

# Duncan Alexander Brown

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## EMPLOYMENT

- 2015– Charles Brightman Endowed Professor of Physics  
Department of Physics,  
Syracuse University
- 2012 Visiting Associate in Physics,  
California Institute of Technology
- 2011–2015 Associate Professor  
Department of Physics,  
Syracuse University
- 2007–2011 Assistant Professor  
Department of Physics,  
Syracuse University
- 2004–2007 Postdoctoral Scholar in Physics  
LIGO Laboratory and Theoretical Astrophysics Including Relativity (TAPIR),  
California Institute of Technology
- 2002 Visitor in Physics  
California Institute of Technology
- 2000 Visitor in Physics  
California Institute of Technology
- 2000–2004 Research Assistant, LIGO Scientific Collaboration Group  
Center for Gravitation and Cosmology,  
University of Wisconsin–Milwaukee

## EDUCATION

- 1999–2004 Doctor of Philosophy in Physics  
University of Wisconsin–Milwaukee
- 1994–1999 Master of Mathematics with First Class Honors  
University of Newcastle Upon Tyne

## HONORS AND AWARDS

2017	PEARC17 Best Software and Data Paper
2016	Syracuse University Physics Department Teaching Award
2016	Gruber Cosmology Prize (shared with the LIGO Scientific Collaboration)
2016	Breakthrough Prize in Fundamental Physics (shared with the LIGO Scientific Collaboration)
2015	Research Corporation for Science Advancement Scialog Fellow
2014	Fellow of the American Physical Society
2013	Syracuse University Physics Department Teaching Award
2011	Syracuse University Physics Department Teaching Award
2010	Research Corporation Cottrell Scholar
2010	Syracuse University Meredith Teaching Recognition Award
2010	Syracuse University Physics Department Teaching Award
2009	Kavli Frontiers Fellow
2008	National Science Foundation CAREER Award
2003	UWM Dissertator Fellowship
2002	UWM Physics Graduate Student Trust Fund Award
2002–2003	UWM Chancellor’s Graduate Student Fellowship
2002	UWM Graduate School Fellowship
2001	UWM Papastamatiou Scholarship
1999	Institute of Mathematics and Its Applications Prize
1997	University of Newcastle Stroud Book Prize

## CONFERENCE AND WORKSHOP ORGANIZATION

2019	Kavli Institute for Theoretical Physics Program: The New Era of Gravitational-Wave Physics and Astrophysics (Co-organizer)
2018	Gravitational Wave Physics and Astronomy Workshop, Co-Chair of Scientific Organizing Committee
2017	Kavli Institute for Theoretical Physics Rapid Response Program: Astrophysics from a Neutron Star Merger (Co-organizer)

- 2017 Kavli Institute for Theoretical Physics High-School Teacher’s Conference: How to catch a gravitational wave: Exploring the universe with LIGO (Organizer)
- 2016 Kavli Institute for Theoretical Physics Rapid Response Program: Astrophysics from LIGOs First Black Holes (Co-organizer)
- 2016 Chair of 2016 Gordon Research Conference: Physics Research and Education (Relativity and Gravitation: Contemporary Research and Teaching of Einstein’s Physics).
- 2014 Vice-chair of 2014 Gordon Research Conference: Physics Research and Education (The Complex Intersection of Biology and Physics).
- 2012 Kavli Institute for Theoretical Physics Three Month Program: Chirps, Mergers and Explosions (Co-organizer)
- 2012 Gravitational Wave Physics and Astronomy Workshop, Scientific Organizing Committee
- 2011 Amaldi 9 and NRDA: Scientific Organizing Committee
- 2008 Numerical Relativity and Data Analysis 2008: Chair, Scientific Organizing Committee

## PUBLICATIONS

### *Papers Submitted for Publication*

Lenon Amber K, Brown Duncan A, and Nitz Alexander H, *Eccentric Binary Neutron Star Search Prospects for Cosmic Explorer*, E-print archive 2103.14088 (2021), Submitted to Physical Review D

### *Publications (including LIGO Scientific Collaboration papers to which Brown has made a significant contribution)*

Brown Duncan A, Vahi Karan, Taufer Michela, Welch Von, and Deelman Ewa, *Reproducing GW150914: The First Observation of Gravitational Waves From a Binary Black Hole Merger*, Computing in Science Engineering **23** 73–82 (2021)

Ryan P Fisher, Gary Hemming, Marie Anne Bizouard, Duncan A Brown, Peter F Couvares, Florent Robinet, and Didier Verkindt, *DQSEGDB: A time-interval database for storing gravitational wave observatory metadata*, SoftwareX **14** 100677 (2021)

Afle Chaitanya and Brown Duncan A, *Inferring physical properties of stellar collapse by third-generation gravitational-wave detectors*, Phys Rev D **103** 023005 (2021)

Finstad Daniel and Brown Duncan A, *Fast Parameter Estimation of Binary Mergers for Multimessenger Followup*, Astrophys J Lett **905** L9 (2020)

