

Education

| | | |
|------|--|-------------------------|
| 2018 | Ph.D. in Physics and Astronomy | Northwestern University |
| 2015 | M.S. in Physics and Astronomy | Northwestern University |
| 2012 | B.S. in Physics with Professional Emphasis, Cum Laude | Utah State University |

Publications

Refereed: 10 total; 1st author: 4, 2nd/3rd author: 4, Nth author: 2

Eclipses of continuous gravitational waves as a probe of stellar structure *submitted to PRD*

MARCHANT, P., **Breivik, K.**, LARSON, S. L., MANDEL, I., BERRY, C. P. L.

Weighing the Darkness: Astrometric Mass Measurement of Hidden Stellar Companions using Gaia *accepted in ApJ*

ANDREWS, J. J., **Breivik, K.**, CHATTERJEE, S.,

The Fate of Binaries in the Galactic Center: The Mundane and the Exotic *2019, ApJ, 878, 58S*

STEPHAN, A. P., NAOZ, S., GHEZ, A. MA., MORRIS, M. R., CIURLO, A., DO, T., **Breivik, K.** + 3 CO-AUTHORS *arXiv:1903.00010*

Constraining black hole formation with 2M0521 *2019, ApJ, 878L, 4B*

Breivik, K., CHATTERJEE, S., ANDREWS, J. J. *arXiv:1810.08206*

Post-Newtonian dynamics in dense star clusters: BBHs in the LISA band *2019, Phys. Rev. D 99, 063003*

KREMER, K., RODRIGUEZ, C. L., AMARO-SEOANE, P., **Breivik, K.** + 7 CO-AUTHORS *arXiv:1802.05661*

LISA sources in Milky Way globular clusters *2018, Phys. Rev. Lett. 120, 191103*

KREMER, K., CHATTERJEE, S., **Breivik, K.**, RODRIGUEZ, C. L., LARSON, S. L., RASIO, F. A. *arXiv:1802.05661*

Characterizing double white dwarf binaries with LISA and Gaia *2018, ApJ, 854L 1B*

Breivik, K., KREMER, K., BUENO, M., LARSON, S. L., COUGHLIN, S. KALOGERA, V. *arXiv:1710.08370*

Revealing black holes with Gaia *2017, ApJ, 850L, 13B*

Breivik, K., CHATTERJEE, S., LARSON, S. L. *arXiv:1710.04657*

Accreting double white dwarf binaries: implications for LISA *2017, ApJ, 846, 2*

KREMER, K., **Breivik, K.**, LARSON, S. L., KALOGERA, V. *arXiv:1707.0110*

Distinguishing between formation channels for binary black holes with LISA *2016, ApJ, 830L, 18B*

Breivik, K., RODRIGUEZ, C. L., LARSON, S. L., KALOGERA, V., RASIO, F. A. *arXiv: 1606.0955*

White papers: 5 total, 1 co-lead

The Missing Link in Gravitational-Wave Astronomy: Discoveries waiting in the decihertz range

ARCA SEDDA, M., ET AL. (INCL. **Breivik, K.**) *arxiv: 1908.11375*

Populations of Black Holes in Binaries

MACCARONE, T. J., ET AL., (INCL **Breivik, K.**) *arxiv: 1904.11842*

Gravitational Wave Survey of Galactic Ultra Compact Binaries

LITTENBERG, T. B., **Breivik, K.**, ET AL. *arxiv: 1903.05583*

Stellar multiplicity: an interdisciplinary nexus

Breivik, K., PRICE-WHELAN, A. M., D'ORAZIO, D. J., HOGG, D. W. ET AL. *arxiv: 1903.05094*

Multimessenger science opportunities with mHz gravitational waves

BAKER, J., ET AL. (INCL. **Breivik, K.**) *arxiv: 1903.04417*

Honors & Awards

| | |
|------|---|
| 2019 | Jeffrey L. Bishop Fellowship Bi-annually awarded to CITA postdoc: \$3, 000 |
| 2018 | CITA Fellowship 3 year postdoctoral fellowship |
| 2017 | Blue Apple Award Best student talk at the 27th Midwest Relativity Meeting |
| 2017 | NSF GK-12 'Reach for the Stars' Fellowship Graduate Teaching Fellowship |

Honors & Awards cont.

| | |
|------|---|
| 2017 | Chambliss Astronomy Achievement Award Honorable Mention, 229th AAS Meeting |
| 2016 | Northwestern Physics & Astronomy Rapid Fire Research 2nd Place |
| 2014 | Illinois Space Grant Consortium Graduate Fellowship Award Amount: \$10,000 |
| 2010 | Undergraduate Teaching Fellowship Utah State University |
| 2010 | Undergraduate Research and Creative Opportunities (URCO) Grant Award Amount: \$2,000 |
| 2008 | Presidential Fellowship - 4 years Utah State University |

Seminars/Colloquia

| | | |
|----------|---|--------------------|
| Oct 2019 | Carnegie Observatories Colloquium | Pasadena, CA |
| Oct 2019 | University of Pittsburgh CMU/Pitt Astro Seminar | Pittsburg, PA |
| Apr 2019 | MIT LIGO Lab LIGO Lab Seminar | Cambridge, MA |
| Apr 2019 | CfA Harvard & Smithsonian Galaxies and Cosmology Seminar | Cambridge, MA |
| Feb 2019 | TIFR TIFR DAA Special Seminar | Colaba, Mumbai, IN |
| Jun 2018 | NASA GSFC Astrophysics Colloquium | Greenbelt, MA |
| Mar 2018 | NASA MSFC Astrophysics Seminar | Huntsville, AL |
| Dec 2017 | Caltech TAPIR Seminar | Pasadena, CA |
| Nov 2017 | Columbia Astro Seminar | New York City, NY |
| Nov 2017 | AMNH Astro Seminar | New York City, NY |
| Jun 2017 | UW Milwaukee CGCA Seminar | Milwaukee, WI |

