

Michael J. Zevin || Curriculum Vitae

Northwestern University/CIERA, — 2145 Sheridan Road, F226 — Evanston, IL 60208

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Ph.D. candidate in physics and astronomy at Northwestern University, studying gravitational-wave astrophysics, compact objects, stellar evolution, and star cluster dynamics. Numerous leadership roles and varied contributions in citizen science, science communication, and outreach.

Education

Academic Qualifications

Northwestern University **Ph.D.**, Matriculating Spring 2020
Evanston, IL **M.S.**, Fall 2016

Thesis — Unveiling the Lives and Deaths of Stars through Gravitational Waves and Stellar Explosions
Advisor — Vicky Kalogera

University of Illinois **B.S.**, Spring 2012
Champaign, IL

Majors in Astronomy and Physics, Minor in Music Performance

Fellowships

- ▷ NSF IDEAS Fellowship 2016–Present
- ▷ Illinois Space Grant Consortium Fellowship 2017–Present
- ▷ NSF GK12 Fellowship 2017–2018
- ▷ Oxford Centre for Cosmological Studies Balzan Fellowship¹ 2018
- ▷ Kavli Summer Fellowship² 2017

Publications

First Author & Chaired Papers (with links)

The Progenitors of Highly-Offset GRBs Require Substantial Natal Kicks 2019
[M. Zevin](#), L. Kelley, A. Nugent, W.F. Fong, C. Berry, V. Kalogera
(in prep)

Can Neutron-Star Mergers Explain the r-process Enrichment in Globular Clusters? 2019
[M. Zevin](#), K. Kremer, D. M. Siegel, S. Coughlin, B. T.-H. Tsang, C. P. L. Berry, V. Kalogera
The Astrophysical Journal (submitted)

Eccentric Black Hole Mergers in Dense Star Clusters: The Role of Binary-Binary Encounters **ApJ**
[M. Zevin](#), J. Samsing, C. L. Rodriguez, C. J. Haster, E. Ramirez-Ruiz 2019
The Astrophysical Journal **871**, 1
– Article in AAS Nova

On the Progenitor of Binary Neutron Star Merger GW170817 **ApJL**
The LIGO Scientific Collaboration and Virgo Collaboration³ 2017
The Astrophysical Journal Letters **850**, L40

¹Research Advisor: Dr. Chris Lintott (New College, University of Oxford)

²Research Advisor: Dr. Enrico Ramirez-Ruiz (University of California Santa Cruz)

