

Michael Thomas Schultz

CONTACT INFORMATION

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EDUCATION

- DECEMBER 2021 PhD in MATHEMATICS, **Utah State University**, Logan, UT
Dissertation: *On the geometry of the moduli space of certain lattice polarized K3 surfaces and their Picard-Fuchs operators*
Supervisor: Dr. Andreas MALMENDIER
- AUGUST 2016 Master of Science in MATHEMATICS, **Idaho State University**, Pocatello, ID
Emphasis of Study: DIFFERENTIAL GEOMETRY, MATHEMATICAL PHYSICS, CALCULUS OF VARIATIONS
Supervisor: Dr. Bennett PALMER
- DECEMBER 2013 Honors Bachelor of Science in MATHEMATICS, **Idaho State University**, Pocatello, ID
Thesis: Characterizing integrality in circulant graphs
Supervisor: Dr. Catherine KRILOFF

ACADEMIC APPOINTMENTS

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| JANUARY 2022 - PRESENT | Visiting Assistant Professor
VIRGINIA TECH, Blacksburg, VA |
| JANUARY 2017 - DECEMBER 2021 | Graduate Teaching Assistant
UTAH STATE UNIVERSITY, Logan, UT
Main instructor for sections of Differential Equations, Linear Algebra, and Calculus I. Recitation leader for a variety of undergraduate mathematics classes. Developed curriculum, facilitated lecture, prepared lessons, reported grades, conducted office hours. |
| AUGUST 2016 - DECEMBER 2016 | Adjunct Instructor
IDAHO STATE UNIVERSITY, Pocatello, ID
Main instructor for a section of two remedial level classes and Calculus II. Designed syllabi, wrote and administered exams, reported final grades and conducted office hours. |
| AUGUST 2014 - MAY 2016 | Graduate Teaching Assistant
IDAHO STATE UNIVERSITY, Pocatello, ID
Main instructor for a variety of undergraduate mathematics classes. Designed syllabi, wrote and administered exams, reported final grades and conducted office hours. |

RESEARCH APPOINTMENTS

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| JANUARY 2020 - MAY 2020 | Excellence in Teaching Research Assistantship (Awarded)
Dept. Mathematics and Statistics
UTAH STATE UNIVERSITY, Logan, UT |
| JANUARY 2018 - MAY 2018 | Research Assistantship for study of Abelian and Calabi-Yau varieties
Funded by Dr. Andreas MALMENDIER,
NSA Conference Grant (H98230-18-1-0285) |

PUBLICATIONS

Rocky Mountain Journal of Mathematics Volume 50 (2020) No. 1, 181-212	<i>From the Signature Theorem to Anomaly Cancellation,</i> With Andreas MALMENDIER
Communications in Number Theory & Physics Vol. 16, No. 3, September 2022	<i>On the Mixed-Twist Construction and Monodromy, of Associated Picard-Fuchs Systems</i> With Andreas MALMENDIER
IN PREPARATION	<i>On Special Geometry associated to certain lattice polarized K3 surfaces and Seiberg-Witten curves</i> With Andreas MALMENDIER

CONFERENCE PRESENTATIONS & INVITED TALKS

Virginia Tech Algebra Seminar VIRGINIA TECH APRIL 20, 2022	Title: <i>On the geometry of quadratic period relations on K3 surfaces of high Picard rank</i>
UConn Mathematical Physics Seminar UNIVERSITY OF CONNECTICUT APRIL 6, 2022	Title: <i>On Vanishing Yukawa Couplings and the Picard-Fuchs equations of lattice Polarized K3 surfaces</i>
Virginia Tech String Group VIRGINIA TECH MARCH 2, 2022	Title: <i>Computing Picard-Fuchs equations from vanishing Yukawa couplings of lattice polarized K3 surfaces</i>
Joint Mathematics Meeting 2021 VIRTUAL JANUARY 8, 2021	Title: <i>Differential Geometry of the Seigel Modular Threefold & algebro-arithmetical data of certain K3 surfaces</i>
Algebraic Geometry and Mathematical Physics: Explicit Methods for Abelian and Calabi-Yau varieties UTAH STATE UNIVERSITY, Logan, UT JULY 5 - 7, 2019	Title: <i>Resolving Holomorphic Anomalies on Elliptic Surfaces</i>
USU Student Research Symposium APRIL 10, 2019 UTAH STATE UNIVERSITY, Logan, UT	Title: <i>Gravitational Anomalies and Elliptic Curves</i> Notes: Awarded "Outstanding Graduate Oral Presentation" in Physical Sciences
Jim Isenberg Pacific Coast Gravity Meeting 35 MARCH 29, 2019 UTAH STATE UNIVERSITY, Logan, UT	Title: <i>Gravitational Anomalies and the Universal Bundle of Elliptic Curves</i>
General Relativity as a Challenge for Physics Education FEBRUARY 10 - 15, 2019 690. WE-HERAEUS-SEMINAR PHYSIKZENTRUM BAD HONNEF, Bonn, DEU	Poster Title: <i>Teaching 2nd Year Undergraduates how to Derive and Study the Geodesic Equations for the Schwarzschild Black Hole</i> Notes: Awarded "Best Poster" Prize in the category of Teaching Resources
DGCAMP Student Daze: Our Relative Progression APRIL 20, 2018 UTAH STATE UNIVERSITY, Logan, UT	Title: <i>Hypergeometric Differential Equations and Calabi-Yau Manifolds</i>

AWARDS

USU DEPT. OF MATH AND STATS MAY 3, 2020	2020 Doctoral Researcher of the Year
USU DEPT. OF MATH AND STATS APRIL 28, 2019	Graduate Student Departmental Service Award
UTAH STATE UNIVERSITY APRIL 12, 2019	Outstanding Oral Presentation at Student Research Symposium
690. WE-HERAEUS-SEMINAR Bonn, DEU FEBRUARY 15, 2019	“Best Poster” for Teaching Resources

CONFERENCES ORGANIZED

DGCAMP Mini-Talks and Tea JUNE 2019 - SPRING 2020	Main organizer of weekly graduate student seminar for student led talks in Geometry and Physics
DGCAMP Presents: <i>Student Daze: Our Relative Progression</i> UTAH STATE UNIVERSITY, Logan, UT APRIL 19 - 20, 2018	Main organizer of two day conference showcasing research done by undergraduates and graduate students in mathematics and theoretical physics SUPPORTED BY: Utah State University (USU) and National Science Foundation (NSF)

OTHER WRITTEN WORKS

<i>Foundations of Linear Algebra, A Geometric Perspective</i> SUMMER 2019	Free book written for Linear Algebra classes, to be developed into an OER resource for those with visual impairments. Emphasizes the geometric viewpoint of Linear Algebra and contains over 100 original exercises.
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