Naomi Gluck

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Education – GPA 3.25

Yale University — New Haven, CT
Physics PhD — *Aug. 2021 – Present*

Stony Brook University — Stony Brook, NY
Bachelor of Science in Physics — *Aug. 2017 – May 2021*
Bachelor of Science in Astronomy and Planetary Sciences — *Aug. 2017 – May 2021*
Minor in Music — *Aug. 2017 – May 2021*

Publications

Royal Astronomical Society Main Journal — April 2020

- Gofman, R., A., Gluck, N., & Soker, N. 2020, MNRAS 494, 5230: *Enhanced mass-loss rate evolution of stars with mass greater than 18 $M_{\odot}$, and missing optically-observed type II supernovae*

Research Experience

Undergraduate Research — September 2019 – Present
Stony Brook University, Dr. Alan Calder — *Stony Brook, NY*

- Studied Uncertainty Quantification for 1 $M_{\odot}$ following the MESA open source code to determine the validity and bounds of two different wind parameters.
- Used Gnuplot for data extraction to visually see the affects caused by changes in the wind parameter values.

Senior Tutorial in Advanced Topics — Spring 2021
Stony Brook University, Dr. Michael Zingale — *Stony Brook, NY*

- Tutorial on graduate-level computational astrophysics, to understand the design of numerical algorithms, limitations of numerical methods, and applications to astrophysics.

Undergraduate Research — July. 2019 – April 2020
Technion Institute of Technology, Dr. Noam Soker — *Haifa, Israel*

- Research conducted at the Technion Institute of Technology in Israel.
- Used MESA (Modules for Experiments in Stellar Astrophysics) open source code to simulate the evolution of several different progenitor stars with variations on wind and mass loss parameters, and Matlab for data analysis and calculations.

Projects and Presentations

Observational Astronomy — September 2020 – Present
Stony Brook University - Dr. Fredrick Walter — *Stony Brook, NY*

- Observations of the cataclysmic variable star, SS Cygni, using Stony Brook's 14" telescope and CCD camera.
- Data analysis of Nova V1047 using archival spectroscopic data from Stony Brook/SMARTS to perform a spectral time analysis.

SBYIR: Young Investigators Review — November 2020
Stony Brook University — *Stony Brook, NY*

- Live presentation via Zoom on research conducted at Stony Brook, specifically the current results of the Uncertainty Quantification (UQ) Study.

URECA: Undergraduate Research Symposium — May 2020
Stony Brook University — *Stony Brook, NY*

- Poster and live presentation via Zoom on research conducted at the Technion Institute in Israel.

Relevant/Future Coursework

Galaxies	Spring 2021
General Relativity	Spring 2021
Electromagnetic Theory II	Spring 2021
Advanced Quantum Physics	Fall 2020
Stars and Radiation	Fall 2020
Special Topics: Exoplanets	Spring 2020
Cosmology	Fall 2019

Technical Skills

Computational Science: Techniques of parallel computing including parallelization by both threads (OpenMP) and message passing (MPI), job submission with Slurm, and software management with Modules.
Languages: Python/Jupyter, C/C++, LaTeX, Matlab, Fortran, Mathematica
Libraries: NumPy, Matplotlib, pandas, rebound, Astropy, Scipy, Statistics
Software Skills: MESA, DS9, CCDSoft, SkyChart, Microsoft Office, Pages, Numbers, Keynote, Procreate, Photoshop, Pixelmator, iMovie, LTSpice, Sibelius
Operating Systems: Linux, MacOS, Windows

Work Experience

Business Partnership May 2020 – Present
Online Startup *Oyster Bay, NY*

- Established online custom graphics art company.
- Use Procreate on iPad to design all custom artwork for merchandise including face masks, pillows, and blankets, specifically partnering with Stony Brook University Hillel, SUNY Geneseo Hillel, and Ohio State Hillel.

Paid Research Position May 2020 – August 2020
Stony Brook University *Stony Brook, NY*

- Funded for the Uncertainty Quantification study of the evolution of $1M_{\odot}$ stars with the MESA open source stellar evolution code to quantify the effect of epistemic uncertainty in the stellar winds.
- Analysed simulation results to extract data to quantify and visually assess the effects of uncertainty in the winds.
- Learned and applied Parallel Computing techniques by performing suites of MESA simulations on our campus cluster SeaWulf.

StandWithUs Emerson Fellowship August 2019 – May 2020
Stony Brook University *Stony Brook, NY*

- Partnered with other clubs and organizations at SUNY Stony Brook to create 12 Israel-related events that impacted approximately 150 students.
- Participated in the StandWithUs conference in January 2020 in Los Angeles, to enhance critical thinking, networking, and public speaking skills.

Leadership Roles and Activities

Stony Brook Hillel Board of Directors August 2020 – Present
Stony Brook University *Stony Brook, NY*

- Discuss the changes necessary to adapt Hillel events, including holiday services, to the limitations of an online-only platform.
- Representative of the student-body to clarify to board members what will work more effectively to capture a student's interest.

Seawolves for Israel | President August 2018 – Present
Stony Brook University *Stony Brook, NY*

- Organize and lead weekly general and executive body meetings to educate others about Israel's history, culture, and international relations. This includes working together with other student-led groups on campus, like the College Republicans, The Environmental Club, Hillel, and the Iranian Jewish Club to broaden interactions between students.
- Previously served on the Executive Board as Secretary, and Vice President.
- Launched and taught a Hebrew 101 class over zoom (July - August 2020).

Society of Physics Students | **General Member** August 2017 – Present
Stony Brook University *Stony Brook, NY*

University Orchestra | **Principle Oboe** August 2017 – Present
Stony Brook University *Stony Brook, NY*

For More Information

LinkedIn: http://linkedin.com/in/naomi-gluck-526615182
Humans of Hillel: https://tinyurl.com/y3b53rf8