³[M. Zevin](#): Chair of paper-writing team and analysis lead

- Constraining Formation Models of Binary Black Holes with Gravitational-Wave Observations** ApJ
2017
[M. Zevin](#), C. Pankow, C. R. Rodriguez, L. Sampson, E. Chase, V. Kalogera, F. A. Rasio
The Astrophysical Journal Letters **846**, 82
- Gravity Spy: Integrating Advanced LIGO Detector Characterization, Machine Learning, and Citizen Science** CQG
2017
[M. Zevin](#), S. Coughlin, S. Bahaadini, E. Besler, N. Rohani, S. Allen, M. Cabero, K. Crowston, A. K. Katsaggelos, S. L. Larson, T. K. Lee, C. Lintott, T. B. Littenberg, A. Lundgren, C. Østerlund, J. R. Smith, L. Trouille, V. Kalogera
Classical and Quantum Gravity **34**, 064003
– Covered by AAS Press
- Second & Third Author Papers (with links)**
- COSMIC: Open-Source Binary Population Synthesis**
K. Breivik, S. Coughlin, [M. Zevin](#), C. Rodriguez, C. Kimball, J. Andrews, M. Kurkowski, S. Larson, V. Kalogera 2019
(in prep)
- Black Holes: The Next Generation**
C. Rodriguez, [M. Zevin](#), P. Amaro-Seoane, S. Chatterjee, K. Kremer, F. A. Rasio, C. S. Ye 2019
Physical Review D (submitted)
- Illuminating Black Hole Binary Formation Channels with Spins in Advanced LIGO** ApJL
2016
C. Rodriguez, [M. Zevin](#), C. Pankow, V. Kalogera, F. A. Rasio
The Astrophysical Journal Letters **832**, 1
- Contributed Papers (with links)**
- The Missing Link in Gravitational-Wave Astronomy: Discoveries waiting in the decihertz range** ESA WP
2019
M. Arca Sedda, C. Berry, K. Jani, P. Amaro-Seoane, P. Auclair, J. Baird, T. Baker, E. Berti, K. Breivik, C. Caprini, X. Chen, D. Doneva, J. Ezquiaga, S. Ford, M. Katz, S. Kolkowitz, B. McKernan, G. Mueller, G. Nardini, I. Pikovski, S. Rajendran, A. Sesana, L. Shao, N. Tamanini, N. Warburton, H. Witek, K. Wong, [M. Zevin](#)
ESA's Voyage 2050 White Paper
- Knowledge Tracing to Model Learning in Online Citizen Science Projects** IEEE TLT
2019
K. Crowston, C. Østerlund, T. Lee, C. Jackson, M. Harandi, S. Allen, S. Bahaadini, S. Coughlin, A. Katsaggelos, S. Larson, N. Rohani, J. Smith, L. Trouille, [M. Zevin](#)
IEEE Transactions on Learning Technologies (accepted)
- Classifying the Unknown: Discovering Novel Gravitational-Wave Detector Glitches using Similarity Learning** PRD
2019
S. Coughlin, S. Bahaadini, N. Rohani, [M. Zevin](#), O. Patane, M. Harandi, C. Jackson, V. Noroozi, S. Allen, J. Areeda, M. Coughlin, P. Ruiz, C. P. L. Berry, K. Crowston, A. K. Katsaggelos, A. Lundgren, C. Østerlund, J. R. Smith, L. Trouille, V. Kalogera
Physical Review D **99**, 082002
- Post-Newtonian Dynamics in Dense Star Clusters: Binary Black Holes in the LISA Band** PRD
2019
K. Kremer, C. L. Rodriguez, P. Amaro-Seoane, K. Breivik, S. Chatterjee, M. L. Katz, S. Larson, F. A. Rasio, J. Samsing, C. S. Ye, [M. Zevin](#)
Physical Review D **99**, 063003
- Post-Newtonian Dynamics in Dense Star Clusters: Formation, Masses, and Merger Rates of Highly-Eccentric Black Hole Binaries** PRD
2018
C. L. Rodriguez, P. Amaro-Seoane, S. Chatterjee, K. Kremer, F. A. Rasio, J. Samsing, C. S. Ye, [M. Zevin](#)
Physical Review D **98**, 123005
- DIRECT: Deep Discriminative Embedding for Clustering of LIGO Data** ICIP
2018
S. Bahaadini, V. Noroozi, N. Rohani, S. Coughlin, [M. Zevin](#), V. Kalogera, A. K. Katsaggelos
25th IEEE International Conference on Image Processing Proceedings

Machine Learning for Gravity Spy: Glitch Classification and Dataset S. Bahaadini, V. Noroozi, N. Rohani, S. Coughlin, M. Zevin , J. R. Smith, V. Kalogera, A. K. Katsaggelos <i>Information Sciences Journal</i> 444 , 172	ISJ 2018
Improvements in Gravitational-wave Sky Localization with Expanded Networks of Interferometers C. Pankow, E. A. Chase, S. Coughlin M. Zevin , V. Kalogera <i>The Astrophysical Journal Letters</i> 854 , L25	ApJL 2018
Deep Multi-view Models for Glitch Classification S. Bahaadini, N. Rohani, S. Coughlin, M. Zevin , V. Kalogera, A. K. Katsaggelos <i>IEEE International Conference on Acoustics, Speech, and Signal Processing Proceedings</i>	ICASSP 2018
Incorporating Current Research into Formal Higher Education Settings using Astrobites N. E. Sanders, S. Kohler, C. Faesi, A. Villar, M. Zevin <i>American Journal of Physics</i> 85 , 741	AJP 2017
Astrophysical Prior Information and Gravitational-Wave Parameter Estimation C. Pankow, L. Sampson, L. Perri, E. A. Chase, S. Coughlin M. Zevin , V. Kalogera <i>The Astrophysical Journal</i> 834 , 2	APJ 2017

