

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)
Advisor: Dr. Phil Armitage
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

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

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

TEACHING APPOINTMENTS

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

DEPARTMENTAL SERVICE

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

SELECTED OUTREACH

JAN 2021 – PRESENT

Writer for **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

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