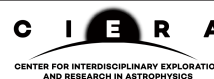


Michael J. Zevin

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Northwestern



Education

- **Northwestern University** Evanston, IL
PhD Candidate 2014 - present
 - Department of Physics and Astronomy; *Research Advisor: Dr. Vicky Kalogera*
 - *Master of Science*: Awarded Fall, 2016
- **University of Illinois Urbana-Champaign** Champaign, IL
Bachelor of Science 2008 - 2012
 - Double Major in Astronomy and Physics, Minor in Music Performance

Research Interests

Gravitational wave astrophysics, parameter estimation, and detector characterization; binary stellar evolution, formation of compact binaries, X-ray binaries, stellar dynamics, cluster dynamics, and population synthesis; machine learning applications to astrophysical data science and citizen science.

Publications

“On the Progenitor of Binary Neutron Star Merger GW170817”, LIGO Scientific Collaboration and Virgo Collaboration. *Astrophysical Journal Letters*, **850**, L40 (2017).¹

“GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral”, LIGO Scientific Collaboration and Virgo Collaboration. *Physical Review Letters* **119**, 16 (2017).²

“Constraining Formation Models of Binary Black Holes with Gravitational-wave Observations”, Zevin, M., et al. *Astrophysical Journal* **846**, 82 (2017).

“Gravity Spy - Integrating Advanced LIGO Detector Characterization, Machine Learning, and Citizen Science”, Zevin, M., et al. *Classical and Quantum Gravity* **34**, 6 (2017).

“Incorporating current research into formal higher education settings using Astrobites”, Sanders, N., Zevin, M., et al.. *American Journal of Physics* **85**, 741 (2017).

“Joint Deep Multi-view Models for Glitch Classification”, Bahaadini, S., Zevin, M., et al. *Proceeding for the 42nd IEEE Conference on Acoustics, Speech, and Signal Processing*, in press (2017).

“Astrophysical Prior Information and Gravitational-wave Parameter Estimation”, Pankow, C., Zevin M., et al. 2017. *Astrophysical Journal* **834**, 154 (2017).

“Illuminating Black Hole Binary Formation Channels with Spins in Advanced LIGO”, Rodriguez, C. Zevin, et al. *Astrophysical Journal Letters*, **832**, L2 (2016).

“Observation of Gravitational Waves from a Binary Black Hole Merger”, Abbott, B., et al. *Physics Review Letters*, **116**, 6 (2016).

¹Chair of paper-writing team and analysis lead

²Education and Public Outreach Liaison

Presentations

- “The Role of Binary-Binary Interactions in Inducing Eccentric Black Hole Mergers”, MODEST, Santorini, Greece (June 2018)
- “On the Progenitor of Binary Neutron Star Merger GW170817”, APS April Meeting, Columbus, OH (April 2018)
- “From the Detected to the Detectors: Using Gravitational Waves to Enable Insights from the Stellar Graveyard & the Next Generation of Citizen Science”, Oxford University SPI-MAX seminar, Oxford, UK (February 2018)
- “Revealing the Lives of Stars through the Cataclysmic Collisions of Black Holes”, Seven Minutes of Science: An Interdisciplinary Symposium, Evanston, IL (April 2017)
- “The Future of Citizen Science: Coupling Crowdsourcing and Machine Learning”, Detecting the Unexpected: Discovery in the Era of Astronomically Big Data, Baltimore, MD (March 2017)
- “Discriminating Formation Channels of Binary Black Hole Systems with Advanced LIGO”, American Physical Society April Meeting, Washington, DC (January 2017)
- “Discriminating Formation Channels of Binary Black Hole Systems with Advanced LIGO”, American Astronomical Society 229th Conference, Grapevine, TX (January 2017)
- “Astrobites: Engaging Undergraduate Science Majors with Current Astrophysical Research” (workshop & poster), American Astronomical Society 229th Conference, Grapevine, TX (January 2017)
- “Gravity Spy - Integrating aLIGO detector characterization, machine learning, and citizen science”, American Astronomical Society 228th Conference, San Diego, CA (June 2016)
- “Integrating aLIGO detector characterization, machine learning, and citizen science” (poster), Computational Research Day, Northwestern University (April 2016)
- “LIGO glitch classification through the combination of machine learning and citizen science”, Midwest Relativity Meeting, Northwestern University (September 2015)

Awards, Grants & Honors

Avery Coonley School, Graduation Keynote Speaker	June 2018
Oxford Centre for Cosmological Studies Balzan Visiting Fellow ³	Jan 2018 - Feb 2018
Illinois Space Grant Consortium Graduate Student Fellowship	2017
Kavli Summer Program in Astrophysics Graduate Student Fellow ⁴	July 2017 - August 2017
NSF GK-12 Graduate Fellow	June 2017 - present
IDEAS Data Science Fellow	June 2016 - present
Breakthrough Prize in Fundamental Physics, as part of the LIGO Scientific Collaboration	May 2016
American Astronomical Society Media Intern	June 2016
Poster competition winner - Computational Research Day at Northwestern University	Apr 2016
High distinction in Physics - University of Illinois Urbana-Champaign	May 2012