Collaboration Papers (as part of the LIGO Scientific Collaboration, 2015–Present)

- A gravitational-wave measurement of the Hubble constant following the second observing run of Advanced LIGO and Virgo
- An Optically Targeted Search for Gravitational Waves emitted by Core-Collapse Supernovae during the First and Second Observing Runs of Advanced LIGO and Advanced Virgo
- Model comparison from LIGO-Virgo data on GW170817's binary components and consequences for the merger remnant
- Search for Eccentric Binary Black Hole Mergers with Advanced LIGO and Advanced Virgo during their First and Second Observing Runs
- Tests of General Relativity with GW170817
- All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run
- All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data
- Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015–2017 LIGO Data
- Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model
- All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run
- First Measurement of the Hubble Constant from a Dark Standard Siren using the Dark Energy Survey Galaxies and the LIGO/Virgo BinaryBlack-hole Merger GW170814
- Search for sub-solar mass ultracompact binaries in Advanced LIGO's second observing run
- Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run
- Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817
- Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO
- Search for Transient Gravitational-wave Signals Associated with Magnetar Bursts during Advanced LIGO's Second Observing Run
- All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run
- Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs
- Tests of General Relativity with the Binary Black Hole Signals from the LIGO-Virgo Catalog GWTC-1
- A search for the isotropic stochastic background using data from Advanced LIGO's second observing run
- Constraining the p -Mode- g -Mode Tidal Instability with GW170817
- Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run
- Properties of the Binary Neutron Star Merger GW170817
- A Fermi Gamma-Ray Burst Monitor Search for Electromagnetic Signals Coincident with Gravitational-wave Candidates in Advanced LIGO's First Observing Run
- Search for Multimessenger Sources of Gravitational Waves and High-energy Neutrinos with Advanced LIGO during Its First Observing Run, ANTARES, and IceCube
- Search for Subsolar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run

- Binary Black Hole Population Properties Inferred from the First and Second Observing Runs of Advanced LIGO and Advanced Virgo⁴
- GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs
- GW170817: Measurements of Neutron Star Radii and Equation of State
- Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background
- Full band all-sky search for periodic gravitational waves in the O1 LIGO data
- Constraints on cosmic strings using data from the first Advanced LIGO observing run
- Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA
- GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences
- Effects of data quality vetoes on a search for compact binary coalescences in Advanced LIGO's first observing run
- All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run
- First Search for Nontensorial Gravitational Waves from Known Pulsars
- First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data
- First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data
- GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence
- Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817
- Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817
- Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory
- On the Progenitor of Binary Neutron Star Merger GW170817
- A gravitational-wave standard siren measurement of the Hubble constant
- Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A
- Multi-messenger Observations of a Binary Neutron Star Merger
- GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral⁵
- GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence
- All-sky search for periodic gravitational waves in the O1 LIGO data
- Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data
- Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube
- Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO
- GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2
- Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model
- Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B
- Effects of waveform model systematics on the interpretation of GW150914
- Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544
- First Search for Gravitational Waves from Known Pulsars with Advanced LIGO
- Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run
- Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run
- Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914
- All-sky search for short gravitational-wave bursts in the first Advanced LIGO run
- Exploring the sensitivity of next generation gravitational wave detectors
- The basic physics of the binary black hole merger GW150914
- Supplement: The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914 (2016, ApJL, 833, L1)
- The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914
- Upper Limits on the Rates of Binary Neutron Star and Neutron Star-Black Hole Mergers from Advanced LIGO's First Observing Run
- Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project