- Lenon Amber K, Nitz Alexander H, and Brown Duncan A, *Measuring the eccentricity of GW170817 and GW190425*, *Mon Not Roy Astron Soc* **497** 1966–1971 (2020)
- Bhagwat Swetha, Cabero Miriam, Capano Collin D, Krishnan Badri, and Brown Duncan A, *Detectability of the subdominant mode in a binary black hole ringdown*, *Phys Rev D* **102** 024023 (2020)
- Reyes Steven and Brown Duncan A, *Constraints on Nonlinear Tides due to  $pg$  Mode Coupling from the Neutron Star Merger GW170817*, *Astrophys J* **894** 41 (2020)
- Belczynski K, Klencki J, Meynet G, Fryer C L, Brown D A, et al., *The evolutionary roads leading to low effective spins, high black hole masses, and O1/O2 rates of LIGO/Virgo binary black holes*, *Astron Astrophys* **636** A104 (2020)
- Capano Collin D, Tews Ingo, Brown Stephanie M, Margalit Ben, De Soumi, Kumar Sumit, Brown Duncan A, Krishnan Badri, and Reddy Sanjay, *GW170817: Stringent constraints on neutron-star radii from multimessenger observations and nuclear theory*, *Nature Astronomy* (March 2020), 10.1038/s41550-020-1014-6
- Nitz Alexander H, Lenon Amber, and Brown Duncan A, *Search for Eccentric Binary Neutron Star Mergers in the first and second observing runs of Advanced LIGO*, *The Astrophysical Journal* **890** 1 (2019)
- Reitze David, Adhikari Rana X, Ballmer Stefan, Barish Barry, Barsotti Lisa, Billingsley GariLynn, Brown Duncan A, Chen Yanbei, Coyne Dennis, Eisenstein Robert, Evans Matthew, Fritschel Peter, Hall Evan D, Lazzarini Albert, Lovelace Geoffrey, Read Jocelyn, Sathyaprakash B S, Shoemaker David, Smith Joshua, Torrie Calum, Vitale Salvatore, Weiss Rainer, Wipf Christopher, and Zucker Michael, *Cosmic Explorer: The U.S. Contribution to Gravitational-Wave Astronomy beyond LIGO*, *Bulletin of the American Astronomical Society* **51** 35 (2019)
- Srivastava Varun, Ballmer Stefan, Brown Duncan A, Afle Chaitanya, Burrows Adam, Radice David, and Vartanyan David, *Detection Prospects of Core-Collapse Supernovae with Supernova-Optimized Third-Generation Gravitational-wave Detectors*, *Phys Rev D* **100** 043026 (2019)
- Vahi Karan, Rynge Mats, Papadimitriou George, Brown Duncan A, Mayani Rajiv, da Silva Rafael Ferreira, Deelman Ewa, Mandal Anirban, Lyons Eric, and Zink Michael, *Custom Execution Environments with Containers in Pegasus-enabled Scientific Workflows*, in 2019 15th International Conference on eScience (eScience), pages 281–290 (2019)
- Chapp Dylan, Rorabaugh Danny, Brown Duncan A, Deelman Ewa, Vahi Karan, Welch Von, and Taufer Michela, *Applicability study of the PRIMAD model to LIGO gravitational wave search workflows*, in P-RECS '19: Proceedings of the 2nd International Workshop on Practical Reproducible Evaluation of Computer Systems, New York, NY, USA (2019), ACM
- De Soumi, Biwer Christopher M, Capano Collin D, Nitz Alexander H, and Brown Duncan A, *Posterior samples of the parameters of binary black holes from Advanced LIGO, Virgo's second observing run*, *Nature Scientific Data* **6** 81 (2019)
- Nitz Alexander H, Capano Collin, Nielsen Alex B, Reyes Steven, White Rebecca, Brown Duncan A, and Krishnan Badri, *1-OGC: The first open gravitational-wave catalog of binary mergers from analysis of public Advanced LIGO data*, *Astrophys J* **872** 195 (2019)

- Nielsen Alex B, Nitz Alexander H, Capano Collin D, and Brown Duncan A, *Investigating the noise residuals around the gravitational wave event GW150914*, JCAP **1902** 019 (2019)
- De Soumi, Finstad Daniel, Lattimer James M, Brown Duncan A, Berger Edo, and Biwer Christopher M, *Tidal Deformabilities and Radii of Neutron Stars from the Observation of GW170817*, Phys Rev Lett **121** 091102 (2018)
- Biwer C M, Capano Collin D, De Soumi, Cabero Miriam, Brown Duncan A, Nitz Alexander H, and Raymond V, *PyCBC Inference: A Python-based parameter estimation toolkit for compact binary coalescence signals*, PSAP **131** 024503 (2019)
- Withers Alex, Bockelman Brian, Weitzel Derek, Brown Duncan, Gaynor Jeff, Basney Jim, Tannenbaum Todd, and Miller Zach, *SciTokens: Capability-Based Secure Access to Remote Scientific Data*, in Proceedings of the Practice and Experience on Advanced Research Computing, PEARC '18, pages 24:1–24:8, New York, NY, USA (2018), ACM
- Finstad Daniel, De Soumi, Brown Duncan A, Berger Edo, and Biwer Christopher M, *Measuring the viewing angle of GW170817 with electromagnetic and gravitational waves*, Astrophys J **860** L2 (2018)
- Bhagwat Swetha, Okounkova Maria, Ballmer Stefan W, Brown Duncan A, Giesler Matthew, Scheel Mark A, and Teukolsky Saul A, *On choosing the start time of binary black hole ringdowns*, Phys Rev **D97** 104065 (2018)
- Viets Aaron et al., *Reconstructing the calibrated strain signal in the Advanced LIGO detectors*, Class Quant Grav **35** 095015 (2018)
- Abbott B P et al., *GW170608: Observation of a 19-solar-mass Binary Black Hole Coalescence*, Astrophys J **851** L35 (2017)
- Abbott B P et al., *Gravitational Waves and Gamma-rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A*, Astrophys J **848** L13 (2017)
- Abbott Benjamin P et al., *GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral*, Phys Rev Lett **119** 161101 (2017)
- Cahillane Craig, Betzwieser Joe, Brown Duncan A, et al., *Calibration uncertainty for Advanced LIGOs first and second observing runs*, Phys Rev **D96** 102001 (2017)
- Fong W et al., *The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO-VIRGO GW170817. VIII. A Comparison to Cosmological Short-duration Gamma-ray Bursts*, Astrophys J **848** L23 (2017)
- Blanchard P K et al., *The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO-VIRGO GW170817. VII. Properties of the Host Galaxy and Constraints on the Merger Timescale*, Astrophys J **848** L22 (2017)
- Alexander K D et al., *The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO-VIRGO GW170817. VI. Radio Constraints on a Relativistic Jet and Predictions for Late-Time Emission from the Kilonova Ejecta*, Astrophys J **848** L21 (2017)
- Margutti Raffaella et al., *The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO-VIRGO GW170817. V. Rising X-ray Emission from an Off-Axis Jet*, Astrophys J **848** L20 (2017)

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Soares Santos M et al., *The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO-Virgo GW170817. I. Dark Energy Camera Discovery of the Optical Counterpart*, *Astrophys J* **848** L16 (2017)

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Abbott Benjamin P et al., *GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence*, *Phys Rev Lett* **119** 141101 (2017)

Nitz Alexander H, Dent Thomas, Dal Canton Tito, Fairhurst Stephen, and Brown Duncan A, *Detecting binary compact-object mergers with gravitational waves: Understanding and Improving the sensitivity of the PyCBC search*, *Astrophys J* **849** 118 (2017)

