

Max Frankel

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Research Interests Atomic, Molecular, and Optical Physics; Quantum Information

Education

University of Colorado, Boulder Boulder, CO
PhD in Physics Aug 2023 – Present
Advisor: Prof. Jun Ye

State University of New York, Stony Brook Stony Brook, NY
BS in Physics with Honors & Optics Specialization, Summa Cum Laude Aug 2018 – May 2022
GPA: 3.97
Mentors: Prof. Dominik Schneble, Dr. Martin G. Cohen

Research

Ye Lab (JILA / CU Boulder) Boulder, CO
Supervisor: Prof. Jun Ye July 2023 – Present
Quantum metrology and the many-body physics of a degenerate Fermi gas of Sr87 in a 3D optical lattice.

Advanced Optical BioImaging Lab (SciLifeLab / Royal Institute of Technology / Fulbright Sweden) Stockholm, Sweden
Supervisor: Prof. Ilaria Testa Sep 2022 – May 2023
Holographically generated optical focus arrays for RESOLFT imaging.
Organized outreach program “Scientific Research Through an Artist’s Lens.”

Ultracold Quantum Systems Group (Stony Brook University) Stony Brook, NY
Supervisors: Prof. D. Schneble, Dr. M.G. Cohen Aug 2020 – Aug 2022
Arbitrary optical traps for ultracold atoms with a digital micromirror device.

Publications Milner, W. R. et al. Coherent evolution of superexchange interaction in seconds long optical clock spectroscopy. Preprint at <http://arxiv.org/abs/2402.13398> (2024).

Posters

Division of Atomic, Molecular and Optical Physics Fort Worth, TX
Probing superexchange interactions in a 3D optical lattice clock Jun 2024

Focus on Microscopy Porto, Portugal
Creating adaptable multi-focal arrays (MFAs) for pRESOLFT with a spatial light modulator (SLM) Apr 2023

Honors and Scholarships

Fulbright Research Award Sweden (Fulbright U.S. Student Program) Sep 2022 – May 2023
1 of 13 selected for 9 months of funded independent research or study in Sweden. Awarded the Roth-Thomson award by the Lois Roth Foundation to support the community engagement project “Scientific Research Through an Artist’s Lens.”

Outstanding Scholastic Achievement Award (Swiss Benevolent Society of New York) Aug 2021 – May 2022

Award granted to a college senior or graduate student who demonstrates sustained academic excellence (cumulative GPA of at least 3.8) in a demanding study program

Sigma Pi Sigma Inductee (American Institute of Physics) Apr 2021
Membership is awarded each year to selected physics students at Stony Brook University

Academic Achievement Award (Stony Brook University) Spring 2019, Fall 2019,
Awarded to students who achieve a 4.00 GPA for an academic semester Spring 2020, Fall 2020,
Fall 2021

Leadership **RC Flying Club** (Stony Brook University) Aug 2019 – Aug 2021
President

American Institute of Aeronautics and Astronautics (Stony Brook University) Sep 2019 – Jul 2020
Leader of the testing subteam and selected electronics for the national Design/Build/Fly competition aircraft. Qualified for the competition and placed 61/101.

Memberships **Sigma Pi Sigma** (American Institute of Physics) Apr 2021 – Present

Laser Teaching Center (Stony Brook University) Aug 2020 – May 2021

Society of Physics Students (American Institute of Physics, SBU chapter) Sep 2018 – May 2022
Participated in mentorship program supporting underrepresented groups in physics as a mentor, Nov 2021 – May 2022

Skills **Programming**
Python, Mathematica, MATLAB

Languages
English, Swiss-German