

# Claire Shi Ye

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## Education

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<b>Northwestern University, USA</b> Ph.D. Astronomy, Advisor: Frederic A. Rasio	<i>exp.</i> 2022
<b>Northwestern University, USA</b> M.Sc. Physics, Advisor: Melville P. Ulmer	2016
<b>Zhejiang University, China</b> B.Sc. Physics · GPA: 3.82	2015

## Selected Publications

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26 total publications ([ADS Library](#)), including 2 first-author and 2 second-author.

1. **Intermediate-mass Black Holes from High Massive-star Binary Fractions in Young Star Clusters**  
González, E., Kremer, K., Chatterjee, S., Fragione, G., Rodriguez, C. L., Weatherford, N. C., **Ye, C. S.**, Rasio, F. A. 2020, [ApJL](#), 908, L29
2. **Black Hole Mergers from Star Clusters with Top-Heavy Initial Mass Functions**  
Weatherford, N. C., Fragione, G., Kremer, K., Chatterjee, S., **Ye, C. S.**, Rodriguez, C. L., Rasio, F. A. 2021, [ApJL](#), 907, L25
3. **Populating the Upper Black Hole Mass Gap through Stellar Collisions in Young Star Clusters**  
Kremer, K., Spera, M., Becker, D., Chatterjee, S., Di Carlo, U. N., Fragione, G., Rodriguez, C. L., **Ye, C. S.**, Rasio, F. A. 2020, [ApJ](#), 903, 45
4. **COSMIC Variance in Binary Population Synthesis**  
Breivik, K., Coughlin, S. C., Zevin, M., Rodriguez, C. L., Kremer, K., **Ye, C. S.** et al. 2020, [ApJ](#), 898, 71
5. **Modeling Dense Star Clusters in the Milky Way and Beyond with the CMC Cluster Catalog**  
Kremer, K., **Ye, C. S.**, Rui, N. Z., Weatherford, N. C. et al. 2020, [ApJS](#), 247, 48
6. **On the Rate of Neutron Star Binary Mergers from Globular Clusters**  
**Ye, C. S.**, Fong, W-f., Kremer, K. et al. 2020, [ApJL](#), 888, L10
7. **Black holes: The next generation-repeated mergers in dense star clusters and their gravitational-wave properties**  
Rodriguez, C. L., Zevin, M., Amaro-Seoane, P., Chatterjee, S., Kremer, K., Rasio, F. A., **Ye, C. S.** 2019, [Phys. Rev. D](#), 100, 043027
8. **Millisecond Pulsars and Black Holes in Globular Clusters**  
**Ye, C. S.**, Kremer, K., Chatterjee, S., Rodriguez, C. L., Rasio, F. A. 2019, [ApJ](#), 877, 122
9. **How Initial Size Governs Core Collapse in Globular Clusters**  
Kremer, K., Chatterjee, S., **Ye, C. S.**, Rodriguez, C. L., Rasio, F. A. 2019, [ApJ](#), 871, 38
10. **How Black Holes Shape Globular Clusters: Modeling NGC 3201**  
Kremer, K., **Ye, C. S.**, Chatterjee, S., Rodriguez, C. L., Rasio, F. A. 2018, [ApJL](#), 855, L15

## Presentations & Posters

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<b>16th Marcel Grossmann Meeting</b> Invited talk, On the Rate of Neutron Star Binary Mergers from Globular Clusters	Virtual Rome 2021
<b>EAS Annual Meeting</b> Contributed talk, On the Rate of Neutron Star Binary Mergers from Globular Clusters	Virtual Leiden 2021
<b>TUNA Lunch Talks</b> Invited talk, Dynamic of Neutron Stars and Pulsars in Globular Clusters	NRAO 2021
<b>Summer Astro Seminar</b> Invited talk, Dynamic of Neutron Stars and Pulsars in Globular Clusters	Texas Tech University 2021

