Phys Rev D **89**, 102006 (2014)

6. *Constraints on cosmic strings from the LIGO-Virgo gravitational-wave detectors*
Aasi et al. (LSC Author List)
Phys. Rev. Lett. **112**, 131101 (2014)

5. *Application of a Hough search for continuous gravitational waves on data from the 5th LIGO science run*
Aasi et al. (LSC Author List)
Class. Quant. Grav. **31**, 085014 (2014)

4. *Gravitational waves from known pulsars: results from the initial detector era*
Aasi et al. (LSC Author List)
Astrophys. J. **785**, 119 (2014)

3. *First Searches for Optical Counterparts to Gravitational-wave Candidate Events*
Aasi et al. (LSC Author List)
Astrophys. J. Supp. **211**, 7 (2014)

2. *A search for long-lived gravitational-wave transients coincident with long gamma-ray bursts*
Aasi et al. (LSC Author List)
Phys Rev D **88**, 122004 (2013)

1. *A directed search for continuous Gravitational Waves from the Galactic Center*
Aasi et al. (LSC Author List)
Phys Rev D **88**, 102002 (2013)

Other Publications

5. *The Impact of Finite-Differencing Errors on Binary Black Hole Merger Templates*
Birjoo Vaishnav, Deirdre Shoemaker and Shane L. Larson
Proceedings of the Sixth International LISA Symposium, AIP Conf. Proc. **873**, 125 (2006)

4. *The resolving power of LISA: comparing techniques for binary analysis*
Shane L. Larson and Lee Samuel Finn
Proceedings of the Sixth International LISA Symposium, AIP Conf. Proc. **873**, 415 (2006)

3. *An Overview of the Mock LISA Data Challenges*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Task Force), *Proceedings of the Sixth International LISA Symposium*, AIP Conf. Proc. **873**, 619 (2006)

2. *A How-To for the Mock LISA Data Challenges*
K. A. Arnaud, S. Babak, J. G. Baker, M. J. Benacquista, N. J. Cornish, C. Cutler, S. L. Larson, B. S. Sathyaprakash, M. Vallisneri, A. Vecchio, J-Y. Vinet (The Mock LISA Data Challenge Task Force), *Proceedings of the Sixth International LISA Symposium*, AIP Conf. Proc. **873**, 625 (2006)

1. *Preparing for LISA Data: The Testbed for LISA Analysis Project*
L. S. Finn, M. J. Benacquista, Shane L. Larson & L. J. Rubbo,*Proceedings of the Sixth International LISA Symposium*, AIP Conf. Proc. **873**, 640 (2006)

Grant Awards (Tenure Track Funding: $628,531.00, Total Funding: $1,108,635.00)

1. *"General Relativity Centennial Speakers Bureau (Supplement)"*
V. Kalogera and S. L. Larson (Northwestern University)
National Science Foundation, $12,000 (2014-2015)

2. *"Science Hackshops: A Weekend Family Science Experience"*
G. S. Ranney, K. Nelson and S. L. Larson (Adler Planetarium)
Ken and Ann Griffin Foundation, $50,000 (2014)

3. *"Low-frequency gravitational wave astrophysics"*
Shane L. Larson (P.I.)
NASA ROSES – Astrophysical Theory Program, $255,000 (2013-2016)

4. *"Wide-field variability search strategies for multi-messenger astronomy"*
Shane L. Larson (P.I.)
Utah NASA EPSCoR, $23,633 (2012)

5. *"Binary populations in Gravitational Wave Data Analysis"*
Shane L. Larson (P.I.)
National Science Foundation, $180,000 (2010-2013)

6. *"Low frequency gravitational wave binaries"*
Shane L. Larson (P.I.)
Utah NASA EPSCoR, $25,000 (2010)

7. *"HiSAM - High-Altitude Stratospheric Aerosol Monitoring Using the HARBOR Balloon Platform"*
John Armstrong, Shane L. Larson and John Sohl (Co-I's)
Utah NASA EPSCoR, $24,991 (2010)