³Research Advisor: Dr. Chris Lintott (New College, University of Oxford)

⁴Research Advisor: Dr. Enrico Ramirez-Ruiz (University of California Santa Cruz)

Affiliations & Leadership Positions

- Astrobites - Administrator and Author
- ComSciCon National - Organizing Committee
- LIGO Scientific Collaboration - Member
- Physics and Astronomy Graduate Student Council - Quality of Life Chair
- CIERA Compact Objects Coffee - Chair
- Rapid Fire Research - Chair
- American Physical Society - Member
- American Astronomy Society - Junior Member
- Caltech Gravitational Wave Astrophysics School (2015) - Participant
- Chicago Metropolitan Symphony Orchestra - Double Bassist
- Draft Week (rock band) - Bass Guitarist & Keyboardist

Teaching Experience

- **Northwestern University / Evanston Township High School** - *Reach for the Stars Graduate Student Fellow* (June 2017 - May 2018)
 - Taught in classrooms and developed coding-based curriculum for high-school Astronomy and Astrophysics classes, as part of the NSF GK-12 Grant DGE-1007911
- **Northwestern University** - *Astronomy Teaching Assistant, REU Supervisor* (Sept 2015 - June 2016)
 - Lectured, graded, and ran telescope observing sessions for introductory astronomy classes, supervised undergraduate REU student Yuqi Yun and high school students on summer research projects
- **Kids Science Labs** - *Lead Teacher* (Sept 2013 - Aug 2015)
 - Taught classes of 2-12 year old students in hands-on, experiential science classes, designed curriculum for science summer camps
- **Adler Planetarium** - *Science Leadership Corps Instructor, Mission Specialist* (Sept 2012 - Aug 2014)
 - Designed educational programs, facilitated exhibits, presented science talks, led students in high-altitude balloon launches

Outreach

• Ongoing Outreach

- ASTROBITES - *Author and administrator for popular astronomy blog partnered with the AAS, which provides daily summaries of recent astronomy research articles* (Nov 2014 - present)
- SPACE VISUALIZATION LABORATORY - *Deliver monthly public presentations at the Adler Planetarium for museum guests* (Apr 2014 - present)
- ASTRONOMY ON TAP – CHICAGO - *Organize and host astronomy outreach events at bars and breweries in the Chicago-land area, which include astronomy talks and space-based trivia* (Sept 2015 - present)
- RAPID FIRE RESEARCH - *Created, organized, and chaired an annual research presentation event for Northwestern's Department of Physics and Astronomy, in which Northwestern graduate and undergraduate students give 5-minute presentations on their research, with prizes awarded for the top presentations* (Sept 2016 - present)
- ASTRONOMER EVENINGS - *Present on various astronomical topics to the general public during observing hours of the historic Dearborn Observatory* (Sept 2016 - present)

• Outreach Publications

- THE LEGACY OF SCIENTIFIC DISCOVERY, Northwestern Helix magazine (Jul 2016)
- THE GRAVITY SPY PROJECT - MACHINE LEARNING AND CITIZEN SCIENCE, LIGO magazine (Mar 2017)

• Prior Outreach

- ComSciCon - *Program Organizing Committee for national science communication workshop for graduate students in STEM fields* (June 2018)
- MACHINE LEARNING MEETUPS - *Organize and host interdisciplinary colloquium related to data science and machine learning topics, attended by the Northwestern and greater Chicago-land community* (Sept 2016 - Sept 2018)
- CHICAGOLAND SCIENCE PENPALS - *Actively correspond with students in Chicago public schools about scientific research and science as a profession, using handwritten letters* (Mar 2017 - Jun 2017)
- EINSTEIN EVENINGS - *Host Northwestern's Dearborn Observatory and give monthly presentations during observing hours on General Relativity and LIGO discoveries in celebration of the 100th anniversary of Einsteins theory* (Sept 2015 - Aug 2016)
- TAKE OUR CHILDREN TO WORK DAY - *Northwestern University* (April 2018, April 2016)
- KEYNOTE SPEAKER - *Chipping Norton Amateur Astronomy Group* (February 2018)
- KEYNOTE SPEAKER - *Chicago Astronomical Society* (May 2017)
- INVITED SPEAKER - *Haven Midde School* (April 2018, April 2017)
- INVITED SPEAKER - *Avery Coonley School* (May 2017)
- INVITED SPEAKER - *Highcrest Elementary* (March 2017 2017)
- INVITED SPEAKER - *Nettlehorst Elementary, designed and instructed classes on the physics of music to middle school students* (February 2016)