Weitzel Derek, Bockelman Brian, Brown Duncan A, Couvares Peter, Wrthwein Frank, and Fajardo Hernandez Edgar, *Data Access for LIGO on the OSG*, in *Proceedings of the Practice and Experience in Advanced Research Computing 2017 on Sustainability, Success and Impact*, PEARC17, pages 24:1–24:6, New York, NY, USA (2017), ACM

Abbott Benjamin P et al., *GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2*, *Phys Rev Lett* **118** 221101 (2017)

Biwer C et al., *Validating gravitational-wave detections: The Advanced LIGO hardware injection system*, *Phys Rev* **D95** 062002 (2017)

Abbott B P et al., *Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914*, *Phys Rev* **D95** 062003 (2017)

Abbott B P et al., *Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B*, *Astrophys J* **841** 89 (2017)

Bhagwat Swetha, Brown Duncan A, and Ballmer Stefan W, *Spectroscopic analysis of stellar mass black-hole mergers in our local universe with ground-based gravitational wave detectors*, *Phys Rev* **D94** 084024 (2016)

Abbott Benjamin P et al., *Upper Limits on the Rates of Binary Neutron Star and Neutron Starblack Hole Mergers From Advanced Ligos First Observing run*, *Astrophys J* **832** L21 (2016)

Usman Samantha A, Nitz Alexander H, Harry Ian W, Biwer Christopher M, Brown Duncan A, et al., *The PyCBC search for gravitational waves from compact binary coalescence*, *Class Quant Grav* **33** 215004 (2016)

Abbott Benjamin P et al., *The basic physics of the binary black hole merger GW150914*, *Annalen Phys* (2016)

Abbott B P et al., *Binary Black Hole Mergers in the first Advanced LIGO Observing Run*, *Phys Rev* **X6** 041015 (2016)

Abbott B P et al., *Directly comparing GW150914 with numerical solutions of Einsteins equations for binary black hole coalescence*, *Phys Rev* **D94** 064035 (2016)

Abbott B P et al., *The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914*, *Astrophys J* **833** L1 (2016)

Abbott B P et al., *Supplement: The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914*, *Astrophys J Suppl* **227** 14 (2016)

Abbott BP et al., *Improved analysis of GW150914 using a fully spin-precessing waveform Model*, *Phys Rev* **X6** 041014 (2016)

Abbott B P et al., *GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence*, *Phys Rev Lett* **116** 241103 (2016)

Cowperthwaite P S et al., *A DECam Search for an Optical Counterpart to the LIGO Gravitational Wave Event GW151226*, *Astrophys J* **826** L29 (2016)

Abbott B P et al., *Localization and broadband follow-up of the gravitational-wave transient GW-150914*, *Astrophys J* **826** L13 (2016)

Abbott B P et al., *Supplement: Localization and broadband follow-up of the gravitational-wave transient GW150914*, *Astrophys J Suppl* **225** 8 (2016)

Soares Santos M et al., *A Dark Energy Camera Search for an Optical Counterpart to the First Advanced LIGO Gravitational Wave Event GW150914*, *Astrophys J* **823** L33 (2016)

Abbott B P et al., *Tests of general relativity with GW150914*, *Phys Rev Lett* **116** 221101 (2016)

Abbott B P et al., *Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914*, *Class Quant Grav* **33** 134001 (2016)

Abbott B P et al., *Observing gravitational-wave transient GW150914 with minimal assumptions*, *Phys Rev* **D93** 122004 (2016)

Abbott B P et al., *Properties of the Binary Black Hole Merger GW150914*, *Phys Rev Lett* **116** 241102 (2016)

Abbott B P et al., *GW150914: First results from the search for binary black hole coalescence with Advanced LIGO*, *Phys Rev* **D93** 122003 (2016)

Abbott B P et al., *GW150914: The Advanced LIGO Detectors in the Era of First Discoveries*, *Phys Rev Lett* **116** 131103 (2016)

Abbott B P et al., *Observation of Gravitational Waves from a Binary Black Hole Merger*, Phys Rev Lett **116** 061102 (2016)

Abbott B P et al., *Astrophysical Implications of the Binary Black-Hole Merger GW150914*, Astrophys J **818** L22 (2016)

Barkett Kevin et al., *Gravitational waveforms for neutron star binaries from binary black hole simulations*, Phys Rev **D93** 044064 (2016)

Aasi J et al., *Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo*, Living Rev Rel **19** 1 (2016)

Kumar Prayush, Barkett Kevin, Bhagwat Swetha, Afshari Nousha, Brown Duncan A, Lovelace Geoffrey, Scheel Mark A, and Szilagyi Bela, *Accuracy and precision of gravitational-wave models of inspiraling neutron star-black hole binaries with spin: Comparison with matter-free numerical relativity in the low-frequency regime*, Phys Rev **D92** 102001 (2015)

Aasi J et al., *Characterization of the LIGO detectors during their sixth science run*, Class Quant Grav **32** 115012 (2015)

Dal Canton Tito, Nitz Alexander, Lundgren Andrew, Nielsen Alex, Brown Duncan A, et al., *Implementing a search for aligned-spin neutron star-black hole systems with advanced ground based gravitational wave detectors*, PhysRev **D90** 082004 (2014)

Aasi J et al., *Search for gravitational waves associated with gamma-ray bursts detected by the Inter-Planetary Network*, PhysRevLett **113** 011102 (2014)

Aasi J et al., *The NINJA-2 project: Detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations*, ClassQuantGrav **31** 115004 (2014)

Kumar Prayush, MacDonald Ilana, Brown Duncan A, Pfeiffer Harald P, Cannon Kipp, et al., *Template Banks for Binary black hole searches with Numerical Relativity waveforms*, PhysRev **D89** 042002 (2014)

Aasi J et al., *Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005-2010*, PhysRev **D89** 102006 (2014)

Harry IW, Nitz AH, Brown Duncan A, Lundgren A, Ochsner Evan, et al., *Investigating the effect of precession on searches for neutron-star-black-hole binaries with Advanced LIGO*, PhysRev **D89** 024010 (2014)

Nitz Alexander H, Lundgren Andrew, Brown Duncan A, Ochsner Evan, Keppel Drew, et al., *Accuracy of gravitational waveform models for observing neutron-star-black-hole binaries in Advanced LIGO*, PhysRev **D88** 124039 (2013)