8. *"Probing gravity in gravitational wave astrophysics"*
Shane L. Larson (P.I.)
USU VPR Research Catalyst, $19,986 (2009)

9. *"The Search for Earth - Collaborative Research in Extrasolar Planets"*
John C. Armstrong (P.I.), Shane L. Larson (Co-I.)
H. Raymond Bingham Faculty Collaboration and Research Fund; $19,921.00 (2007-2009)

10. *"HARBOR - A high altitude balloon program for student access to near space"*
Shane L. Larson (P.I.), John C. Armstrong (Co-I.)
Weber State University (internal); $3500.00 (2007-2008)

11. *"Observatory Renovation and Improvement Project"*
Shane L. Larson (P.I.) Hemmingway Instructional Improvement
Weber State University (internal); $2500.00 (2007-2008)

12. *"Million Star Galactic Computer Modeling"*
Shane L. Larson (P.I.), Hemmingway New Faculty Grant
Weber State University (internal); $2000.00 (2007)

13. *"Compact binary sources and science with LISA"*
Lee Samuel Finn (P.I.), Shane L. Larson (Science P.I.)
NASA ROSS - Beyond Einstein Foundation Science, $426,566.00 (2005-2007)

14. *"Montana Space Odyssey"*, Kimberly K. Obbink, Shane L. Larson & C. Vogeli
Education Enhancement Grant, Montana Space Grant Consortium, $53,538.00 (1996)

Speaking Engagements

1. Scientific Presentations: 60 invited talks — 2000 to present (full list available on request)

2. Public Lectures: 86 Public Lectures (countrywide) — 1997 to present (full list available on request)

3. *Selected Invited Scientific Talks*

   - *Hearing Voices in the Dark: Probing the gravitational wave Cosmos from space*
   Invited Talk, April APS Meeting
   Baltimore, MD (2015)
   - *Galactic Ultra-compact Binaries in Gravitational Waves*
   Plenary Talk, LISA X Symposium
   Gainesville, FL (2014)
   - *Gravitational Astrophysics at Kilosecond Periods*
   Invited Talk, AAS HEAD Meeting
   Chicago, IL (2014)
   - *The First Frontier: Student projects in near space*
   Uintah Basin Research Conference
   Vernal, Utah (2009)
   - *LISA: Seeing the Cosmos in low-frequency gravitational waves*
   SnowPAC 2009 (Particle Astrophysics & Cosmology Conference)
   Snowbird, UT (2009)
   - *Quarks to the Cosmos*
   EELS Seminar Series
   ATK Launch Systems
   Promontory, UT (2008)
   - *Whispers from the Cosmos*
   "Seeing the Universe Without Your Eyes" Special Session
   American Association of Physics Teachers
   Edmonton, AB (2008)

4. *Selected Public Talks*

   - *Pluto's Day of Reckoning*
   TEDx Northwestern (2014)
   `<tinyurl.com/shanePluto/>`
   - *Whispers from the Cosmos: The Dawn of Gravitational Wave Astronomy*
   Amateur Astronomy Association of New York
   American Museum of Natural History
   New York, NY (2013)

- *From the Big Bang to Yellowstone National Park: The cosmic biography of an atom*
  Stars Over Yellowstone, National Park Service
  Yellowstone National Park (2012)
- *Stellar fossils: globular clusters as probes of the galaxy*
  Astronomical League National Convention (ALCON)
  Bryce Canyon, UT (2011)
- (A) *Connections to the Cosmos: the search for life beyond Earth*
  Museum of the Rockies Winter Lecture Series
  Bozeman, MT (2010)
  (B) *Starships: sailing bright eternity*
  Special Topics Workshop
  Southwest Montana Astronomical Society, Bozeman, MT (2010)
- *Ringworld: Travellers' Tales from Saturn*
  Clark Planetarium
  Salt Lake City, Utah (2009)

Other Contributions

1. Book: *Guidestars: Projects & Activities for Seeing and Learning the Sky*, by Shane L. Larson, Kendall-Hunt Publishing (2011)