<b>Stars &amp; Compact Objects Meeting</b> Invited talk, Dynamic of Neutron Stars and Pulsars in Globular Clusters	CCA, 2021
<b>FLASH Seminar</b> Invited talk, The Dynamics of Neutron Stars and Pulsars in Globular Clusters	UC Santa Cruz 2021
<b>IAU Symposium 351 &amp; MODEST-19</b> Contributed talk, Millisecond Pulsars and Black Holes in Globular Clusters	Bologna, Italy 2019
<b>Brown Bag Seminar</b> Invited talk, Modeling Millisecond Pulsars in Globular Clusters	Evanston 2019
<b>Midwest Relativity Meeting</b> Contributed talk, Modeling Millisecond Pulsars in Globular Clusters	Milwaukee 2018
<b>MODEST-18</b> Contributed talk, Modeling Millisecond Pulsars in Globular Clusters	Santorini, Greece 2018
<b>Computational Research Day</b> Poster, How Black Holes Shape Globular Clusters	Evanston 2018

## Honors & Awards

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<b>Reach for the Stars Fellowship</b> GK-12 Program · Collaborated with a K-12 science classroom teacher to bring more inquiry-based teaching methods into the classroom; Developed interactive Python programs for classroom activities	Niles North High School 2018-2019 & Summer 2020
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## Professional Service

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<b>Conference/Workshop Organizer</b> CIERA Pulsar Workshop: A three-day workshop of pulsar physics and dynamics in globular clusters	Evanston 2019
<b>Peer Reviewer</b> The Astrophysical Journal (and ApJ Letters)	

## Outreach/Departmental Service

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### DEPARTMENTAL SERVICE

<b>Physics and Astronomy Graduate Student Council</b> Master's Student Committee Chair · Supports Master's students by ensuring awareness of policies, deadlines, and other information pertinent to Master's students success both at Northwestern and in the future, and providing the department with authentic feedback as the Master's program develops from its infancy	2021-
<b>CIERA K-12 Task Force</b> Committee · The K-12 outreach task force is developing a framework for creating and sustaining K-12 outreach initiatives at CIERA with the goal of ensuring that CIERA K-12 outreach has a social justice impact	2021-

### ONGOING OUTREACH

<b>CIERA Astronomer Evening</b> Monthly conversations with the public in Dearborn Observatory including open Q & A sessions and interactive activities	2018-
<b>Letters to a Pre-Scientist</b> Exchange letters with middle school students in high-poverty areas to demystify STEM career and inspire future scientists	2018-
<b>Astronomy on Tap Chicago</b> Engage the public at local venues with professional astronomy talks, trivia, and prizes once per quarter as part of a national outreach effort	2017-

### PAST/ONETIME

<b>Northwestern Seven Minutes of Science</b> TED-style public symposium on <a href="#">Pulsars in the Snow Globes</a>	2017
<b>Helix Magazine</b> Outreach article on the story of two camps of astronomers behind the discovery of the first binary black hole merger: <a href="#">Astronomy Fugato: Two Approaches, One Vast Field of Discovery</a>	2017

## Teaching Experience

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### **CIERA High School Summer Camp**

Evanston 2019

Co-organizer · Co-organized the high school summer camp with team-style learning, hands-on training, real astronomy research experiences and more

Lecturer · Taught multiple lectures ranging from Astronomy to computer programming

### **Niles North High School**

Skokie 2018-2019

Teaching assistant in Astronomy class · GK-12 Program

### **Northwestern University**

Evanston 2016-2017 & Fall 2020

Teaching assistant · Taught weekly discussions or lab sessions on four different undergraduate General/College Physics courses and a graduate course on Methods of Theoretical Physics

## Workshops

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### **Black Hole Dynamics in Clusters**

Evanston 2018

One-week workshop on black hole dynamics

### **Heidelberg Summer School**

Heidelberg, Germany 2017

One-week summer school on compact objects & gravitational waves

### **MESA Summer School**

Santa Barbara 2017

One-week summer school on the stellar evolution code MESA

### **Research Communication Training Program**

Evanston 2017

Ten-week courses on science communication and presentation skills, culminated in a TED-style presentation