CHANDA PROSPER

Independent Researcher | Undergraduate Engineering Applicant

Kasama, Zambia | chandaprosper03@gmail.com

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PROFESSIONAL PROFILE

Zambian independent researcher with self-directed work spanning mathematical modelling, fluid mechanics, physics-based climate modelling, and applied engineering concepts. Seeking undergraduate study in Electrical and Electronic Engineering or Aerospace/Aeronautical Engineering. Interested in applying analytical methods, mechanics, and computational thinking to practical engineering problems.

EDUCATION

Senior Secondary Education | Gibeon Adventist Secondary School, Northern Province, Zambia
Zambian School Certificate. Seven subject distinctions recorded in national examination results.

University-level coursework | Copperbelt University, Zambia Completed foundational coursework; no completed university degree claimed.

CERTIFICATES & SPECIALIZED LEARNING

14 certificates: 8 Alison, 3 Northwestern Polytechnical University (NPU), and 3 Saylor Academy. Assessment scores are included where available; NPU certificates do not list scores.

Alison

Alison Learner ID: 51313028. Each certificate has an individual verification link below.

Diploma in English – C1 Level — Score: 90%
Verification: https://alison.com/certification/check/e3a4859f19

Diploma in A-level Chemistry: 3 — Score: 82%
Verification: https://alison.com/certification/check/28806358dc

Advanced Diploma in High School Physics — Score: 97%
Verification: https://alison.com/certification/check/52e384f0ca

Advanced Diploma in Engineering Thermodynamics — Score: 93%
Verification: https://alison.com/certification/check/5b97c51fe5

Diploma in Educational Psychology — Score: 93%
Verification: https://alison.com/certification/check/a48322988a

Diploma in Mechatronics — Score: 88%
Verification: https://alison.com/certification/check/c64f47fe24

Diploma in Nursing Leadership and Care Management — Score: 87%
Verification: https://alison.com/certification/check/1a06db258b

Diploma in Mathematics — Score: 89%
Verification: https://alison.com/certification/check/ef960b8fc0

Northwestern Polytechnical University (NPU)

Program: 2025 Learning at NPU-Global Open Courses Program | Issuer: International College, Northwestern Polytechnical University

Image Processing and Computer Vision: Algorithms and Applications — Certificate No. 2025000217; 24 hours; course period 14 July–20 August 2025; awarded 12 September 2025.

Fundamentals of Low Speed Aerodynamics — Certificate No. 2025000273; 24 hours; course period 9 October–15 December 2025; awarded 29 December 2025.

Electric Machinery Fundamentals (Part 1) — Certificate No. 2025000253; 24 hours; course period 9 October–15 December 2025; awarded 29 December 2025.

Saylor Academy

PHYS101: Introduction to Mechanics — Score: 84.31%; Certificate ID 7958294278PC; 33 hours; 3.3 CEUs.

ESL004: Advanced English as a Second Language — Score: 86.36%; Certificate ID 3812576887PC; 14 hours; 1.4 CEUs.

MA007: Real World Math: Algebra — Score: 80.00%; Certificate ID 6301540467PC; 35 hours; 3.5 CEUs.

SELECTED RESEARCH & ENGINEERING PROJECTS

Navier–Stokes variable-representation study. Independent manuscript exploring a variable-coordinate representation for analysing nonlinear velocity changes and viscous-boundary behaviour.

Unified Position Equation (PUPE). Proposed physics framework examining position dynamics, relativistic constraints, and quantum-potential terms. Registered on the Open Science Framework.

Harmonic Quantum Action Theory. Proposed theoretical framework introducing a localized harmonic interaction term into classical Lagrangian variables.

Structural Dynamics and Parity-Invariant Framework for the Collatz Conjecture. Independent mathematical exploration of parity conditions and integer-sequence trajectories.

Smart Circular Battery Exchange System (SCBES). Applied engineering concept exploring spatial optimization and second-life duty cycles for modular electric-vehicle battery banks.

Deterministic Climate Prediction Using PUPE. Physics-based climate-modelling project focused on atmospheric dynamics and data limitations in sub-Saharan Africa.

Bouncing tennis ball impact-surface study. Research Square preprint examining how impact surfaces affect coefficient of restitution and mechanical energy loss.

PUBLICATIONS & RESEARCH PAPERS

Chain-Space Theory (CST) — Independent theoretical physics manuscript, Zenodo
DOI: https://doi.org/10.5281/zenodo.23261469

Effect of Impact Surface on the Coefficient of Restitution and Mechanical Energy Loss of a Bouncing Tennis Ball — Research Square preprint, 2026
DOI: https://doi.org/10.21203/rs.3.rs-11184187/v1 | Research Square article: https://www.researchsquare.com/article/rs-11184187/v1

The Unified Position Equation (PUPE), 2026 Revised Version — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Harmonic Quantum Action Theory — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Investigating an Alternative Variable Representation of the Nonlinear and Viscous Structures in the Navier-Stokes Equations — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Thermodynamic Modeling of Phase Transitions in Materials — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Modeling Proper Time Evolution in Relativistic and Quantum Frameworks — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Smart Circular Battery Exchange System for Scalable Energy Storage — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

Structural Dynamics and Parity-Invariant Framework for the Collatz Conjecture — Research paper on Academia.edu
Academia.edu verification: https://independent.academia.edu/PROSPERCHANDA2

HONORS & AFFILIATIONS

2026 Keystone Awards — Research Student of the Year nominee.

Earth Prize Scholar. Selected for the 2026 Africa cohort of The Earth Prize.

World Research Fellow of London (WRFL). Lifetime Fellow.

African Materials Research Society (AMRS). Registered member; registry reference AMRS737.

Global Quantum Mechanics Challenge. Ambassador for the Zambian region.

LEADERSHIP & AUTHORSHIP

Founder, Curious Young Minds (CYM; formerly Genius Hub). Founded a youth-focused initiative supporting young people through STEM learning, research engagement, and educational opportunities.
https://cym-prosper-20261021-k3.wise-path.workers.dev

Third Co-Founder, Creative Youth for Change (CYC). Joined the core administrative team in August 2026 to support programme development and youth-led initiatives.

Author, It's Time to Know the Universe. Wrote an introductory educational book of approximately 60 pages covering classical mechanics and basic physics for secondary-school and university learners.

SELECTED MEDIA COVERAGE

Mongabay: Zambian prodigy draws on theoretical physics to improve weather prediction. https://news.mongabay.com/2026/05/zambian-teen-draws-on-theoretical-physics-to-improve-weather-prediction/

TechTrends Africa: Chanda Prosper is rewriting the script for African science. https://techtrends.africa/chanda-prosper-is-rewriting-the-script/

Impactful Ninja: Teen from Zambia builds weather model for Africa. https://impactful.ninja/teen-from-zambia-builds-weather-model-for-africa/

Masscope Magazine: Can an 18-year-old help Africa predict the next storm?. https://masscope.ng/2026/07/01/can-an-18-year-old-help-africa-predict-the-next-storm/

DailyGood: Pursuing Physics Beyond Talent. https://dailygood.org/story/3367/pursuing-physics-beyond-talent/

Africa Science News: https://africasciencenews.org/from-a-zambian-village-to-the-frontiers-of-physics-meet-young-researcher-prosper-chanda/

CORE SKILLS

Mathematical modelling and analytical problem-solving • Classical mechanics and fluid mechanics • Scientific writing and independent research • Physics-informed climate modelling • Engineering concept development and systems thinking • STEM education and programme coordination

ACADEMIC IDENTIFIERS

ORCID: https://orcid.org/0009-0007-9504-184X | AMRS Registry: AMRS737