2. *Instructor: Solar System Chats*
   Staff Astronomy Course, Adler Planetarium
   Chicago, IL (Spring 2014)

3. *Instructor: Conversations with the Cosmos*
   Staff Astronomy Course, Adler Planetarium
   Chicago, IL (Fall 2013)

4. *Website Author* (`http://lisa.nasa.gov/`), reauthored all the text on the official LISA website at the request of the Mission Science Office, in preparation for the Astro2010 Decadal Survey (Fall 2009)

5. *Co-Editor, Relativity section of comPADRE* (`http://www.compadre.org/`), with Greg Comer (St. Louis University) and Bruce Mason (University of Oklahoma) (Fall 2008 to present)

6. *Specific angular momentum of extrasolar planetary systems*
   John C. Armstrong, Shane L. Larson and *Rhett R. Zollinger*
   astro-ph/arxiv:0708.1771 (2007)

7. *Instructor: International Summer School on Gravitational Wave Astronomy*
   China West Normal University & Center for Gravitational Wave Astronomy - University of Texas at Brownsville
   Nanchong, Sichuan, China (June, 2007)

8. ▸ *LISA Data Analysis: Stochastic Backgrounds* (section), with Alberto Vecchio
   ▸ *LISA Data Analysis: Low Mass Binaries* (section), with Neil Cornish and Stas Babak
   ▸ *LISA Data Analysis: Time Delay Interferometry* (section)
   for the LIST Documents Preparation Effort
   National Academy BEPAC Assessment (Fall 2006/Winter 2007)

9. *Verification binaries* (section), with Alberto Vecchio and Gijs Nelemans
   for *LISA Science Requirements Document* (v4)
   for the LISA International Science Team (Fall 2006/Winter 2007)

10. *White Paper: Addressing LISA Science Analysis Challenges*
M. J. Benacquista, L. S. Finn, Shane L. Larson & L. J. Rubbo (2006)
arxiv.org: gr-qc/0606089

11. *White Paper: The Testbed for LISA Analysis Project*
L. S. Finn, M. J. Benacquista, Shane L. Larson & L. J. Rubbo (2006)
arxiv.org: gr-qc/0602019

12. *Testbed for LISA Analysis*
February 2006
http://tla.gravity.psu.edu

13. *Contribution of Compact Mass Transferring Systems to the Galactic Gravitational Wave Background*
Krzysztof Belczynski, Matthew Benacquista, Shane L. Larson, and Ashley J. Ruiter
astro-ph/0510718 (2005)

14. *Gravitational Wave Astronomy*
Special Session of the American Astronomical Society Meeting, January 2005
Shane L. Larson, Michelle B. Larson, Lee Samuel Finn (Organizers)

15. *Workshop Summary: Imagining the Future*
in *Matters of Gravity*, APS Topical Group in Gravitation, January 2005
Shane L. Larson

16. *White Paper: Estimates of detection rates for LISA capture sources*
report to the LISA International Science Team (2004)
L. Barak, T. Creighton, C. Cutler, J. Gair, S. Larson, E. S. Phinney, K. S. Thorne, & M. Vallisneri (LISA Working Group 1)

17. *New eyes on the sky: Gravitational waves and multi-messenger astronomy*
Karen Willacy & Shane L. Larson
LISA Newsletter, Vol. 1 No. 2 (2004)
`http://lisa.nasa.gov/newsletter/newsletter\_200408.pdf`

18. *Online Sensitivity Curve Generator*
Shane L. Larson, April 2002
`http://www.srl.caltech.edu/~shane/sensitivity/MakeCurve.html`

19. *White Paper: LISA Draft Science Requirements*
report to the LISA International Science Team (2002)
E. S. Phinney & LISA Working Group 1

20. *White Paper: Science impact of the low frequency performance of LISA*
report to the LISA International Science Team (2001)
E. S. Phinney & LISA Working Group 1

