Moses Patson Phiri

Department of Mathematics, The University of Alabama at Birmingham
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Research Interests

Nonlinear partial differential equations, mathematical fluid dynamics, Navier–Stokes equations, regularity theory, hyperdissipative systems, analyticity methods, singularity formation and blow-up criteria.

Education

The University of Alabama at Birmingham — Birmingham, Alabama
Ph.D. in Applied Mathematics, expected 2027 — 2022–Present
Advisor: Professor Zoran Grujić

The University of Alabama at Birmingham — Birmingham, Alabama
M.S. in Mathematics — 2024

African Institute for Mathematical Sciences (AIMS), Ghana — Ghana
M.Sc. in Mathematical Sciences — 2019–2020

The Copperbelt University — Zambia
B.Sc. in Mathematics Education — 2014–2018

Publications and Preprints

Phiri, Moses Patson. *On Bridging Analyticity and Sparseness in Hyperdissipative Navier–Stokes Systems*. Preprint, arXiv:2512.03378, 2025.

Presentations

On Bridging Analyticity and Sparseness in Hyperdissipative Navier–Stokes Systems
Mar. 2026
AMS Spring Southeastern Sectional Meeting, Special Session on Fluid Dynamics and Nonlinear Partial Differential Equations, Georgia Southern University–Armstrong Campus, Savannah, Georgia.

On Bridging Analyticity and Sparseness in Hyperdissipative Navier–Stokes Systems
Mar. 2026
Departmental Colloquium, Department of Mathematics, The University of Alabama at Birmingham, Birmingham, Alabama.

Teaching Experience

Graduate Teaching Assistant — 2022–Present
Department of Mathematics, The University of Alabama at Birmingham

- Supported undergraduate instruction in Pre-Calculus Algebra, Pre-Calculus Trigonometry, and Calculus I.
- Led tutorials, held office hours, graded coursework, proctored examinations, and mentored students.

Mathematics Lecturer — 2021–2022
Cavendish University Zambia, Zambia

- Taught undergraduate mathematics courses through lectures, tutorials, and assessments.
- Prepared course materials, graded assignments and examinations, and provided academic guidance to students.

Technical Skills

Mathematics: Nonlinear PDEs, Navier–Stokes equations, harmonic analysis, regularity theory

Scientific Computing: Python, MATLAB, LaTeX, numerical methods for differential equations

Academic Tools: Overleaf, Beamer, mathematical writing, research presentations

Grants and Travel Support

Graduate Student Travel Support, University of Alabama at Birmingham 2026
Support for participation and to present at the AMS Spring Southeastern Sectional Meeting.

Honors and Awards

Roger T. Lewis Endowed Scholarship in Mathematics 2026
The University of Alabama, United States
For excellence in graduate studies in the area of Differential Equations or Mathematical Physics.

Outstanding Graduate Teaching Assistant Award 2026
The University of Alabama, United States
For excellence as an outstanding graduate teaching assistant in Mathematics.

Best Graduating Student 2018
The Copperbelt University, Zambia
Graduated as the top student in the program; recipient of best-performing student awards in the second, third, and fourth years.

Additional Training

Developing the SIR Model Nov. 2021
Imperial College London, Coursera

Introduction to Mathematical Thinking Sept. 2020
Stanford University, Coursera

Statistics and R Aug. 2020
Harvard University, edX

References

Available upon request.