# CURRICULUM VITAE GIANNI SIMS

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#### **EDUCATION**

PhD in Physics

August 2021 - Present

Florida Atlantic University, Boca Raton, FL

# B.S. Astrophysics Major with Philosophy Minor

August 2017 - May 2021

The Pennsylvania State University, State College, PA

# High School Diploma in Vocal

June 2017

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

#### RESEARCH EXPERIENCE

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

May 2022 - Present

Research Assistant with Dr. Vicki Sarajedini

• 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 October 2018 – May 2021 Undergraduate Research Assistant with Dr. Martin Bojowald

- 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

December 2016 - June 2017

Research Intern with Dr. Jennifer Haghpanah

• 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

- Provide administrative support for the Event Sales Managers in the following areas: telephone calls, emails and filing
- Conduct research on venues, new vendors, potential clients, trends and other subjects as needed

The American Museum of Natural History – New York, NY November 2015 - August 2017

SALTZ Intern

- Presented and explained museum artifacts to visitors.
- Conducted experiments and explained outputs to visitors.

### HONORS AND AWARDS

ARISTA National Honors Society, Fiorello H. LaGuardia High School of Music and Art and Performing Arts

2017

Japanese Honors Society, Fiorello H. LaGuardia High School of Music and Art and Performing Arts 2015

One-time GTA award, Florida Atlantic University

December 2022

Black in Astro Travel Grant, Black in Astro

June 2023, May 2024

#### PUBLISHED WORKS

Källan Berglund, Martin Bojowald, Manuel Diaz, and Gianni Sims, Quasiclassical Solutions for Static Quantum Black Holes

January 2024

#### SCIENTIFIC TALKS

# Conferences Attended

NEXUS Workshop through the National Society of Black Physicists (August 2022)

Advancing Graduate Leadership Conference (August 2022)

The Conference for Undergraduate Underrepresented Minorities in Physics (January 2021)

The Conference for Undergraduate Women in Physics (January 2020)

The National Society of Black Physicists (November 2019, November 2021, November 2022, November 2023)

American Astronomical Society (June 2023)

Black in Astro Space Week, Virtual (June 2023)

#### Conferences Presented

American Astronomical Society (June 2023)

Black in Astro Space Week, Virtual (June 2023)

The National Society of Black Physicists (November 2023)

#### Colloquium

Panelist for the Colloquium from the Physics and Astronomy for Women's Club (PAW+) and the Climate Committee (September 2020)

### 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
Science Olympiad Volunteer, Florida Atlantic University
Middle School Math Tutor, New York Cares
Beautifier of Inwood Park, New York Cares
Career Fair Helper, Penn State
Expeditor, Susan G. Komen
Meal Server, New York Cares
March 2016 - April 2016

### TECHNICAL SKILLS

Python, Mathematica, C/C++, LATEX