21. *Museum of the Rockies Observatory (MoRO): An idea document*
Loren W. Acton, Alisdair Davey, Michelle B. Larson and Shane L. Larson
submitted to Museum of the Rockies, Bozeman, MT (2001)

22. *SMAS 50: A Night Sky Handbook*
published by the Southwest Montana Astronomical Society (2001)
Shane L. Larson

23. *Can gravitational waves be detected in quasar microlensing?*
Shane L. Larson and Rudolph Schild
arxiv.org: astro-ph/0007142

24. *Is dark matter theory or fact?*, Rhett Herman & Shane L. Larson
for Scientific American "Ask the Experts" (June, 1998); available online

Outreach Activities

1. Director: *Science Unwrapped*
Utah State University, College of Science — 2009-2013
University wide outreach program that has hosted 36 public lectures for 11,335 attendees through 2013

2. Science Writing: Public Science Writing posts — 2010 to present (178,000 words to date)
<writescience.wordpress.com>; <adlerplanetarium.org/blogs>

3. GR Centennial YouTube Science Videos: http://tinyurl.com/grVideos

4. Access Utah: *Astronomy*, Utah Public Radio
Quarterly 1/2 hour segments on astronomy and astrophysics — Fall 2008-2013

5. Founding Member, President and Program Officer: Cache Valley Stargazers — Spring 2009-2013
Local amateur astronomy society in Cache Valley
hosted at http://www.cachestargazers.org/

6. Sponsor: Lego Science Building Contest — September 2008
Created, judged and fronted the prizes for the Brick Science Building Contest
hosted at http://www.reasonablyclever.com/lego/contest/mad/

7. Flight Director: *HARBOR High Altitude Balloon Project*
http://space.weber.edu/harbor/
Weber State University — 2007-2013

8. Community Course Instructor: *Cosmic Frontiers*
Weber State University, Continuing Education Program
Spring 2008

9. Community Course Instructor: *Conversations with the Cosmos*
Weber State University, Continuing Education Program
Spring 2007, Fall 2007

10. Planetarium Narration: *Gravitational Attraction*
Ott Planetarium, Weber State University — 2007, 2008

11. *World Year of Physics Speakers Bureau*
Gravitational Physics Speakers Bureau
APS Topical Group in Gravitation – 2005 to 2008

12. Science Advisor: STARDATE Radio, *Astrophysics and gravitational waves*
4 Radio Scripts – April, 2006
2 Radio Scripts – December, 2005
5 Radio Scripts – June, 2005

13. Science Advisor:*Black Holes*, Planetarium Script
    Clark Planetarium, Salt Lake City, UT – April, 2005

14. Science Advisor: *Science is all around us*
    30 sec commercial spot, Discovery Science Channel
    Concrete Pictures, Philadelphia, PA — 2002

15. Professional mentor: *Senior Project: Video Rocketry*
    Senior project, Gabriel Rudy and Daniel Patterson
    Loomis Chaffee School, Windsor, CT — 2002

16. Science Advisor: BOREALIS High Altitude Balloon Program
    Montana State University — 2001-2003

17. Vice-President/Program Coordinator: Southwest Montana Astronomical Society
    Bozeman, Montana — 1997-2000

18. Coordinator: Montana Mars Exploration Outreach Program
    Montana Space Grant Consortium — 1996-1999

19. *Montana Space Odyssey* (Summer Science Experience), Montana State University
    Director — Summer 1996
    Science Advisor — Summer 2001

20. Director: Peaks and Potentials I & II (Summer Youth Camps)
    Montana State University — Summers 1992-1995

21. Science Advisor: Young Scholars Program
    Montana State University — 1992;1994
    Oregon State University — 1991

Graduate Students

- Katelyn Breivik (Gravitational Wave Astrophysics; 2013-present, Northwestern University, Ph.D.)
- Eric Addison (Gravitational Wave Astrophysics; 2009-2014, Utah State University, Ph.D.)
- Garrett Wheeler (High altitude dust transport; 2010-2012, Utah State University, M.S.)
- James Sainz (Gravitational Wave Astrophysics; 2012-2013; now at U. Mass Amherst, Ph.D.)
- Layne Pederson (Space Weather and Gravitational Wave Observatories; 2012-2013, pre-doctoral Utah State University)
- Bret Polopolus (Pulsar timing; Utah State University, 2010-2011)

