

Education

2018	Ph.D. in Physics and Astronomy Advisor: Shane L. Larson	Northwestern University
2015	M.S. in Physics and Astronomy Advisor: Shane L. Larson	Northwestern University
2012	B.S. in Physics with Professional Emphasis, Cum Laude	Utah State University

Publications

Constraining black hole formation with 2M05215658+4359220	Submitted to ApJL
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:1707.01110
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

Honors & Awards

2018	CITA Fellowship 3 year postdoctoral fellowship
2017	Blue Apple Award Best student talk at the 2017 Midwest Relativity Meeting
2017	NSF GK-12 'Reach for the Stars' Fellow K-12 Teaching Fellowship
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

Invited Talks and Workshops

Simulating the Galactic graveyard	MIT LIGO Lab
LIGO LAB SEMINAR	Apr 3, 2019
Simulating the Galactic graveyard	CfA Harvard & Smithsonian
GALAXIES AND COSMOLOGY SEMINAR	Apr 2, 2019
Simulating compact binaries in the Milky Way	TIFR
TIFR DAA SPECIAL SEMINAR	Feb 26, 2019
Binary stars: a multi-band, multi-messenger puzzle	Columbia University
FUTURE BY THE FUTURE WORKSHOP	Nov 30-Dec 1, 2018
Astrophysics of Interacting Binaries with LISA and Gaia	COFI
2ND COFI WORKSHOP ON GWs	Oct 26-Oct 28, 2018
Exploring compact-binary astrophysics with multi-messenger astronomy	NASA GSFC
ASTROPHYSICS SEMINAR	June 5, 2018
Exploring compact-binary astrophysics with multi-messenger astronomy	NASA MSFC
ASTROPHYSICS SEMINAR	March 27, 2018

COSMIC probes into compact binary formation and evolution

NASA GW SIG MEETING, 231ST AAS MEETING

The Architecture of LISA Science Analysis: Imagining the Future

WORKSHOP

Exploring compact binary astrophysics with multi-messenger astronomy

TAPIR SEMINAR

Exploring compact binary astrophysics with multi-messenger astronomy

ASTRO SEMINAR

Exploring compact binary astrophysics with multi-messenger astronomy

ASTRO SEMINAR

Exploring stellar-mass compact binary astrophysics with LISA

CGCA SEMINAR

National Harbor, MD

January 8, 2018

Keck Institute for Space Studies

January 16-19, 2018

Caltech

December 1, 2017

Columbia

November 16, 2017

AMNH

November 14, 2017

UW Milwaukee

June 2, 2017

Selected Contributed Presentations

Simulating binary populations in the Milky Way

TALK AT THE 233RD MEETING OF THE AAS

Aspen, CO

Feb 2019

Constraining black hole formation with 2M0521

TALK AT THE 233RD MEETING OF THE AAS

Seattle, WA

Jan 2019

Constraining black hole formation with 2M0521

TALK AT 28TH MIDWEST RELATIVITY MEETING

Milwaukee, WI

Oct 2017

LISA sources in globular clusters

TALK AT MODEST-18

Santorini, GR

June 2018

COSMIC probes into compact binary formation and Evolution

DISSERTATION TALK AT THE 231ST MEETING OF THE AAS

National Harbor, MD

Jan 2017

Revealing the Milky Way's black hole population with Gaia

TALK AT 27TH MIDWEST RELATIVITY MEETING; BLUE APPLE AWARD FOR BEST STUDENT TALK

Ann Arbor, MI

Oct 2017

Observing Mass-Transfer in Double White Dwarfs with LISA and Gaia

TALK AT 12TH EDOARDO AMALDI CONFERENCE ON GRAVITATIONAL WAVES

Pasadena, CA

July 2017

Distinguishing Between Formation Channels for Binary Black Holes with LISA

POSTER SESSION AT 229TH MEETING OF THE AAS

Grapevine, TX

Jan 2017

Distinguishing Between Formation Channels for Binary Black Holes with LISA

POSTER SESSION AT 11TH INTERNATIONAL LISA SYMPOSIUM

Zurich, SUI

Aug 2016

Variance in binary stellar population synthesis

TALK AT APS APRIL MEETING

Salt Lake City, UT

April 2016

Exploring galactic binary population variance with population synthesis

TALK AT MIDWEST RELATIVITY MEETING

Evanston, IL

Oct. 2015

Mentoring

Julianne Cronin

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

Undergraduate researcher; Present

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

Service and Outreach

Referee for ApJ, ApJL, MNRAS

CIERA Astronomer Evenings

FOUNDER AND LEAD ORGANIZER 2016-2018

Dearborn Observatory

Jan 2016 - Aug 2018

Astronomy on Tap - Chicago

FOUNDING MEMBER AND PRESENTER

Chicagoland area, IL

March 2016 - Aug 2018

Physics & Astronomy Graduate Student Council

FOUNDING MEMBER, ASTRONOMY OUTREACH COMMITTEE HEAD

Astronomy Conversations

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

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

Experience

RESEARCH

Graduate Research Assistant

CIERA, NORTHWESTERN UNIVERSITY

Evanston, IL

June 2013 - Present

- Monte Carlo simulations of compact binary populations
- Predicting gravitational wave source catalogs for LISA

Undergraduate Research Assistant

UTAH STATE UNIVERSITY

Logan, UT

Aug 2010 - June 2012

- Characterizing sky brightness fluctuations for optical follow up of gravitational wave events
- Observation the precession of the inner Jovian moons as a probe of general relativity

TEACHING

NSF GK-12 Graduate Teaching Fellow

NORTHWESTERN/LAKE VIEW HIGH SCHOOL

Chicago, IL

2017-2018

Creating lesson plans designed to bring computational thinking to high school classrooms.

Guest Lectures

NORTHWESTERN UNIVERSITY, UNIVERSITY OF TORONTO SCARBOROUGH

2016-present

- Jan 29, 2019: Introduction to gravitational waves and their detection for upper division undergraduate laboratory course (PHYC 11H3)
- 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)

Graduate Teaching Assistant

UNIVERSITY OF GEORGIA

Athens, GA

Aug 2012 - May 2013

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

Undergraduate Teaching Assistant: General Physics and Astronomy Labs

UTAH STATE UNIVERSITY

Logan, UT

Aug 2010 - Jan. 2012

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

References

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Jeffery C. Livas

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