⁴M. Zevin: Education and Public Outreach Liaison

⁵M. Zevin: Education and Public Outreach Liaison

- First targeted search for gravitational-wave bursts from core-collapse supernovae in data of first-generation laser interferometer detectors
- Binary Black Hole Mergers in the First Advanced LIGO Observing Run
- Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model
- Directly comparing GW150914 with numerical solutions of Einstein’s equations for binary black hole coalescence
- Comprehensive all-sky search for periodic gravitational waves in the sixth science run LIGO data
- Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914
- Supplement: Localization and Broadband Follow-up of the Gravitational-wave Transient GW150914 (2016, ApJL, 826, L13)
- Localization and Broadband Follow-up of the Gravitational-wave Transient GW150914
- GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence
- Properties of the Binary Black Hole Merger GW150914
- Tests of General Relativity with GW150914
- High-energy neutrino follow-up search of gravitational wave event GW150914 with ANTARES and IceCube
- Search for transient gravitational waves in coincidence with short-duration radio transients during 2007-2013
- Observing gravitational-wave transient GW150914 with minimal assumptions
- GW150914: First results from the search for binary black hole coalescence with Advanced LIGO
- GW150914: The Advanced LIGO Detectors in the Era of First Discoveries
- GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes
- All-sky search for long-duration gravitational wave transients with initial LIGO
- Astrophysical Implications of the Binary Black-hole Merger GW150914
- Observation of Gravitational Waves from a Binary Black Hole Merger
- Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo

Presentations

Invited Talks

CGCA Seminar	Seminar
<i>Unveiling the Lives and Deaths of Stars through Compact Object Mergers</i>	March 2019
Milwaukee, WI	
IGC Seminar	Seminar
<i>From the Detected to the Detectors: Using Gravitational Waves to Enable Insights from the Stellar Graveyard & the Next Generation of Citizen Science</i>	March 2018
Portsmouth, UK	
SPI-MAX Seminar	Seminar
<i>From the Detected to the Detectors: Using Gravitational Waves to Enable Insights from the Stellar Graveyard & the Next Generation of Citizen Science</i>	February 2018
Oxford, UK	

Contributed Talks & Posters

Aspen Winter Conference	Talk
<i>Eccentric Black Hole Mergers in Dense Star Clusters: Post-Newtonian Effects & Higher Multiplicity Encounters</i>	February 2019
Aspen, CO	
AAS 233	Talk
<i>Eccentric Black Hole Mergers in Dense Star Clusters: The Role of Binary-Binary Encounters</i>	January 2019
Seattle, WA	
NSF Research Traineeship Annual Meeting	Poster
<i>Gravity Spy: Integrating Gravitational-Wave Astrophysics, Machine Learning, and Citizen Sciences</i>	September 2018
Washington, DC	

MODEST-18 <i>The Role of Binary-Binary Interactions in Inducing Eccentric Black Hole Mergers</i> Santorini, Greece	Talk June 2018
APS April Meeting <i>On the Progenitor of Binary Neutron Star Merger GW170817</i> Columbus, OH	Talk April 2018
Detecting the Unexpected: Discovery in the Era of Astronomically Big Data <i>The Future of Citizen Science: Coupling Crowdsourcing and Machine Learning</i> Baltimore, MD	Talk March 2017
APS April Meeting <i>Discriminating Formation Channels of Binary Black Hole Systems with Advanced LIGO</i> Washington, DC	Talk January 2017
AAS 229 <i>Discriminating Formation Channels of Binary Black Hole Systems with Advanced LIGO</i> Grapevine, TX	Talk January 2017
AAS 229 <i>Astrobiters: Engaging Undergraduate Science Majors with Current Astrophysical Research</i> Grapevine, TX	Workshop & Poster January 2017
AAS 228 <i>Gravity Spy — Integrating aLIGO detector characterization, machine learning, and citizen science</i> San Diego, CA	Talk June 2016
Northwestern Computational Research Exposition <i>Integrating aLIGO detector characterization, machine learning, and citizen science</i> Evanston, IL – Awarded first prize in poster competition	Poster April 2016
Midwest Relativity Meeting <i>LIGO glitch classification through the combination of machine learning and citizen science</i> Evanston, IL	Talk September 2015