Graduate Student Committees

- Austin Bunker (Gravitational Physics [2011], Ph.D. – J. Wheeler, advisor)
- Jeffrey Hazboun (Gravitational Physics [2010-2013], Ph.D. – J. Wheeler, advisor)
- Joshua Hodges (Materials Physics [2010-2011], M.S. – J. R. Dennison, advisor)
- Kripa Nidhan (Laser Physics [2010-2012], Ph.D. – M. Riffe, advisor)

Undergraduate Students

- *Observational Astronomy:*
  ▷ Katie Breivik — Jovian Orbit Analysis, Deep sky threshold variability [2010-2013]
  ▷ Catharine Bunn [Physics] — Variable star photometry [2012-2014]
  ▷ Parker Davenport [Psychology] — Dark adaptation and dependence on light and color [2011-2013]
  ▷ Katie Gamaunt — Webcam imaging hardware development [2012-2013]
  ▷ Rachel Nydegger — Deep sky threshold variability, Light pollution & sustainability [2011-present]
  ▷ Garrett Smith — Observatory commissioning [2010-2011]
  ▷ Matt Wallace — Deep field imaging[2012-2013]
- *Radio Astronomy:*
  ▷ Development Team — Robert Call, Joseph Jensen, Thomas Martin, Joseph McCormack, Glennie Mesa [SPS, 2009-2011]
  ▷ Darren McKinnon, Greg Erickson — 1420 MHz Survey [2011-present]
- *Theory & Astrophysics:*
  ▷ Chad Clark — Alcubierre warp drives [1998-1999, Montana State]
  ▷ Thomas Enlow — Gamma ray bursts [2012-2013] ▷ Greg Erikson — Early solar system dynamics [2012]
  ▷ Kameron Knowlton — Gamma ray bursts [2010-2011]; Light pollution [2011-2012]
  ▷ Jake Knight — Accreting binary stars [2008-2010]
  ▷ Leah Liu — Leah Liu — Black hole populations [2005-2006, Penn State]
  ▷ Manuel Marcano Pichardo — Compact Object Structure Simulation [2012-2014]
  ▷ Matt Nielsen — Gamma ray bursts [2009-2010]
  ▷ Josh Routzahn & Ben Kulick — White dwarf galactic halos [1999-2000, Montana State]
  ▷ Jordan Rozum — Distributions of galaxies [2010-2013]
  ▷ Carston Work — Small Observatories [2010]
  ▷ Kristina Zaleski — LISA and Space Weather [2004-2005, Penn State]

- *HARBOR High Altitude Ballooning:*
  ▷ Development Team — Samantha Balaich, John Metcalf, Desaree Neville, Samuel Silver, Paul Whitney, Rhett Zollinger (2007-2008, Weber State)
  ▷ Samantha Balaich — PASCAL Atmospheric Sensor [2007-2008, Weber State]
  ▷ Crystal Frazier [Mech Engr] — Infrared Imaging [2010 - 2012]
  ▷ Rebecca Hansen — Atmospheric Profiling [2011]
  ▷ Weston Jenkins — Radar beam profiling for Cosmic Ray Detection [2011-2013]
  ▷ Linsey Johnson — Air Density Measurements [2010]
  ▷ Malea Moody — Solar Cycle Cosmic Ray Monitoring [2010-2011]
  ▷ Jaylee Willis — Flight Dynamics and Simulation [2012-2013]

- *Education & Science Outreach*
  ▷ Maggie Jensen — Teaching Old Astronomy with New Technology [2011-2014]
  ▷ Linsey Johnson — Science Outreach Kits [2009-2010]; Gravitational wave visualization/planetarium development [2011-2013]