Singer Leo P, Cenko S Bradley, Kasliwal Mansi M, Perley Daniel A, Ofek Eran O, Brown Duncan A, et al., *Discovery and redshift of an optical afterglow in 71 square degrees iPTF13bxi and GRB 130702A*, AstrophysJ **776** L34 (2013)

Hannam Mark, Brown Duncan A, Fairhurst Stephen, Fryer Chris L, and Harry Ian W, *When can gravitational-wave observations distinguish between black holes and neutron stars?*, AstrophysJ **766** L14 (2013)



- Aasi J et al., *Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network*, PhysRev **D88** 062001 (2013)
- Brown Duncan A, Kumar Prayush, and Nitz Alexander H, *Template banks to search for low-mass binary black holes in advanced gravitational-wave detectors*, PhysRev **D87** 082004 (2013)
- Huerta EA and Brown Duncan A, *Effect of eccentricity on binary neutron star searches in Advanced LIGO*, Phys Rev **D87** 127501 (2013)
- Babak S, Biswas R, Brady PR, Brown DA, Cannon K, et al., *Searching for gravitational waves from binary coalescence*, PhysRev **D87** 024033 (2013)
- Aasi J et al., *Search for Gravitational Waves from Binary Black Hole Inspiral, Merger and Ringdown in LIGO-Virgo Data from 2009-2010*, Phys Rev **D87** 022002 (2013)
- Briggs M S et al., *Search for gravitational waves associated with gamma-ray bursts during LIGO science run 6 and Virgo science runs 2 and 3*, Astrophys J **760** 12 (2012)
- Brown Duncan A, Harry Ian, Lundgren Andrew, and Nitz Alexander H, *Detecting binary neutron star systems with spin in advanced gravitational-wave detectors*, Phys Rev **D86** 084017 (2012)
- Brown Duncan A, Lundgren Andrew, and O Shaughnessy R, *Nonspinning searches for spinning binaries in ground-based detector data: Amplitude and mismatch predictions in the constant precession cone approximation*, Phys Rev **D86** 064020 (2012)
- Aasi J et al., *The characterization of Virgo data and its impact on gravitational-wave searches*, Class Quant Grav **29** 155002 (2012)
- Huerta E A, Kumar Prayush, and Brown Duncan A, *Accurate modeling of intermediate-mass-ratio inspirals: exploring the form of the self-force in the intermediate-mass-ratio regime*, PhysRev **D86** 024024 (2012)
- Huerta E A, Gair Jonathan R, and Brown Duncan A, *Importance of including small body spin effects in the modelling of intermediate mass-ratio inspirals. II Accurate parameter extraction of strong sources using higher-order spin effects*, PhysRev **D85** 064023 (2012)
- Abadie J et al., *Search for Gravitational Waves from Low Mass Compact Binary Coalescence in LIGO's Sixth Science Run and Virgo's Science Runs 2 and 3*, PhysRev **D85** 082002 (2012)
- Allen Bruce, Anderson Warren G, Brady Patrick R, Brown Duncan A, and Creighton Jolien D E, *FINDCHIRP: An algorithm for detection of gravitational waves from inspiraling compact binaries*, PhysRev **D85** 122006 (2012)
- Ajith P, Boyle Michael, Brown Duncan A, Bruggmann Bernd, Buchman Luisa T, et al., *The NINJA-2 catalog of hybrid post-Newtonian/numerical-relativity waveforms for non-precessing black-hole binaries*, ClassQuantGrav **29** 124001 (2012)
- Abadie J et al., *Implications For The Origin Of GRB 051103 From LIGO Observations*, AstrophysJ **755** 2 (2012)
- Abadie J et al., *Search for gravitational waves from binary black hole inspiral, merger and ringdown*, Phys Rev **D83** 122005 (2011)

- Abadie J et al., *Search for Gravitational Waves from Compact Binary Coalescence in LIGO and Virgo Data from S5 and VSR1*, Phys Rev **D82** 102001 (2010)
- Slutsky J et al., *Methods for Reducing False Alarms in Searches for Compact Binary Coalescences in LIGO Data*, Class Quant Grav **27** 165023 (2010)
- Abadie J et al., *Predictions for the Rates of Compact Binary Coalescences Observable by Ground-based Gravitational-wave Detectors*, Class Quant Grav **27** 173001 (2010)
- Abadie J et al., *Search for gravitational-wave inspiral signals associated with short Gamma-Ray Bursts during LIGO's fifth and Virgo's first science run*, Astrophys J **715** 1453–1461 (2010)
- Brown Duncan A and Zimmerman Peter J, *Effect of eccentricity on searches for gravitational waves from coalescing compact binaries in ground-based detectors*, Phys Rev D **81** 024007 (2010)
- Abbott B P et al., *Search for Gravitational Waves from Low Mass Compact Binary Coalescence in 186 Days of LIGO's fifth Science Run*, Phys Rev **D80** 047101 (2009)
- Abbott B P et al., *Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data*, Phys Rev **D80** 062001 (2009)
- Aylott Benjamin et al., *Testing gravitational-wave searches with numerical relativity waveforms: Results from the first Numerical INjection Analysis (NINJA) project*, Class Quant Grav **26** 165008 (2009)
- Van Den Broeck Chris, Brown Duncan A, Cokelaer Thomas, Harry Ian, Jones Gareth, Sathyaprakash B S, Tagoshi Hideyuki, and Takahashi Hirotsugu, *Template banks to search for compact binaries with spinning components in gravitational wave data*, Phys Rev **D80** 024009 (2009)
- Boyle Michael, Brown Duncan A, and Pekowsky Larne, *Comparison of high-accuracy numerical simulations of black-hole binaries with stationary phase post-Newtonian template waveforms for Initial and Advanced LIGO*, Class Quant Grav **26** 114006 (2009)
- Cadonati Laura et al., *Status of NINJA: the Numerical INjection Analysis project*, Class Quant Grav **26** 114008 (2009)
- Abbott B P et al., *Search for Gravitational Waves from Low Mass Binary Coalescences in the First Year of LIGO's S5 Data*, Phys Rev **D79** 122001 (2009)
- B P Abbott et al., *LIGO: the Laser Interferometer Gravitational-Wave Observatory*, Reports on Progress in Physics **72** 076901 (2009)
- Lindblom Lee, Owen Benjamin J, and Brown Duncan A, *Model Waveform Accuracy Standards for Gravitational Wave Data Analysis*, Phys Rev **D78** 124020 (2008)
- Ilya Mandel, Duncan A Brown, Jonathan R Gair, and M Coleman Miller, *Rates and Characteristics of Intermediate Mass Ratio Inspirals Detectable by Advanced LIGO*, Astrophys J **681** 1431 (2008)
- Abbott B et al., *Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals*, Phys Rev **D78** 042002 (2008)
- Babak Stanislav et al., *Report on the second Mock LISA Data Challenge*, Class Quant Grav **25** 114037 (2008)