Outreach & Public Engagement

Science Communication	
Astrobiters Author, Administrator, & Leadership Team – Astronomy blog partnered with the AAS, provides daily summaries of recent astronomy research articles – Initiated the “Beyond” series, which covers topics on career advice, graduate school applications, and diversity, equity, and inclusivity in astronomy	Blog 2014–Present
ComSciCon Organizer, Attendee – National graduate-student run science communication workshop for graduate students in STEM fields	Workshop 2017–Present
Astronomy on Tap Co-founder, organizer, host, speaker – Co-founded the Chicago branch of Astronomy on Tap, which hosts astronomy talks and space-based trivia at bars and breweries in the Chicago-land area	Public Event 2015–Present
Rapid Fire Research Founder, Chair – Annual research presentation event for graduate and undergraduate students in Northwestern Department of Physics and Astronomy	Departmental Event 2016–Present

Machine Learning Meetups	Public Event
<i>Organizer, Host</i>	<i>2016–2018</i>
– Quarterly interdisciplinary colloquia on data science and machine learning topics	

Chicagoland Science Penpals	Event
<i>Participant</i>	<i>2017</i>
– Correspondence with students in Chicago public schools about scientific research and science as a profession, using handwritten letters	

Public Talks & Lectures

Astronomer Conversations	Lecture Series
<i>Adler Planetarium, Space Visualization Laboratory</i>	<i>2014–Present</i>
– Monthly public presentations at the Adler Planetarium for museum guests	

Astronomer Evenings	Lecture Series
<i>Northwestern University, Dearborn Observatory</i>	<i>2016–Present</i>
– Presentations during public observing hours at the Dearborn Observatory	

Chipping Norton Amateur Astronomy Group	Keynote Lecture
<i>Chipping Norton, UK</i>	<i>February 2018</i>

Take Our Children to Work Day	Lecture
<i>Northwestern University</i>	<i>April 2016, 2018</i>

Haven Midde School	Invited Speaker
<i>Evanston, IL</i>	<i>April 2017, 2018</i>

Chicago Astronomical Society	Keynote Lecture
<i>Adler Planetarium</i>	<i>May 2017</i>

Avery Coonley School	Invited Speaker
<i>Downers Grove, IL</i>	<i>May 2017</i>

Seven Minutes of Science: An Interdisciplinary Symposium	Public Talk
<i>Northwestern University</i>	<i>April 2017</i>

Highcrest Elementary	Invited Speaker
<i>Wilmette, IL</i>	<i>March 2017</i>

Einstein Evenings	Lecture Series
<i>Northwestern University, Dearborn Observatory</i>	<i>2015–2016</i>
– Monthly presentations during observing hours on LIGO discoveries in celebration of the 100th anniversary of General Relativity	

Nettlehorst Elementary	Invited Speaker
<i>Chicago, IL</i>	<i>February 2016</i>

Publications

Astrobites	Blog
<i>Authored over 20 blog posts on current research in astrophysics (Link)</i>	<i>2014–Present</i>

LIGO Science Summary	Article
<i>Companion science summary to the LIGO-Virgo O2 Populations paper (Link)</i>	<i>November 2018</i>
<i>Companion science summary to the GW170817 Detection paper (Link)</i>	<i>October 2017</i>

