Luke Askew | Curriculum Vitae

• luke@lukeaskew.xyz • lukeaskew.xyz • lukeask

Education

Doctor of Philosophy : 2022 - Present
Mathematics, Dartmouth College

Bachelor of Science: 2019 - 2022
Mathematics, Colorado State University

Associate of Science: 2016 - 2019
Mathematics, Front Range Community College

Teaching

Front Range Community College:

- Supplemental Instructor for College Algebra — Spring 2019
- Math Help Center Tutor for College Algebra, Calculus I-III, Linear Algebra — Fall 2018, Spring 2019

Talks

Hilbert's 10th Problem for Fields: Spring 2022
Number Theory and Algebraic Geometry Seminar (SPLINTER) — Colorado State University

Introduction to Simplicial Sets: Spring 2022
Applied Category Theory Seminar (ACTS) — Colorado State University

What is a Topos?: Fall 2021
Number Theory and Algebraic Geometry Seminar (SPLINTER), Invited — Colorado State University

Elementary Topoi and Logic: Fall 2021
Applied Category Theory Seminar (ACTS) — Colorado State University

Integer Valued Matrices and Abelian Categories: Spring 2021
Applied Category Theory Seminar (ACTS) — Colorado State University

The Category of Simply Typed λ-theories and the Category of Small Cartesian Closed Categories are Equivalent : Spring 2021
Applied Category Theory Seminar (ACTS) — Colorado State University

Applications of Yoneda's Lemma and Equivalence of Categories: Fall 2020
Applied Category Theory Seminar (ACTS) — Colorado State University

Computing All Polynomial Solutions to Systems of Homogeneous Linear PDEs with Gröbner Bases: Fall 2019
Undergraduate Poster Session, Cash Prize Winner — Colorado State University

a Topology Driven Approach to Localization: Summer 2019

Montana State University REU Poster Session — Montana State University

Dickson's Lemma: — Summer 2019

Computational Topology and Geometry (CompTaG) Book Club — Montana State University

Professional Activities

Grade Appeal Committee : — Spring 2021

MATH 160 and MATH 141 at CSU

Other Experience

Mathematician and Software Engineer, Dark Sky Technology: December 2021 - September 2022

- Programming language translation combining type theory and machine learning
- Backend API development
- Python, C, and Rust programming

Park City Mathematics Institute Summer School : July 2022

Number Theory Informed by Computation

Computer Science REU, Montana State University : Summer 2019

Persistent Homology Based Approaches to Localization
Under Supervision of Brittany Terese Fasy, David L. Millman, and Binhai Zhu.

Mathematical Biology Highschool Internship, Colorado State University: Summer 2018

Under Supervision of Yongcheng Zhou

Seminars and Conferences Attended

- VaNTAGe - Virtual Number Theory and Arithmetic Geometry — Spring 2021 - Present
- Number Theory Lab at CSU — Spring 2022
- ACTS at CSU - Applied Category Theory Seminar — Fall 2020 - Spring 2022
- Front Range Number Theory Day — September 2021, April 2022
- Western Algebraic Geometry Symposium (WAGS) — April 2022
- Topos Institute Colloquium — Summer 2021 - Fall 2021
- CATS2021 - Additive Categories Between Algebra and Functional Analysis — February 2021
- FRAGMENT - Front Range Algebra, Geometry and Number Theory Seminar — Fall 2021 - Spring 2022
- Putnam Seminar at CSU — Spring 2018 - Fall 2020
  - 2018 Score: 2
  - 2019 Score: 11
- Joint Math Meetings — 2020, 2022