

# Sabina Sagynbayeva

## Curriculum Vitae



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## RESEARCH INTERESTS

I am an astrophysicist, who primarily works on the past, present, and future of exoplanets – I study planetary dynamics and planet formation to understand the architecture of exoplanets. In the meantime, I also work on stars that host those exoplanets and stellar characterization by studying their surface activity using the time-series data from *Kepler* and *TESS* telescopes. I am broadly interested in general analytical techniques, astro-statistics, and numerical simulations.

## EDUCATION

- 2021 - PRESENT **MA/PhD:** Physics (Astrophysics)  
\*Deferred my admission to Spring 2021 due to COVID-19  
*Stony Brook University*, Stony Brook, NY
- 2016 – 2020 **Bachelor of Science:** Physics  
Minor: Mathematics, Literature  
*Nazarbayev University*, Astana, Kazakhstan

## RESEARCH POSITIONS

- Stony Brook University** CURRENT, FROM FEB 2021 (FT)  
**Advisors: Dr. Phil Armitage, Dr. Will Farr**  
Research Project Assistant
- Nazarbayev University** JUN 2020 – AUG 2020 (FT)  
**Advisor: Dr. Daniele Malafarina**  
Research Assistant
- University of Cambridge** MAY 2019 – AUG 2019 (FT)  
**Advisors: Dr. Roman Rafikov, Dr. William Béthune**  
Research Intern
- Nazarbayev University** AUG 2018 – DEC 2019 (PT)  
**Advisors: Dr. Ernazar Abdikamalov, Dr. Dana Alina**  
Research Assistant

## PUBLICATIONS

- Briley Lewis et al. [including **S. Sagynbayeva**]. "Exploring the Effects of Astrobites Lesson Plans on Undergraduate Astronomy Students." *Submitted*.
- Thayne Currie et al. [including **S. Sagynbayeva**]. "Direct Imaging and Astrometric Discovery of a Superjovian Planet Orbiting an Accelerating Star." *Science* (2023).
- Daniele Malafarina, **Sabina Sagynbayeva**. "What a difference a quadrupole makes?" *General Relativity and Gravitation* (2021).
- D. Alina et al. [including **S. Sagynbayeva**]. "Large-scale magnetic field in the Monoceros OB-1 East molecular cloud." *Astronomy & Astrophysics* (2020).

## AWARDS & FELLOWSHIPS

- The Other Worlds Laboratory Exoplanet Summer Program** 2023  
The program that allows to visit UC Santa Cruz for three weeks to work on a project with an UCSC faculty.
- Frontera Computational Science Fellowship** 2023 – 2024  
1-year fellowship for graduate students with an opportunity to compute on Frontera.
- 2022 – 2024

## LSSTC Data Science Fellowship Program

The program that consists of six week-long sessions on data science.

2020

## Young Researchers Alliance FRIP program

The stipend awarded to students for research projects. Stipend: \$1,000

2019



## Yessenov Foundation Scholarship

Awarded to ten best students from Kazakhstan for a research internship in the US and European universities and laboratories.

Funding: \$7,500



## SCIENCE TALKS & POSTERS : POSTER

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Lunch Talk, Columbia University	Feb 2024
Bay Area Exoplanet Meeting 44, University of California Santa Cruz	Jul 2023
University of California Santa Barbara	Jul 2023
OWL talk, University of California Santa Cruz	Jul 2023
StanCon 2023, Washington University in St. Louis	Jun 2023
Emerging Researchers in Exoplanet Science, Yale University 	Jun 2023
Origins of Solar Systems, Gordon Research Conference 	Jun 2023
Athena++ workshop, Flatiron Institute (CCA)	May 2023
Gravitational Waves group meeting, Flatiron Institute (CCA)	Oct 2022
Seminar, University of Kansas	May 2022

## PUBLIC OUTREACH TALKS : WATCHABLE

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<b>The formation of gas giants</b> 	MAR 2023
iTelescope Webinar Series	AUG 2022
<b>Oceans in the Solar System</b>	
Astronomy on Tap, New York City	APR 2021
<b>How do planets form?</b> 	
Astronomy on Tap, Baton Rouge	

## TEACHING APPOINTMENTS

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<b>Teaching Assistant</b>	MAY 2023 – JUL 2023
<b>Course:</b> Classical Physics Lab Department of Physics & Astronomy, Stony Brook University	
<b>Group Project Leader</b>	MAR 2022 – APR 2022
Women in Science and Engineering program Stony Brook University	
<b>Teaching Assistant</b>	AUG 2021 – DEC 2021
<b>Course:</b> Introduction to Planetary Sciences Department of Physics & Astronomy, Stony Brook University	
<b>Tutor of Mathematics</b>	JAN 2017 – JAN 2019
<b>Courses:</b> Calculus I,II,III, Linear Algebra, Ordinary Differential Equations, Real Analysis Department of Mathematics, Nazarbayev University	

## DEPARTMENTAL SERVICE

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<b>Senator for the Department of Physics &amp; Astronomy, Member of the Graduate DEI Committee</b>	SEP 2021 – PRESENT
Graduate Student Organization, Stony Brook University	
<b>Underclass person-at-large &amp; Director of External Affairs</b>	JUN 2021 – JUN 2022
Physics Graduate Student Association, Department of Physics & Astronomy, Stony Brook University	
<b>Member of the Diversity Committee</b>	MAR 2021 – SEP 2021
Department of Physics & Astronomy, Stony Brook University	
<b>Physics Department Representative</b>	SEP 2017 – MAY 2020
Student Council of Nazarbayev University	

## SELECTED OUTREACH

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JAN 2021 – PRESENT

### Writer for [Astrobites.org](http://Astrobites.org)

A website where graduate students publish daily summaries of recent papers on astro-ph.  
I also chaired the Advertising and Undergraduate Committees.

APR 2018 – MAY 2020

### President of the Women in Physics Club

Nazarbayev University

OCT 2017 – SEP 2020

### Volunteer at the “Education for all” center

An organization that helps children with mental and physical disabilities.  
I organized the first three inclusive musical theatre performances in Kazakhstan

## COMPUTATIONAL SKILLS

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PROGRAMMING / MARKUP LANGUAGES	Python, C/C++, IDL, SQL, HTML, JavaScript, Mathematica, $\LaTeX$
HYDRO CODES	Athena++, PLUTO
N-BODY CODES	REBOUND
FRAMEWORKS / TOOLS	git, GitHub, ds9, Slurm
SUPERCOMPUTING CLUSTERS	<i>seawulf</i> at SBU, <i>Frontera</i> at the Texas Advanced Computing Center