LIGO Magazine	Magazine Article
<i>The Gravity Spy Project - Machine Learning and Citizen Science (Link)</i>	<i>March 2017</i>

Helix Magazine	Magazine Article
<i>The Legacy of Scientific Discovery (Link)</i>	<i>March 2017</i>

Teaching

Northwestern University

Introduction to Astronomy, Stellar Astrophysics, Data-Driven Research in Astronomy
 – Guest lectured, developed assignments, graded, and ran telescope observing sessions

Lecture/TA
 2015–Present

GK12 Fellowship

Reach for the Stars; Evanston, IL
 – Co-taught astronomy classes at Evanston Township High School
 – Developed curriculum, coding-based lessons, and visualizations for high-school students

Teaching
 2017–2018

Kids Science Labs

Lead Teacher; Chicago, IL
 – Taught classes of 3-12 year old students in hands-on, experiential science classes
 – Designed curriculum for science summer camps

Teaching
 2013–2015

Adler Planetarium

Science Leadership Corps Instructor, Mission Specialist; Chicago, IL
 – Designed educational programming
 – Facilitated exhibits, performed experiments, and gave astronomy talks to the public
 – Led under-represented students in designing experiments for high-altitude balloon launches

Teaching
 2012–2014

Students Mentored

Michael Kurkowski

Pair Instability Supernova Prescriptions in Binary Population Synthesis; CIERA REU Student

Undergraduate
 2019

Jared Machtinger

Population properties of binary black holes detected by LIGO; CIERA Summer Student

High School
 2019

Danai Avdela

Population properties of binary black holes detected by LIGO; CIERA Summer Student

High School
 2019

Isaac Rivera

Offset distributions of short gamma-ray bursts; CIERA REU Student

Undergraduate
 2018

Grace Kern

Optimization of Gravity Spy image retirement; CIERA Summer Student

High School
 2018

Hannah Stein

Optimization of Gravity Spy image retirement; CIERA Summer Student

High School
 2018

Yuqi Yun

Gaussian Process regression of black hole mass distributions; CIERA REU Student

Undergraduate
 2016

Sophie Haight

Gaussian Process regression of binary stellar evolution sequences; CIERA Summer Student

High School
 2016

Awards & Honors

- | | |
|---|------------|
| ▷ Avery Coonley School, Graduate Keynote Speaker | June 2018 |
| ▷ American Astronomical Society, Media Intern | June 2016 |
| ▷ Breakthrough Prize in Fundamental Physics (as part of the LIGO-Virgo Collaboration) | May 2016 |
| ▷ First Place, Poster Competition (Computational Research Day, Northwestern University) | April 2016 |
| ▷ High Distinction in Physics (University of Illinois Urbana-Champaign) | May 2012 |

Affiliations & Leadership Positions

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|---|---------------------|
| ▷ Astrobiters: <i>Administrator, Author</i> | <i>2014–Present</i> |
| ▷ ComSciCon National: <i>Organizer</i> | <i>2017–Present</i> |
| ▷ LIGO Scientific Collaboration: <i>Member</i> | <i>2015–Present</i> |
| ▷ American Astronomical Society: <i>Junior Member</i> | <i>2016–Present</i> |
| ▷ American Physical Society: <i>Member</i> | <i>2016–Present</i> |
| ▷ CIERA Compact Objects Coffee: <i>Founder, chair</i> | <i>2018–Present</i> |
| ▷ Physics and Astronomy Graduate Student Council: <i>Quality of Life Chair</i> | <i>2016–2018</i> |
| ▷ Rapid Fire Research: <i>Founder, chair</i> | <i>2016–2018</i> |

Service Work

- | | |
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| Peer Reviewer for: | <i>2017–Present</i> |
| – <i>The Astrophysical Journal</i> | |
| – <i>The Astrophysical Journal Letters</i> | |
| – <i>Astronomy and Astrophysics</i> | |