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Abbott B et al., *Implications for the Origin of GRB 070201 from LIGO Observations*, Astrophys J **681** 1419–1430 (July 2008)

Beauville F et al., *Detailed comparison of LIGO and Virgo inspiral pipelines in preparation for a joint search*, Class Quant Grav **25** 045001 (2008)

Brown Duncan A et al., *Prospects for detection of gravitational waves from intermediate-mass-ratio inspirals*, Phys Rev Lett **99** 201102 (2007)

Boyle Michael et al., *High-accuracy comparison of numerical relativity simulations with post-Newtonian expansions*, Phys Rev **D76** 124038 (2007)

Singh Gurmeet et al., *Optimizing workflow data footprint*, Scientific Programming **15** 249 (2007)

Brown Duncan A, Crowder Jeff, Cutler Curt, Mandel Ilya, and Vallisneri Michele, *A Three-Stage Search for Supermassive Black Hole Binaries in LISA Data*, Class Quant Grav **24** S595–S606 (2007)

Arnaud K A et al., *Report on the first round of the Mock LISA Data Challenges*, Class Quant Grav **24** S529–S540 (2007)

Pfeiffer Harald P et al., *Reducing orbital eccentricity in binary black hole simulations*, Class Quant Grav **24** S59–S82 (2007)

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Abbott B et al., *Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries*, Phys Rev **D73** 102002 (2006)

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Brown Duncan A, *Using the INSPIRAL program to search for gravitational waves from low-mass binary inspiral*, Class Quant Grav **22** S1097–S1108 (2005)

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#### *Other Publications*

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Abadie J et al., *Calibration of the LIGO Gravitational Wave Detectors in the Fifth Science Run*, Nucl Instrum Meth **A624** 223–240 (2010)

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Abbott B et al., *Astrophysically Triggered Searches for Gravitational Waves: Status and Prospects*, Class Quant Grav **25** 114051 (2008)

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Abbott B et al., *Upper limits on gravitational wave emission from 78 radio pulsars*, Phys Rev **D76** 042001 (2007)

Abbott B et al., *Search for gravitational-wave bursts in LIGO data from the fourth science run*, Class Quant Grav **24** 5343–5370 (2007)

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Allen Bruce et al., *Upper limits on the strength of periodic gravitational waves from PSR J1939+2134*, *Class Quant Grav* **21** S671–S676 (2004)

## RESEARCH GRANTS

Principal Investigator Collaborative Research: EAGER: Advancing Reproducibility in Multi-Messenger Astrophysics  
National Science Foundation Award PHY-2041878  
September 1, 2020–August 31, 2021: \$99,999

Co-Principal Investigator CC\* Compute: A High Performance GPU Cluster at Syracuse University  
National Science Foundation Award OAC-2018822  
September 1, 2020–August 31, 2022: \$393,128



Principal Investigator	<p>WoU-MMA: Exploring the Universe with Gravitational Waves  National Science Foundation Award PHY-2011655  July 1, 2020–June 30, 2023: \$360,000</p>
Principal Investigator	<p>Collaborative Research: EAGER: Exploring and Advancing the State of the Art in Robust Science in Gravitational Wave Physics  National Science Foundation Award OAC-1823378  May 1, 2018–April 30, 2020: \$75,000</p>
Co-Principal Investigator	<p>Collaborative Research: The Next Generation of Gravitational-Wave Detectors  National Science Foundation Award PHY-1836702  August 15, 2018–July 31, 2021: \$240,006</p>
Principal Investigator	<p>Gravitational Wave Physics and Astronomy with Advanced LIGO  National Science Foundation Award PHY-1707954  July 1, 2017–June 30, 2020: \$360,000</p>
Co-Principal Investigator	<p>CICI: CE: SciTokens: Capability-Based Secure Access to Remote Scientific Data  National Science Foundation Award OAC-1738962  July 1, 2017–June 30, 2019: \$1,000,000</p>
Co-Principal Investigator	<p>The CSUF-Syracuse partnership for inclusion of underrepresented groups in gravitational-wave astronomy  National Science Foundation Award AST-1559694  August 1, 2016–July 31, 2021: \$937,368</p>
Co-Principal Investigator	<p>CC*DNI Engineer: Leading the way for research computing at Syracuse University and beyond  National Science Foundation Award ACI-1541396  September 1, 2015–August 31, 2017: \$396,098</p>
Principal Investigator	<p>CIF21 DIBBs: Domain-aware management of heterogeneous workflows: Active data management for gravitational-wave science workflows  National Science Foundation Award ACI-1443047  October 1, 2014–September 30, 2019: \$1,078,712</p>
Principal Investigator	<p>Computational Optimization for High-Latency Compact Binary Searches in Advanced LIGO  Sub-contract from California Institute of Technology  August 1, 2014–July 31, 2015: \$335,264</p>

Principal Investigator Gravitational Wave Astrophysics With Advanced LIGO  
National Science Foundation Award PHY-1404395  
July 1, 2014–June 30, 2017: \$360,000

Principal Investigator Collaborative Research: Theoretical-Computational Network for  
Extracting Astrophysics and Fundamental Physics from Multi-Messenger  
Observations of Compact Objects  
National Science Foundation Award AST-1333142  
September 1, 2013–August 31, 2016: \$385,442

Co-Principal Investigator CC-NIE Networking Infrastructure: Enhancing the OrangeGrid:  
Upgrading the Syracuse Campus Network to Enable High Throughput  
Research Computing  
National Science Foundation Award PHY-1341006  
September 1, 2013–August 31, 2015: \$498,452

Co-Principal Investigator Data Handling and Analysis Infrastructure for Advanced LIGO and  
Beyond  
National Science Foundation Award PHY-1104371  
December 15, 2011–December 15, 2016: \$9,000,000  
Sub-contract to Syracuse University: \$2,250,000