Conferences and Workshops: 4 Invited, 15 Contributed

| | | |
|-----------|---|--------------------------|
| July 2019 | Beginnings and Ends of Double White Dwarfs Invited talk/workshop | DARK Institute, NBI |
| Feb 2019 | Astrophysics with GW Populations Talk | Aspen Center for Physics |
| Jan 2019 | AAS 233 Talk | Seattle, WA |
| Dec 2018 | Future by the Future Workshop Invited talk | Columbia University |
| Oct 2018 | 2nd COFI Workshop on GWs Invited talk | COFI, Puerto Rico |
| Oct 2018 | 28th Midwest Relativity Meeting Talk | Milwaukee, WI |
| June 2018 | MODEST-18 Talk | Santorini, GR |
| Jan 2018 | The architecture of LISA Science Analysis: Imagining the Future Workshop participant | Keck Institute |
| Jan 2018 | NASA GW SIG Meeting, 231st AAS Meeting Invited talk | National Harbor, MD |
| Jan 2018 | AAS 231 Dissertation talk | National Harbor, MD |
| Oct 2017 | 27th Midwest Relativity Meeting talk; Blue Apple award | Ann Arbor, MI |
| July 2017 | 12th Edoardo Amaldi Conference on Gravitational Waves talk | Pasadena, CA |
| Jan 2017 | AAS 229 Poster, Chambliss Honorable mention | Grapevine, TX |
| Aug 2016 | 11th International LISA Symposium Poster | Zurich, SUI |
| Apr 2016 | APS April Meeting Talk | Salt Lake City, UT |
| Oct 2015 | 26th Midwest Relativity Meeting Talk | Evanston, IL |
| Apr 2015 | APS April Meeting Talk | Baltimore, MD |
| Jan 2015 | AAS 225 Poster | Seattle, WA |
| Jan 2012 | AAS 219 Poster | Austin, TX |

Mentoring

Julianne Cronin

SIMULATING POPULATIONS OF OVER-CONTACT M DWARF BINARIES OBSERVABLE BY LISA

Undergrad research; 2017-2018

Current student at Northwestern

Amia Ross

SIMULATING POPULATIONS OF DOUBLE NEUTRON STAR BINARIES OBSERVABLE BY LISA AND LIGO

High school intern; Summer 2017

Attending Harvard in Fall 2018

Michael Bueno

SIMULATING POPULATIONS OF DOUBLE WHITE DWARF BINARIES OBSERVABLE BY LISA AND GAIA; ARXIV:1710.08370

REU student; Summer 2016

Attending Northwestern in Fall 2018

Teaching Experience

Guest Lectures

UNIVERSITY OF TORONTO (ST GEORGE AND SCARBOROUGH)

- Jun 19, 2019: GWs 101 (Summer undergrad research program Astro 101)
- Jan 29, 2019: Introduction to gravitational waves and their detection for upper division undergraduate laboratory course (PHYC 11H3)

NORTHWESTERN UNIVERSITY

- May 25, 2017: Introduction to gravitational waves for upper division undergraduate astronomy course (Astron 331)
- Nov 11, 2016: Overview of the atomic model for introductory, concept-based physics course (Phys 103)

NSF GK-12 Graduate Teaching Fellow

2017-2018

NORTHWESTERN/LAKE VIEW HIGH SCHOOL

Created lesson plans on Kepler's Laws designed to bring computational thinking and current astrophysics research to high school classrooms.

Graduate Teaching Assistant

2012 - 2013

UNIVERSITY OF GEORGIA

- Phys 1252: Introductory Physics for Engineers
- Astr 1010: Introductory Astronomy

Undergraduate Teaching Assistant: General Physics and Astronomy Labs

2010 - 2012

UTAH STATE UNIVERSITY

- Phys 2110/2120: Introductory Physics for Life Sciences
- Phys 1040: Introductory Astronomy
- Observatory operator and lab facilitator

Service and Outreach

Referee for ApJ, ApJL, MNRAS

CITA Blackboard Seminar

CITA

CO-ORGANIZER

Sep 2018 - present

CIERA Astronomer Evenings

Dearborn Observatory

FOUNDER AND LEAD ORGANIZER 2016-2018

Jan 2016 - Aug 2018

Astronomy on Tap - Chicago

Chicagoland area, IL

FOUNDING MEMBER AND PRESENTER

March 2016 - Aug 2018

Physics & Astronomy Graduate Student Council

Evanston, IL

FOUNDING MEMBER, ASTRONOMY OUTREACH COMMITTEE HEAD

Dec 2015 - Aug 2018

Astronomy Conversations

Adler Planetarium

MONTHLY VISIT TO ADLER'S SPACE VISUALIZATION LAB FOR CONVERSATIONS WITH PLANETARIUM VISITORS

March 2016 - Aug 2018

General Science Outreach and Education

PARTICIPANT

2010-Present

- I'm committed to sharing the work that I do with the public and have interacted with over 1500 people at more than 15 events across the Greater Toronto, Greater Chicagoland, and Salt Lake City areas; I'm happy to provide a detailed list of my public outreach activities on request