

Michele Lau

Physics/Education Enthusiast | Amateur Metal/Woodworker

Email: ml1490@scarletmail.rutgers.edu

EDUCATION

Rutgers University

New Brunswick, NJ

Graduation: May 2024

- Ed.M. 5-Year Program with Certification in Physical Science and Physics Education (K-12)
 - Graduate School of Education

Cumulative GPA: 3.77/4.00; *magna cum laude*

- B.A. Physics (with High Honors)
 - School of Arts and Sciences
- B.A. Communication – Specialization in Leadership in Organizations and Community
 - School of Communication and Information

Graduation: May 2023

East Brunswick High School

Cumulative GPA: 3.82/4.00

High School Diploma

Graduation: June 2019

- Executive Positions/Activities: President of Student Council, Stage Manager for TEDx, Secretary in Video Productions, Co-captain of Marching Band Color Guard, National & Math Honors Society

PROFESSIONAL/WORK EXPERIENCE

Full-Time Student Teacher | Course: Accelerated Physics

September 2023 – December 2023

Supervisor: Steven Vendome | East Brunswick High School

- Crafted and executed engaging lesson plans for five 82-minute classes.
- Developed comprehensive assessments and evaluated student performance through exams and labs.
- Engaged in teacher training and workshops for skill enhancement and educational trend awareness.
- Tutored students in small groups by holding morning and after-school help sessions.

Part-Time Lecturer | Course: Physics for Sciences

September 2022 – May 2023

Supervisor: Prof. Michael Gentile | Rutgers University Physics and Astronomy Department

- Instructed recitations and labs directed toward teaching physics concepts to undergraduates
- Assisted professor by holding weekly office hours and tutored students independently or in small groups
- Utilized demonstration instruments to help further students' understanding of the topics.
- Evaluated students' recitation workshops and lab reports on a weekly basis.

Machine Shop Apprentice | Machine Shop

August 2022 – Present

Supervisor: Paul Pickard | Rutgers University Physics and Astronomy Department

- Built and assisted with a wide variety of research and laboratory equipment
- Set up and operated machine tools to fabricate parts to specifications; used a variety of hand tools.

Honors Research Assistant | Physics Education Research

May 2022 – May 2023

Supervisor: Charles Ruggeri, Ph.D. | Rutgers University Physics and Astronomy Department

- Current Projects:
 - Expert Physicists' Reasoning Strategies in Proportionality Tasks
 - Comparison of Instructional Explanation Skills Between Undergraduate Instructors, Graduate Students, and Faculty Members in Physics

Center and Website Assistant | Center for Materials Theory

May 2022 – Present

Supervisor: Jedediah Pixley, Ph.D. | Rutgers University Physics and Astronomy Department

- Administrated the Center for Materials Theory website: <https://cmt.rutgers.edu/>
- Installed and maintained the equipment in the Center's conference room

Peer Instructor | First-Year Interest Group Seminars (FIGS) – Exploring Physics **May 2022 – December 2022**
Supervisor: Susan Bennett | Rutgers University School of Arts and Sciences

- Taught a 1-credit undergraduate course
- Created all lesson plans by combining physics knowledge and the nine FIGS elements for student development

Demo Instructor | Course: Physics Summer GRE Prep **May 2022 – August 2022**
Supervisor: Saurabh Jha, Ph.D. | Rutgers University Physics and Astronomy Department

- Collaborated with the professor in designing the course
- Used physics demonstrations to help students understand physics GRE questions

Lab Assistant | Physics Lecture Hall **November 2019 – Present**
Supervisor: David Maiullo | Rutgers University Physics and Astronomy Department

- Set up and built demonstrations for physics classes (soldering, disassembling mechanical equipment)
- Assistant for physics demonstration shows and taught physics concepts to the public
- Administrated the Rutgers Physics Demonstration website: <https://demos.physics.rutgers.edu/>
- Delegated and trained new members of the team

Aresty Research Assistant | Project: Proton Radius Puzzle **May 2020 – December 2020**
Professor: Ronald Gilman, Ph.D. | Rutgers University Physics and Astronomy Department

- Learned how to use CERN ROOT, code with C++, and analyze data
- Learned the basics of quantum mechanics, run simulations, and work with graduate students who have traveled to Switzerland to test their hypotheses and their measurements

AWARDS/CERTIFICATES:

- Chancellor-Provost Student Staff Excellence Award **2023**
- Paul Robeson Thesis Scholar Award **2023**
- Chair's Award for Exceptional Service to the Department of Physics and Astronomy **2023**
- High Honors in Physics **2023**
- Rutgers Dean's List x7 (semester GPA of 3.50+) **2020, 2021, 2022, 2023**
- President's Volunteer Service x2 – Corporation for National and Community Service **2018, 2019**

RELEVANT HOBBIES/ACTIVITIES

Physics Channel on Instagram (@PhysicsDIY) **April 2019 – Present**

- Taught physics demonstrations and explained physics concepts to the public
- Posted pictures and edited videos about physics weekly: <https://www.instagram.com/physicsdiy/?hl=en>
- Account is followed by multiple verified educators on Instagram

Metalworking/Woodworking **May 2020 - Present**

- Here is a link to my metalworking/woodworking projects: <https://tinyurl.com/y97f36n5>
 - Example projects: Air Engine, lightsaber, tensegrity chair

Rutgers University Clubs **Fall 2019 – Spring 2023**

- Member, Rutgers Astronomical Society
 - Position: Secretary – 2 years
- Member, Rutgers Society of Physics Students

NASA L'Space Proposal Writing and Evaluation **May 2020 – August 2020**

- Learned the skills needed to secure funding for ideas that will solve problems or fill needs for NASA
- Learned how to write proposals how to critique proposals by using NASA criteria