Principal Investigator Exploring the universe with gravitational waves: a new frontier in 21st-  
century astronomy and astrophysics  
Research Corporation for Science Advancement Cottrell Scholar Award  
November 15, 2010–November 14, 2013: \$75,000

Principal Investigator Major Research Instrumentation: Development of a High-Throughput  
Computing Cluster for Gravitational-Wave Data Analysis and High-  
Energy Physics  
National Science Foundation Award PHY-1040231  
September 1, 2010–August 31, 2013: \$807,619

Principal Investigator CAREER: An Integrated Research and Education Proposal in  
Gravitational Wave Astronomy and Astrophysics  
National Science Foundation Award PHY-0847611  
April 1, 2009–March 31, 2014: \$550,000

Co-Principal Investigator Enabling Gravitational-Wave Astronomy on the LIGO Data Grid  
National Science Foundation Sub-award K087577 (Prime award PHY-0600953)  
January 28, 2008–October 31, 2011: \$819,814

Principal Investigator Student Travel for Numerical Relativity and Data Analysis 2008  
Conference  
National Science Foundation Award PHY-0838740  
August 30, 2008–July 31, 2009: \$5,000

Principal Investigator      Syracuse University Gravitational-Wave Group Computing Cluster  
Sun Microsystems Academic Excellence Grant EDUD-7824-080104-US  
August 31, 2007: \$20,574

#### INVITED TALKS AND PRESENTATIONS

April 2021                      Data Analysis with Cosmic Explorer  
Data Analysis in Astrophysics, American Physical Society Meeting

March 2021                      Nuclear Physics from Neutron Star Mergers  
Physics Colloquium, University of Houston, Houston, TX

December 2020                What Have we Learned about Binary Neutron Stars Since the Discovery of GW170817?  
Theoretical Physics Colloquium, Arizona State University, Tempe, AZ

March 2020                      What Have we Learned about Binary Neutron Stars Since the Discovery of GW170817?  
Department of Astronomy Colloquium, University of Arizona, Tucson, AZ

December 2019                Gravitational Waves and Neutron Stars?  
Institute for Nuclear Theory, University of Washington, Seattle, WA

September 2019                What have we learned about binary neutron stars since the discovery of GW170817?  
Astronomy Colloquium, Cornell University, Ithaca, NY

August 2019                    What have we learned about binary neutron stars since the discovery of GW170817?  
Niels Bohr Institute, Copenhagen, Denmark

June 2019                        Towards Third-Generation Gravitational-Wave Detectors,  
Kavli Institute for Theoretical Physics, Goleta, CA

June 2019                        The Cyberinfrastructure of Gravitational-Wave Astronomy and the March Towards Open Data,  
University of Southern California Information Sciences Institute,  
Marina Del Ray, CA

June 2019                        Open Gravitational Wave Data,  
Open Digital Infrastructure in Astrophysics, UC Santa Barbara, Goleta, CA

June 2019                        What's New With Gravitational Waves?  
Astronomy On Tap, Santa Barbara, CA

May 2019                        What have we learned about binary neutron stars since the discovery of GW170817?  
Physics Research Conference, California Institute of Technology, Pasadena, CA

May 2019 A Merger in Space: Black Holes and Neutron Stars,  
Goleta Public Library, Goleta, CA

April 2019 Probing Neutron Stars using Gravitational Waves,  
American Physical Society Meeting, Denver, CO

March 2019 Gravitational-wave astronomy on the Open Science Grid,  
Open Science Grid All-Hands Meeting, Jefferson National Laboratory, Newport  
News, VA

March 2019 A Researcher Perspective on Federated Identity Management and Wait—  
Also the Network (OSG and My Use of It),  
Internet2 Global Summit, Washington DC.

December 2018 Lessons Learned from Analysis of Open LIGO/Virgo Data,  
Gravitational Wave Physics and Astronomy Workshop, University of Maryland,  
College Park, MD

October 2018 GW170817: A neutron star merger observed in gravitational and electro-  
magnetic waves,  
Astronomy Colloquium, UC Berkeley, CA.

October 2018 Supernovae in Third-Generation Gravitational-wave Detectors,  
GWIC Conference, Potsdam, Germany

July 2018 Discovery of the binary neutron star merger GW170817 in gravitational and  
electromagnetic waves,  
30th IUPAP Conference on Computational Physics, Davis, CA

May 2018 Discovery of the binary neutron star merger GW170817 in gravitational and  
electromagnetic waves,  
Columbia University, New York, NY

May 2018 A Merger In Space: Black Holes and Neutron Stars,  
2018 World Science Fair, New York, NY

May 2018 GW170817: Discovery of a Binary Neutron Star Merger,  
Sackler Conference, Harvard University, Harvard, MA

April 2018 Gravitational Wave Astrophysics During the Next LIGO Observing Run,  
Princeton University, Princeton, NJ

December 2017 JINA Panel Discussion: The impact of the LIGO/VIRGO Neutron Star Merger  
Discovery on Research in Nuclear Science and Nuclear Astrophysics,  
Joint Institute for Nuclear Astrophysics

October 2017 GW170817: The Detection of a Binary Neutron Star Merger in Gravitational  
and Electromagnetic waves,  
Columbia University Physics Colloquium, New York, NY

October 2017 GW170817: The Detection of a Binary Neutron Star Merger in Gravitational  
and Electromagnetic waves,  
Ohio University Physics Colloquium, Athens, OH

June 2017 Calibration, Data Quality and Vetos: Now and the upcoming challenges, Gravitational Wave Physics and Astronomy workshop, Annecy, France

August 2016 Syracuse University Undergraduate Student Convocation, Syracuse, NY

May 2017 The Observation of Gravitational Waves from a Binary Black Hole Mergers by LIGO, Waves 2017, University of Minnesota, Minneapolis, MN

April 2017 The Observation of Gravitational Waves from a Binary Black Hole Mergers by LIGO, Society of Quantitative Analysis, New York, NY

March 2017 International Gravitational-Wave Projectsm Phenomena, Physics, and Puzzles Of Massive Stars and their Explosive Outcomes, Kavli Institute for Theoretical Physics, Santa Barbara, CA

June 2016 The Observation of Gravitational Waves from Binary Black Hole Mergers by LIGO, Kavli Institute for Theoretical Physics, Santa Barbara, CA