Student Grants & Awards

1. *"Populations of Compact Galactic Binaries"*
   Katelyn Breivik (P.I.), Shane L. Larson (Faculty Advisor)
   Illinois Space Grant Consortium Graduate Fellowship;$10,000.00 (2014-2015)

2. *"High resolution ground-based mapping of light pollution"*
   Rachel Nydegger, Shane L. Larson (Faculty Advisor)
   Barry M. Goldwater Fellowship (2014-2015)

3. *"Gathering and Interpreting Ambient and Localized Light Pollution in Logan City"*
   Rachel Nydegger (P.I.), Shane L. Larson (Faculty Advisor)
   USU Undergraduate Research Creative Opportunity Grant (URCO);$1000.00 (2013)

4. *"Radio Observations of the Milky Way Galaxy at 1420 MHz"*
   Darren McKinnon (P.I.), Shane L. Larson (Faculty Advisor)
   USU Summer Undergraduate Research Creative Opportunity Grant (SURCO);$2000.00 (2012)

5. *"Compact binary evolution around supermassive black holes"*
   Eric Addison, Shane L. Larson (Faculty Advisor)
   Howard M. Blood Graduate Research Scholarship;$4000.00 (2012)

6. *"Observing biases in the distribution of galactic parameters"*
   Jordan Rozum, Shane L. Larson (Faculty Advisor)
   Barry M. Goldwater Fellowship (2013)
   Barry M. Goldwater Fellowship, Honorable Mention (2012)

7. *"Dark adaptation and its dependency on light intensity and color"*
   Parker Davenport (P.I., Psychology), Shane L. Larson (Faculty Advisor)
   USU URCO Undergraduate Research Program; $800.00 (2011)

8. *"The atmospheric cosmic ray profile during the rise to solar maximum"*
   Malea Moody (P.I.), Shane L. Larson (Faculty Advisor)
   College of Science Research Minigrant; $1000.00 (2011)

9. *"Public visualizations for gravitational wave astronomy"*
   Linsey Johnson (P.I.), Shane L. Larson (Faculty Advisor)
   Eccles Undergraduate Research Fellowship (2011)

10. *"Profiling and Modeling Atmospheric Dust Transport in the Intermountain West"*
    Linsey Johnson, Shane L. Larson (Faculty Advisor)
    Barry M. Goldwater Fellowship (2011-2013)

11. *"Recovering air density using sound on high altitude balloons"*
    Linsey Johnson (P.I.), Shane L. Larson (Faculty Advisor)
    Howard M. Blood Undergraduate Research Scholarship (2010)

12. *"Using Gravitational Waves as Dynamical Astrophysical Probes"*
    Eric Addison (P.I.), Shane L. Larson (Faculty Advisor)
    National Science Foundation Graduate Student Fellowship; *Honorable Mention* (2010)

13. *"Probing General Relativity with Photometric Monitoring of Gas Giant Moons"*
    Katie Breivik (P.I.), Shane L. Larson (Faculty Advisor)
    USU URCO Undergraduate Research Program; $1000.00 (2010)

14. *"The SPS Milky Way Map: Radio observations of the Milky Way galaxy at 1420 MHz"*
    Thomas Martin/SPS (P.I.), Shane L. Larson & David Peak (Faculty Advisor)
    National Society of Physics Students; $2000.00 (2010)

15. *"PASCAL: An Experiment in High Altitude Ballooning"*
    Samantha Balaich (P.I.), Shane L. Larson (Faculty Advisor)
    Weber State University Undergraduate Research Program; $1650.00 (2007-2008)

Teaching Experience (6000+ student credit hours on tenure track, 2006-2013)

