MUHAMMAD ABDULLAH

WSU Student, Mathematics major
Wichita State University
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EDUCATION

Current

Wichita State University — Wichita, KS

Bachelor of Science / Master of Science (Accelerated Program), Mathematics

Expected (undergraduate): Fall 2025 | Expected (masters): Spring 2026 | GPA: 4.0/4.0

Advisor: Prof. Catherine Searle

WORK EXPERIENCE

Student Grader for the Department of Mathematics, Wichita State University, Spring 2024 (Supervisor: Dr. Yueh-Ju Lin)

Undergraduate Research Assistant for the Department of Mathematics, Wichita State University, Fall 2025 (Supervisor: Dr. Catherine Searle)

COURSES TAKEN

- Mathematics courses (Calculus I, II, & III, Linear Algebra, Mathematical Reasoning, Analysis, Modern Algebra, Computational Mathematics using MATLAB, Introductory Topology, Smooth Manifolds, Riemannian Geometry, Compact Lie Groups, Numerical Methods, Measure Theory, Statistics, Complex Analysis, Algebraic Topology, Abstract Algebra)
- Computer science (Computational Mathematics using MATLAB)
- Physics courses (Analytical Mechanics, Electrodynamics, Quantum Mechanics)
- English language courses (Nature of Poetry)

RESEARCH PROJECTS

- "$\mathbb{Z}_p$-torus actions on manifold of positive sectional curvature", Wichita State University, January 2025 – present (in process of publication)
  - Generalize the work done on $\mathbb{Z}_2$-torus actions on manifolds of positive sectional curvature
  - Possible classification of more positively curved manifolds (Grove Symmetry program)
  - Part of my role as an URA
- "Numerical Study of Heat Transfer across In-Line Circular Cylinders for Low to Moderate Reynolds Numbers", Papua New Guinea University of Technology, August 2022
  - Flow field and heat flow over a longitudinal row of circular cylinders
  - Numerical simulations using CFD techniques
  - Modelling the system using Fluent

HONORS AND AWARDS

Wichita State University

William and Kathleen Glasco Mathematics Scholarship, 2025-2026, Wichita State University

Alan Yeary Endowed Scholarship in Mathematics, 2025-2026, Wichita State University

Josephine B. & Justus H. Fugate Mathematics Scholarship, 2025-2026, Wichita State University

Dean's Honor Roll List, Spring 2025, Wichita State University

Dean's Honor Roll List, Fall 2024, Wichita State University

Member of Phi Kappa Phi, Fall 2024 – present, Wichita State University Chapter

Josephine B. & Justus H. Fugate Mathematics Scholarship, 2024-2025, Wichita State University

Wayne Pfeiffer Endowed Scholarship in Mathematics, 2024-2025, Wichita State University

Dean's Honor Roll List, Spring 2024, Wichita State University

Dean's Honor Roll List, Fall 2023, Wichita State University

International Merit Scholarship, 2023 – 2024, Wichita State University

COMMUNITY ACTIVITIES

- Starting up AMS Student Chapter at Wichita State University (this is ongoing, not yet completed), Fall 2025
- Organizing a smooth manifolds seminar with graduate students, Wichita State University, Summer 2025
- Talk titled "$\mathbb{Z}_p$-torus Actions on Positively Curved Manifolds" in the Geometry, Topology, and Analysis Seminar, Wichita State University, Fall 2025
- Talk titled "Representing continuous functions of several variables as composition and addition of continuous functions of one variable (Kolmogorov)" in the Geometry, Topology, and Analysis Seminar, Wichita State University, Spring 2025

COMPUTER SKILLS

DOS, Windows, Kali Linux, Python, Microsoft Mathematics, Maple, Microsoft Office Suite, HTML, Prolog, SQL, MATLAB.

JOURNAL PUBLICATIONS

- M. Abdullah and C. Searle, *$\mathbb{Z}_p$-Torus Actions on Positively Curved Manifolds*, preprint: arxiv:2510.26853 (2025)
- O. U. Khan, W. A. Khan, G. M. Arshed, and M. Abdullah, "Numerical study of heat transfer across in-line circular cylinders for low to moderate Reynolds numbers," *Numerical Heat Transfer, Part A: Applications*, vol. 85, no. 23, pp. 4076–4094, 2024.