

# Sabina Sagynbayeva

## Curriculum Vitae



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## EDUCATION

- 2021 - PRESEN **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 EXPERIENCE

### *Flatiron Institute (CCA)*

CURRENT, FROM JUN 2022 (FT)

**Advisors:** Dr. Rodrigo Luger, Dr. Will Farr

Hierarchical Bayesian Modeling of the Stellar Surface of HAT-P-11

### *Stony Brook University/Flatiron Institute (CCA)*

CURRENT, FROM FEB 2022 (FT)

**Advisors:** Dr. Phil Armitage, Dr. Saavik Ford, Dr. Barry McKernan

Binary Black Holes Mergers in AGN Disks

### *Stony Brook University/Flatiron Institute (CCA)*

CURRENT, FROM FEB 2021 (FT)

**Advisor:** Dr. Phil Armitage

Migration of Planets and Stars in Protoplanetary and AGN Disks

### *Eureka Scientific*

JUL 2021 – AUG 2021 (PT)

**Advisor:** Dr. Thayne Currie

Direct Imaging and Astrometry of an Extrasolar Planet

### *Nazarbayev University*

JUN 2020 – AUG 2020 (FT)

**Advisor:** Dr. Daniele Malafarina

Implications of the Departure From Spherical Symmetry for Black Holes and Black Hole Mimickers

### *University of Cambridge*

MAY 2019 – AUG 2019 (FT)

**Advisors:** Dr. Roman Rafikov, Dr. William Béthune

Self-gravitating Planetary Envelopes and the Core-nucleated Instability

### *Nazarbayev University*

AUG 2018 – DEC 2019 (PT)

**Advisors:** Dr. Ernazar Abdikamalov, Dr. Dana Alina

Analysis of the Relative Orientation of the Magnetic Field Structure in Monoceros OB1 Region

## PUBLICATIONS

Thayne Currie et al. [including **S. Sagynbayeva**]. "Direct Imaging and Astrometric Discovery of a Superjovian Planet Orbiting an Accelerating Star." *Submitted* (2022).

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

### LSSTC Data Science Fellowship Program

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

2022 – 2024

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

2018 – 2019

### Dean's List

For achieving a semester GPA higher than 3.75 (out of 4.00)

## SCIENCE TALKS

OCT 2022

### Intro to Finite Volume Methods

Gravitational Waves group meeting, Flatiron Institute (CCA)

MAY 2022

### AGN accretion disks and black hole binaries

University of Kansas

## PUBLIC TALKS : WATCHABLE

AUG 2022

### Oceans in the Solar System

Astronomy on Tap, New York City

APR 2021

### How do planets form?

Astronomy on Tap, Baton Rouge

## TEACHING APPOINTMENTS

MAR 2022 – APR 2021

### Group Project Leader

Women in Science and Engineering program

Stony Brook University

AUG 2021 – DEC 2021

### Teaching Assistant

**Courses:** Introduction to Planetary Sciences

Department of Physics & Astronomy, Stony Brook University

JAN 2017 – JAN 2019

### Tutor of Mathematics

**Courses:** Calculus I,II,III, Linear Algebra, Ordinary Differential Equations, Real Analysis

Department of Mathematics, Nazarbayev University

## OBSERVING EXPERIENCE

OCT 2021

### 8.2-meter Subaru Telescope (SCEXAO)

Assisted with 2 nights (remotely)

MAR 2021

### Meade 14-inch telescope

Assisted with 1 night (Stony Brook, NY)

## DEPARTMENTAL SERVICE

JUN 2022 – PRESENT

### Director of Marketing

Physics Graduate Student Association, Department of Physics & Astronomy, Stony Brook University

SEP 2021 – PRESENT

### Senator for the Department of Physics & Astronomy, Member of the Graduate DEI Committee

Graduate Student Organization, Stony Brook University

JUN 2021 – JUN 2022

### Underclass person-at-large & Director of External Affairs

Physics Graduate Student Association, Department of Physics & Astronomy, Stony Brook University

MAR 2021 – SEP 2021

### Member of the Diversity Committee

Department of Physics & Astronomy, Stony Brook University

SEP 2017 – MAY 2020

### Physics Department Representative

## SELECTED OUTREACH

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### 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.

JAN 2021 – PRESENT

### President of the **Women in Physics Club**

Nazarbayev University

APR 2018 – MAY 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

OCT 2017 – SEP 2020

### Coordinator of the Children’s Development Foundation’s *Warm Winter* project

Coordinated a group of students to help low-income families that cannot afford winter clothes for their kids.

NOV 2017

## COMPUTATIONAL SKILLS

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

## LANGUAGES

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English (advanced), Russian (native), Spanish (Br)

## HOBBIES

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SONGWRITING	1 album, 3 singles on all streaming platforms
MUSICAL INSTRUMENTS	drum kit, piano, guitar, ukulele
DANCE STYLES	waacking, house, jazz-funk, vogue
ADDITIONAL INTERESTS	photography, chess