June 2016 The Observation of Gravitational Waves from a Binary Black Hole Merger by LIGO, Princeton Plasma Physics Laboratory, Princeton, NJ

June 2016 Gravitational-Wave Astronomy, ICNT and JINA-CEE program "The r-process nucleosynthesis: connecting FRIB with the cosmos," East Lansing, MI

May 2016 Exploring the Physics of Neutron Stars with Gravitational-Wave Astronomy, Neutron Stars in the Multi-Messenger Era: Prospects and Challenges, Ohio University, Athens, OH

May 2016 The Observation of Gravitational Waves from a Binary Black Hole Merger by LIGO, The first observation of a binary black hole merger: Status and future prospects, Albert Einstein Institute, Hannover, Germany

April 2016 Exploring the Physics of Compact Objects with Gravitational-Wave Astronomy, Division of Nuclear Physics and Astrophysics, Americal Physical Society April Meeting, Salt Lake City, UT

April 2016 Beyond LIGO's first detection of gravitational waves, GR100++ at Princeton Center for Theoretical Science, Princeton University, Princeton, NJ

March 2016 The Observation of Gravitational Waves from a Binary Black Hole Merger, Physics and Astronomy Colloquium, Johns Hopkins University, Baltimore, MD

March 2016 The Observation of Gravitational Waves from a Binary Black Hole Merger, Kavli Foundation Special Symposium on Physics Frontiers, APS March Meeting, Baltimore, MD

July 2015 Lectures on Detecting Coalescing Binaries, Caltech Gravitational Wave Astrophysics School, Pasadena, CA

February 2015 Gravitational Waves: A New Frontier in 21st Century Astrophysics, Physics Department Colloquium, Carnegie Mellon University, Pittsburgh, MA

November 2014 Gravitational Waves: A New Frontier in 21st Century Astrophysics, Physics Department Colloquium, Cornell University, NY

October 2014 Gravitational Waves: A New Frontier in 21st Century Astrophysics, Giant Magellan Telescope Community Science Meeting, Smithsonian Intitution, Washington DC

September 2014 Gravitational Waves: A New Frontier in 21st Century Astrophysics, Physics Department Colloquium, Massachusetts Institute of Technology, MA

June 2014 Gravitational-Wave Astronomy with Advanced LIGO, Royal Society Gamma Ray Burst Workshop, Chichley Hall, UK

November 2013 Measuring the parameters of compact binary coalescence with aLIGO, TCAN Workshop, California Institute of Technology, CA

April 2013 The New Astronomy of LIGO: Exploring the Gravitational-wave Sky, Physics Department Colloquium, University of Florida, FL

February 2013 Challenges in searching for compact binary coalescence with aLIGO, Seminar, Caltech–JPL Association for Gravitational-wave Research, California Institute of Technology, CA

December 2012 Gravitational Waves: A New Frontier in 21st Century Astrophysics, Enrio Fermi Institute Colloquium, University of Chicago, IL

November 2012 The New Astronomy of LIGO, Physics Department Colloquium, University of Washington, WA

November 2012 Challenges in Advanced LIGO’s Binary Black Hole Search, Numerical Relativity Seminar, California Institute of Technology, CA

October 2012 Chirps, Mergers and Explosions, LIGO Seminar, California Institute of Technology, CA

August 2012 The New Astronomy of LIGO: Exploring the Gravitational Wave Sky, Director’s Blackboard Talk, Kavli Institute for Theoretical Physics, CA

July 2012 The New Astronomy of LIGO, NASA Education Ambassador Training, Sonoma State University, CA

June 2012 The New Astronomy of LIGO, 2012 Physics Research and Education Gordon Research Conference, Colby College, ME

May 2012 Commissioning and Observing Scenarios for LIGO and Virgo,  
LIGO Astronomy and Astrophysics Advisory Panel, Caltech, Pasadena, CA

May 2012 Connecting the Electromagnetic and Gravitational Wave Skies in the Era of  
Advanced LIGO  
Princeton Center for Theoretical Science, Princeton, NJ

March 2012 The New Astronomy of LIGO,  
Liverpool Public Library, Liverpool, NY

August 2011 Invited Lecturer,  
2011 International School on Numerical Relativity and Gravitational Waves, SPCTP,  
Pohang, Korea

July 2011 The New Astronomy of LIGO,  
University of Nebraska–Lincoln, Lincoln, NE

July 2011 Improving the Laboratory Experience for Non-Science Majors,  
Cottrell Scholar’s Conference, Research Corporation for Science Advancement, Tuc-  
son, AZ

May 2011 Gravitational Wave Astronomy with LIGO and Virgo,  
Advances and Challenges in Computational Relativity, Brown University, RI

April 2011 LIGO’s Interactions with the Numerical Relativity Community,  
LIGO Astronomy and Astrophysics Advisory Panel, Caltech, CA

November 2010 Gravitational Wave Astronomy with LIGO and Virgo,  
Physics Colloquium, Cal State Fullerton, CA

October 2010 Searching for Coalescing Compact Binaries using LIGO and Virgo,  
Gravitational Waves 2010, University of Minnesota, MN

September 2010 Gravitational Wave Astronomy with LIGO and Virgo,  
Physics Colloquium, Syracuse University, NY

July 2010 Searching for Compact Binaries using LIGO and Virgo,  
19th International Conference on General Relativity and Gravitation, Mexico City,  
Mexico

March 2010 Gravitational Wave Astronomy with LIGO and Virgo,  
Department of Astronomy and Astrophysics Colloquium, University of Toronto

January 2010 LIGO’s Need for Cyberinfrastructure,  
National Science Foundation Office of Cyberinfrastructure, Washington D.C.

