Elliot Kienzle *104 S Brook Lane*
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EDUCATION

Bachelor of Sciences, Double Major in Physics & Mathematics Expected May 2022
University of Maryland, College Park, MD
GPA: 3.93

Montgomery Blair HS, STEM Magnet Program May 2018

RELEVANT COURSEWORK & EXPERIENCES

Completed: Geometric structures, Complex geometry, Geometric Analysis, Lie Groups, Differential Geometry, Algebraic Topology I and II, Quantum Mechanics I & II, General Relativity & Cosmology, Electrodynamics, Computational Physics, Algebra, Statistical Mechanics

- Presentation to UMD RIT on geometry and physics: Mirror symmetry of Higgs bundles and the Geometric Langlands conjecture
- Reading course on Dirac operators and spin geometry, under UMD Prof. Jonathan Rosenberg
- Presentation to UMD RIT on geometry and physics: A & B models; the story of mirror symmetry
- Reading course on the geometry of 2D classical and quantum Yang-Mills theories, under UMD Prof. Richard Wentworth
- Summer 2019 through Fall 2019: Worked with Dr. Jarzynski on designing Shortcuts to Adiabaticity using quantum distortion operators. Analysted the spectrum and eigenfunctions of these operators using techniques from the field of dynamical systems. Reformulated the problem of designing shortcuts in the language of differential geometry.
- Under the direction of UMD Prof. Ian Appelbaum, self-studied group theory and its applications to k·p perturbation theory
- Summer 2017 & 2018: Internship at Lathrop Nonlinear Dynamics Lab, UMD. Constructed model 'dusty plasma tornado', which stirs granular particles with wind until they triboelectrically charge each other. Analyzed formation and evolution of emergent phases, as well as other collective phenomena.

AWARDS

2020	Strauss scholarship, Awarded by UMD math department to one student per year
2019 - Present	Angelo Bardasis scholar, Awarded by UMD physics department
2018 - Present	President's Scholarship
2018	National Ocean Science Bowl; 1st place
2017	National Science Bowl; High School, 7th place
2017	NMSQT Semifinalist
2016	National Science Bowl; High School, 1st place

ACTIVITIES

2018 - Present	Member of Society of Physics Students, UMD chapter
2018	Participated in "Terps in Space" experimental design competition
2017	American Regions Math League, Team A3 captain
2016 - 2018	Science National Honor Society
2014 - 2018	MBHS Science Bowl team, president 2017-2018
2014 - 2018	MBHS Math Club
2014 - 2018	MBHS Physics Club