
Ethan Levy

Physics Undergraduate, University of Maryland College Park

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Key Overview

Senior at the University of Maryland in the physics department with a minor in sustainability. Previously interned as a theorist in supersymmetry with a paper in publishing. Seeking an outstanding graduate program in the physical sciences to conduct research in topological photonics and light-matter interactions in photonic crystals.

SKILLS

- Project planning and management
- Logical reasoning, data analysis, creative problem solving
- Experienced in Python, Matlab, Ansys Lumerical, Comsol Multiphysics, Mathematica, Root, beginner C++,
- Tutor in University Physics
- Italian, Spanish - Conversational fluency

EXPERIENCE

Compact Muon Solenoid (CMS), College Park - *Scientific Researcher*

DECEMBER 2024 - Present

- Used DD4hep, Geant4 simulation software modeling dual-readout calorimetry to analyze Cerenkov and Scintillation light in hadronic fibers. Under Drs. Sarah Eno, Christopher Palmer.
- Poster: "DD4hep as a Tool for Studying Dual-Readout Calorimetry", *Second Annual U.S. Future Circular Collider (FCC) Workshop 2024*. Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, (March 2024).

Joint Quantum Institute (JQI), College Park - *Scientific Researcher*

JUNE 2023 - FEBRUARY 2024

- Designed, executed, and analyzed simulations related to topological photonics and light-matter interactions. Under Dr. Mohammad Hafezi.

Supersymmetry Theoretical Research, College Park - *Scientific Researcher*

JUNE 2022 - NOVEMBER 2023

- SSTPRS Theoretical **REU** with physicist Dr. Sylvester J. Gates Jr.
- Topics include differential geometry, tensor algebra, gauge theory, Clifford algebra, Lie algebra

EDUCATION

University of Southern California, Los Angeles - *PhD*

AUG 2024

- Doctoral student in Electrical Engineering - Electrophysics program
- Advisors: Drs. Mercedeh Khajavikhan, Demetrios Christodoulides

University of Maryland, College Park - *Bachelor of Science*

SEPT 2020 - MAY 2024

- Undergraduate student in Physics with a minor in Sustainability
- College Park Global Scholar: Science and Global Change
- GPA: 3.59 on a 4.0 scale
- Teaching Assistant: PHYS105 (Fall 2022), PHYS132 (Spring 2023)

Publications

- I. Cianciara, Aleksander J., S. James Gates Jr, Ethan T. Levy, Tarek O. Razzaz, and Jacob Richardson. "Unfolded Adinkra Properties of Supermultiplets (I)." *arXiv preprint. arXiv:2311.06842* (2023).

AWARDS AND HONORS

- ❖ **Eagle Scout** - March 2019
- ❖ Angelo Bardasis Memorial Scholarship **Recipient**
- ❖ **Dean's List** - University of Maryland - Fall 2021/Spring 2023
- ❖ Awarded **Best Presentation** in the 2021 UMD Data Challenge
- ❖ Won **2nd Place** in Placehack 2023
- ❖ Society of Physics Students (SPS) Member
- ❖ **Founder** of the Physics Club - Sherwood High School