October 2009 Gravitational Wave Astronomy with LIGO,  
Challenges in Computational Astrophysics, Princeton Center for Theoretical Sci-  
ence

July 2009 The LIGO Scientific Collaboration’s Interaction with the Numerical Relativ-  
ity Community,  
LIGO Program Advisory Committee, Massachusetts Institute of Technology

April 2009           Towards Gravitational Wave Astronomy with LIGO,  
California Institute of Technology

April 2009           Towards Gravitational Wave Astronomy with LIGO,  
Rochester Institute of Technology

February 2009       Searches for Gravitational Waves from Compact Binary Coalescence,  
Center for Gravitational Wave Physics, The Pennsylvania State University

January 2009        Results of the Numerical INJECTION Analysis (NINJA) Project,  
13th Gravitational Wave Data Analysis Workshop, San Juan, Puerto Rico

April 2008           Searches for Gravitational Waves from the Inspiral of Binary  
Neutron Stars and Black Holes,  
American Physical Society Meeting, St. Louis, MO

January 2008        Director's Blackboard Seminar,  
Kavli Institute For Theoretical Physics, Santa Barbara, CA

November 2007      Physics Colloquium,  
Rochester Institute of Technology

November 2007      LIGO Inspiral Analysis and Computing: Where are we now and where do  
we want to be in 6 months?,  
Workshop on Computing Workflows, University of Wisconsin–Milwaukee

March 2007          Physics Colloquium,  
University of Wisconsin–Milwaukee

March 2007          Physics Colloquium,  
Syracuse University

November 2006      Searching for Gravitational Waves From Compact Binaries,  
Numerical Relativity and Data Analysis Conference 2006, Massachusetts Institute  
of Technology

October 2006        LIGO/LSC Analysis Software:Case Study of Inspiral Analysis,  
National Science Foundation LIGO Annual Review, LIGO Hanford Observatory

July 2006            LIGO's Search for Inspiralling Binaries,  
LIGO Program Advisory Committee, California Institute of Technology

May 2006            LIGO, Gravitational Waves and Einstein at Home,  
Public Lecture at Riverside Community College, CA

Aug 2006            The Search for Gravitational Waves with LIGO,  
6th Rencontres du Vietnam

Apr 2006            Searching for Gravitational Waves with LIGO,  
Physics Colloquium, Whittier College, CA

November 2005      Running the Inspiral Analysis on non-LSC Grid Computing Resources,  
National Science Foundation LIGO Annual Review, California Institute of Technol-  
ogy



September 2004 Searching for Gravitational Radiation from Binary Inspirals with LIGO, Physics Colloquium, University of Wisconsin–Milwaukee

Feb 2004 Searching for Primordial Black Hole Binaries with LIGO, California Institute of Technology

Jan 2004 Searching for Gravitational Waves from Binary Inspiral with LIGO: Current Status and Future Plans, Louisiana State University

#### STUDENTS AND POSTDOCS SUPERVISED

Postdoctoral Researchers Ryan Fisher (Faculty, Christopher Newport University), Ian Harry (Faculty, University of Portsmouth), Eliu Huerta (Research Professor, UIUC), Benjamin Lackey (Data Scientist in Industry), Andrew Lundgren (Faculty, University of Portsmouth), Ping Wei (Engineer, Nokia-Siemens), Laura Nuttall (Faculty, University of Portsmouth); Jedidah Isler (Faculty, Dartmouth University).

Graduate Students Collin Capano (Ph.D. 2012), Larné Pekowsky (Ph.D. 2012), Kayleigh Ayn Bohémier (MLIS 2012, co-supervised with Jian Qin), Prayush Kumar (Ph.D. 2014), Alex Nitz (Ph.D. 2015), Christopher Biwer (Ph.D. 2017), Swetha Bhagwat (Ph.D. 2019), Steven Reyes (Ph.D. 2019), Soumi De (Ph.D. 2020), Daniel Finstad (expected 2021), Amber Lenon (expected 2021), Chaitanya Afle (expected 2022), Erick Leon (expected 2023).

Undergraduate Students Almir Alemic (BS 2014), Erika Cowan (BS 2015), Carter Gustin (Current), Amber Lenon (BS 2016), Jaysin Lord (BS 2016), Danielle Meisner (BS 2019), Patrick Miles (BS 2018), Seth Rothschild (BS 2012), Simonisa Selmon (BS 2018), Matthew Turner (BS 2008), Samantha Usman (BS 2016), Laurel White (BS 2021), Peter Zimmerman (BS 2009)

#### SERVICE

2020– Director of the Physics Graduate Program, Syracuse University

2017– Member of the Board of Trustees of Internet2

2019– Grant Reviewer for United Kingdom STFC

2018– Grant Reviewer for Belgian Government

2018– Grant Reviewer for Netherlands Organisation for Scientific Research

2016– Grant Reviewer for Welsh Government, United Kingdom

2016–	Syracuse University Research Computing Advisory Committee
2020–	Syracuse University Physics Graduate Program Director
2017–2019	Faculty Representative to the Syracuse University Board of Trustees
2015–2017	Member at Large, Executive Committee of the Topical Group in Gravity, American Physical Society
2015–2017	Member at Large, Executive Committee of the Division of Computational Physics, American Physical Society
2014–	NYSERNET Scientific Advisory Board
2013–2017	Director of the Physics Graduate Program, Syracuse University
2012–2015	Chair, LIGO Scientific Collaboration and Virgo Collaboration Compact Binary Coalescence Search Group
2010–	Grant Reviewer for National Science Foundation
2009–2011	Chair, Physics Department Web Committee, Syracuse University
2009	Undergraduate Research Day Committee, Syracuse University
2008–2011	LIGO Scientific Collaboration Conference Committee
2008	Chair, Undergraduate Research Day Committee, Syracuse University
2007–	NASA Grant Reviewer
2007–2008	Syracuse University Freshman Adviser
2007–2018	LIGO Scientific Collaboration Computing Committee
2007–	Referee for Physical Review D, Physical Review Letters, Classical and Quantum Gravity, JCAP, Astrophysical Journal Letters, Astrophysical Journal
2004–2007	Compact Binary Search Review Committee, LIGO Scientific Collaboration

#### COURSES TAUGHT

PHY424	Electromagnetics I, Fall 2016, Fall 2017, Fall 2018
PHY216	General Physics II for Honors and Majors Students, Spring 2017, Spring 2018
PHY317	Stellar and Interstellar Astrophysics, Fall 2016, Spring 2021
PHY607	Computational Physics, Spring 2012

AST101 Introduction to Astronomy,  
Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2013, Fall 2014

PHY308 Science and Computers II,  
Spring 2009

PHY221 General Physics I,  
Fall 2007

PROFESSIONAL DEVELOPMENT

April 2010 NASA Center for Astronomy Education: Improving the Introductory Astronomy Survey Course for Non-Science Majors through Active Learning.  
16 hour workshop

October 2008 NASA Center for Astronomy Education: Improving the Introductory Astronomy Survey Course for Non-Science Majors through Active Learning.  
16 hour workshop