1. Instructor: PHYS 411-1: Graduate Classical Mechanics – Northwestern University, Fall 2015
2. Instructor: Conversations with the Cosmos (Adler Staff Astronomy Course) – Adler Planetarium, Spring 2015
3. Instructor: PHYS 130-1: College Physics I – Northwestern University, Fall 2013, Fall 2014
4. Instructor: Conversations with the Cosmos (Adler Staff Astronomy Course) – Adler Planetarium, Spring 2013
5. Instructor: PHYS 5500: Survey of Modern Astrophysics – Utah State, Spring 2012
6. Instructor: PHYS 2220: University Physics II – Utah State, Spring 2010, 2011
7. Instructor: PHYS 2200/2210: University Physics I – Utah State, Fall 2009, 2010
8. Instructor: USU 1040: Elementary Astronomy – Utah State, Fall 2008, 2011, 2012
9. Instructor: PHYS 1040: Elementary Astronomy – Weber State, Spring 2007, Spring 2008
10. Instructor: PHYS 2010: College Physics I – Weber State, Fall 2006, Fall 2007
11. Instructor: PHYS 2020: College Physics II – Weber State, Spring 2007, Spring 2008
12. Instructor: PHYS 3500: Analytical Mechanics – Weber State, Fall 2006, Fall 2007
13. Instructor: PHYS 2830: Introductory Readings in Physics – Weber State
    - Fall 2007: *Fundamental Physics* (Matt Spiva)
14. Instructor: PHYS 4800: Individual Research Problems – Weber State
    - Fall 2007: *Atmospheric Physics and High-altitude Ballooning* (Samantha Balaich)
    - Spring 2008: *High-altitude Ballooning* (John Metcalf, Desaree Neville, Samuel Silver, Paul Whitney, Rhett Zollinger)
15. Instructor: PH 213: Modern Physics (with Calculus) – Montana State, Fall 1996
16. Lead Tutorial Instructor: PH 205: General Physics – Montana State, Fall 1997
17. Lead Tutorial Instructor: PH 206: General Physics – Montana State, Spring 1994
18. Laboratory Teaching Assistant – Montana State:
    - PH 311: Observational Astronomy – Fall 1993, Summer 1998
    - PH 103: Conceptual Physics – Fall 1997
    - PH 101: Mysteries of the Sky – Fall 1991 to Spring 1993

Teaching evaluations, as well as feedback/testimonials from public events can be provided upon request.

Referee Duties

- *American Journal of Physics*
- *Astronomy and Astrophysics*
- *Classical and Quantum Gravity*
- *Europhysics Letters*
- *International Journal of Modern Physics D*
- *Monthly Notices of the Royal Astronomical Society*
- *Physical Review D*

Affiliations

- American Association of Physics Teachers
- American Astronomical Society
- Astronomical League
- American Physical Society
- LIGO Scientific Collaboration
- LISA International Science Team Advocacy Working Group
- LISA Working Groups (Astrophysical Sources & Data Analysis)
- Mock LISA Data Challenge Task Force (LISA Working Group 1b)
- National Association of Rocketry (NAR #73310)
- Sigma Pi Sigma

Other Interests

- Recreational Astronomy: Telescope making, Deep sky observing
- Lego modeling: `http://www.brickshelf.com/gallery/graviton/`
- Amateur Radio: Technician License, KF7WOZ
- Model and High Power Rocketry
- Mountain biking

Contact for all references available upon request.

- ***Research References***
  - *Dr. William A. Hiscock* (Thesis Advisor, deceased)
  - *Dr. Raymond Coward*, Provost Emeritus, Utah State University
  - *Dr. Jan Sojka*, Physics, Utah State University
  - *Dr. Lee Samuel Finn*, Physics, Pennsylvania State University
  - *Dr. Pablo Laguna*, School of Physics, Georgia Tech
  - *Dr. Thomas A. Prince*, Physics, Caltech
  - *Dr. Massimo Tinto*, Jet Propulsion Laboratory
  - *Dr. Ronald W. Hellings*, Physics, Montana State University
- ***Teaching References***
  - *Dr. Kimberly K. Obbink*, Burns Technology Center, Montana State University
  - *Dr. Gerry Wheeler*, Director Emeritus, National Science Teachers Association
  - *Dr. Larry Kirkpatrick*, President Emeritus, American Association of Physics Teachers
  - *Dr. Gregory Francis*, Physics, Montana State University
  - *Dr. David Peak*, Physics, Utah State University