

# CURRICULUM VITAE

## GIANNI SIMS

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### EDUCATION

#### PhD in Physics

Florida Atlantic University, Boca Raton, FL

August 2021 - Present

#### B.S. Astrophysics Major with Philosophy Minor

The Pennsylvania State University, State College, PA

August 2017 - May 2021

#### High School Diploma in Vocal

Fiorello H. LaGuardia High School of Music and Art and Performing Arts, New York, NY

June 2017

### RESEARCH EXPERIENCE

#### Florida Atlantic University – Boca Raton, FL

*Research Assistant with Dr. Vicki Sarajedini*

May 2022 – Present

- The active galactic nucleus (AGN) occupation fraction as a function of galaxy mass can be used to discern models for the seeding mechanism of supermassive black holes. We compute the AGN occupation fraction using over 1 million galaxies in the combined Extended Chandra Deep Field South (ECDFS), the XMM Large Scale Structure Survey (XMM-LSS), and Elais-S1 (ES1) extragalactic fields. AGN fraction and galaxy masses were determined from the SED fitting published for the LSST Deep-Drilling Fields. We present our preliminary results for AGN selected via the SED fits, X-ray and mid-IR color selection and discuss their implications on supermassive black hole seeds.

#### The Pennsylvania State University – University Park, PA

*Undergraduate Research Assistant with Dr. Martin Bojowald*

October 2018 – May 2021

- Gathered information on loop quantum gravity
- Summarize, interpret, and gathered information
- Consulted and theorized findings with research professor
- Calculated the equations of motions from Poisson's brackets
- Treating quantum fluctuations as small perturbations and create space-time model mathematically describe quantum fluctuation
- Currently pre-published a copy of the research paper

#### The Intrepid Museum – New York, NY

*Research Intern with Dr. Jennifer Haghpanah*

December 2016 – June 2017

- Team member of a college-level research group.

- Conducted experiments and recorded research.
- Participated in planning meetings.
- Performed online research: into food chemistry comparing two proteins used in food (Bovine Albumin Serum and Casein) and effects on spices.

## WORK EXPERIENCE

**Onaketa Tutors** August 2022 - Present  
*Mid-Level Math Tutor*

- Tutoring mid-level math courses online towards under-served students of color.
- Mentoring under-served students of color to encourage their goal in mastering STEM topics.

**Florida Atlantic University – Boca Raton, FL** August 2021 - Present  
*Laboratory Teaching Assistant*

- teaching General Physics Lab 1 (Physics 2048L) and General Physics Lab 2 (Physics 2049L) courses
- provide 30 minute lecture before students perform experiments
- grade various assignments including lab reports and quizzes
- assessing student performances

**The Pennsylvania State University – University Park, PA** August 2020 - May 2021  
*Resident Assistant*

- assist and engage with residents to develop a meaningful community
- educate residents about their role to abide by university regulations and policies
- Understand, abide by, and enforce all University regulations and policies in a fair and consistent manner.
- Conduct rounds of the assigned housing area in accordance with protocol.

**The Pennsylvania State University – University Park, PA** June 2020 - August 2020  
*LEAP Mentor*

- Mentors plan social and academic virtual programming for their pride throughout the summer.
- Attend weekly virtual staff meetings, participate in evening and weekend virtual activities, attend one information session and attend mandatory Summer Mentor Training from June 25-28.

**The Intrepid Museum – New York, NY** May 2019 - August 2019  
*Membership Intern*

- Assisting Membership team with day to day activities, including members-only events, Box Office assistance, and programs during Museum festivals.
- Working with IA Coordinator on data cleanup in our database, Tessitura.

**The Intrepid Museum – New York, NY** June 2018 - July 2018  
*Special Events Intern*

- Assist with the coordination of office organizational projects including inventory management while updating current team templates, event folders and digital files



## EXTRA-CURRICULAR

Student Council Member of the National Society of Black Physicists      May 2024 - Present  
Member of Black in Astro      June 2023 -Present  
Member of the American Astronomical Society      June 2023 - Present  
Member of The National Society of Black Physicists, member of NeXus      September 2021- Present  
Professional Development Chair of The Physics and Astronomy for Women Club (PAW +), The Pennsylvania State      February 2020 - May 2021  
Member of Creative Writing Club, The Pennsylvania State      January 2019 - May 2021  
Co-President of The Scientific Method Club Workshop Leader, LaGuardia High School      September 2015 - June 2017

## VOLUNTEER

APS IF funded study, "Journey to a PhD through the lens of Black women in Physics", American Physical Society, American Physical Society      August 2023-Present  
Science Olympiad Volunteer, Florida Atlantic University      October 2021  
Middle School Math Tutor, New York Cares      January 2020  
Beautifier of Inwood Park, New York Cares      July 2018, May 2019  
Career Fair Helper, Penn State      August 2017  
Expeditor, Susan G. Komen      September 2016  
Meal Server, New York Cares      March 2016 - April 2016

## TECHNICAL SKILLS

Python, Mathematica, C/C++,  $\text{\LaTeX}$