GIORGI ARSENADZE

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Google Scholar ◇ Github ◇ LinkedIn

EDUCATION

New York University — *Dec 2025 (expected)*
Doctor of Philosophy in Physics
GPA: 3.907/4.0
Relevant Coursework: Computational Physics, Dynamics, Quantum Mechanics I,II, Statistical Physics, Electromagnetism, Quantum Field Theory I,II, General Relativity , Particle Physics, Soft Matter Physics, Condensed Matter Physics, The Early Universe.

New York University — *May 2022*
Master of Philosophy in Physics

Free University of Tbilisi — *May 2019*
Bachelors in Physics

EXPERIENCE

Research Assistant in Computational Particle Physics and Phenomenology — May 2021 – Present
Supervisor: Prof. Joshua Ruderman — New York University

- **Designed particle physics models** to elucidate Dark Matter and other Cosmological Tensions.
- **Developed particle simulations and analyzed extensive experimental data** to compare with theoretical findings.
- **Enhanced state-of-the-art computational software**, to **boost precision** and **speed**for solving cosmological equations.

Research Assistant in Biophysics — Sep 2019 – Sep 2021
Supervisor: Prof. Alexandra Zidovska — New York University

- Developed a theoretical model to explain interactions between nucleoli, within nucleus of HeLa Cell.
- Designed and created 3D simulations of ball particle motion to replicate experimental findings.
- Contributed to microscope design and modeling to enhance observation limits on intercellular organoids.
- Designed and implemented an automated data workflow for selecting, processing, and analyzing terabytes of cell nucleus imaging data.
- Invented several new analytical techniques to characterize the dynamics and physics of nucleoli in chromatin media.

Clinical Assistant Professor — April 2023 – Present
Teaching: General Physics I and II — New York University

- Design curriculum and prepare syllabus and course work for General Physics I and II classes.
- Give lectures to decades of students.
- Oversee stuff of 8 people to run laboratory and recitation sessions smoothly

Teaching Assistant — Sep 2019 – Present
Teaching: Dynamics, General Physics I-II, Physics III, Cosmology, The Universe. — New York University

- Designed syllabus and coursework for six different classes and met with students to instruct and improve their understanding of the topic through exercises.

Mathematics and Physics Teacher — Sep 2016 – May 2019

- Created curriculum for Physics and Mathematics classes aimed for advanced students to enhance results at Olympiads.
- Successfully guided decades of students to award winning positions at national and international Olympiads in Physics and Mathematics.
- Taught Mathematics to elementary school students.

ACHIEVEMENTS

CAS Outstanding Teaching Award (NYU)	*April 2024*
Outstanding Graduate Student Instructor Award (NYU)	*May 2024*
JAGA Fellow (NYU)	*Sep. 2023 – Sep 2024*
MacCracken Fellow (NYU)	*Fall 2019*
Knowledge Fund Fellow	*Sep. 2015 – May 2019*
Silver Medal on IZhO	*2015*
Honorable Mention on IPHO	*2014,2015*
2 Gold Medals and 2 Bronze Medals on Georgian National Physics Olympiad	*2012-2015*

PUBLICATIONS

1. Shaping Dark Photon Spectral Distortions. **G. Arsenadze**, A. Caputo, X. Gan, H.n Liu, J.T. Ruderman, 2024
2. Anomalous Coarsening of Coalescing nNcleoli in Human Cells. **G Arsenadze**, CM Caragine, T Coakley, I Eshghi, A Zidovska - BJ, 2024
3. Particles on the Rotating Channels in the Wormhole Metrics. **G Arsenadze**, Z Osmanov - IJMPD, 2017

International Society of Georgian Scientists (ISGS) Sep. 2020 – Present
Co-founder

Founded a nonprofit organization ISGS, to foster connections among scientists and facilitate the exchange of knowledge between their fields, as well as with the general public. Our initiatives include organizing 8 mentorship programs, inviting decades of speakers to regular webinars, and conferences aimed at promoting interdisciplinary awareness.

Journal Clubs Sep 2022 - Present
Co-Organizer

Hosting two different journal clubs within physics department with the objective of staying updated on the latest research literature.

SKILLS

Programing Languages	Python, Julia, Mathematica, MATLAB, C, C++, Java, Git
Languages	English (Fluent), Georgian (Native), Russian (Basic)