Curriculum Vitae current as of Apr 2022

**Godfrey Bwayo Walwema**

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**EDUCATION**

Ph.D. **Curriculum and Instruction** (major concentration: **Science Education**)

College of Education

University of Wyoming, Laramie, WY.

**Dissertation Title:** An Investigation on how the Cave Automatic Virtual Environment Experience helps Preservice Teachers to build on their Understanding of the Concept of Density at the Microscopic Level.

**Dissertation Committee Chair**: Alan Buss, Ph.D.

**Dissertation Committee**: Timothy Slater, Ph.D. Ana Housel, Ph.D.

Eric Teman, PhD. Chip Kobulnicky, Ph.D.

MS **Physics**

Department of Physics

Western Illinois University, Macomb, IL.

BS **Physics/Mathematics**

College of Natural Sciences

Makerere University, Kampala Uganda.

Graduate Diploma **Diploma in Education** (Foundation and Curriculum Studies)

College of Education and External Studies

Makerere University, Kampala Uganda.

**RESEARCH INTERESTS** Investigation of the most effective strategies for teaching science and physics at K-12 using the constructivist framework through the lens of conceptual change.

**PUBLICATION** **Peer-reviewed Journal article publication**

**Walwema, Godfrey B**; French, Debbie; Verley, Jim D; Burrows,

Andrea C (2016). **Is classical mechanics a prerequisite for**

**learning physics of the 20th century? *Physics Education,***

***Volume 51, Issue 6, pp. 065022.***

<https://iopscience.iop.org/article/10.1088/0031-9120/51/6/065022/meta>

**PROFESSIONAL DEVELOPMENT WORKSHOPS**

February 2019 Wyoming Energy Education Initiative, Casper, WY

● Participated as a Team Leader.

December 2018 Wyoming Energy Education Initiative, Casper, WY.

● Participated as a Member of the Leadership Team

June 2017 Professional Development on Content Specific, Recursive Formative Assessment in Literacy, Math, and Science for Teachers. Pavilion, WY.

● Led the science session for the workshop.

**RESEARCH EXPERIENCE**

2015 - current ● Investigating the teaching of the topic of density in the middle science and high school physics.

● Investigated how the Cave Automatic Virtual Environment

(CAVE) can be used to effectively teach the topic of density in K-12 and how the CAVE can help learners to gain a deeper understanding of the density concept at the microscopic level.

● Explored the relationship between the teaching of Classical Mechanics and Physics of the 20th Century.

● Investigating learner difficulties in understanding physics concepts.

● Implementation of data management and entry, assessment of the fidelity of interventions.

●Exploring learner misconceptions in understanding the concept of density at the microscopic scale.

**TEACHING AND WORK EXPERIENCE**

2021 fall – current Indiana Academy of Science for Science, Mathematics & Humanities.

● Instructor for Conceptual Physics course PHY C 100.

2020 spring – 2021 spring Postdoctoral Fellow with the Project AIM: Autism

Intervention Meta-analysis for studies of young children.

● Observe teacher implementation of interventions and

assess the fidelity of the interventions.

● Implement data management and entry.

● Attend and contribute to planning meetings for Project AIM

Team Members.

2019 fall School of Teacher Education, University of Wyoming,

Elementary Education.

● Instructor for math methods, Elem Sch Math Sem II EDEL 2410.

● Co-teaching Elem Math/Science Education EDEL 4409

2018 fall - spring 2019 STEM Graduate Assistant with the Wyoming Energy Education

Initiative (WEEI) as a Team Leader for science literacy.

● Coordinated and participated in Professional Development

Workshops.

● Attended and actively contributed to Professional

Development Workshops, sent email correspondences to

teachers and responded to their emails.

● Transcribed teacher interviews for WEEI.

**Undergraduate Level**

2017 spring - 2018 spring School of Teacher Education, University of Wyoming.

● Instructor for science methods, Phys Sci Elem Sch Sem I EDEL 1440.

2016 fall School of Teacher Education, University of Wyoming.

● Instructor for math methods, Elem Math Sem I EDEL 1410.

2014 fall - 2016 spring School of Teacher Education, University of Wyoming.

● Instructor for science methods, Phys Sci Elem Sch Sem I EDEL 1440.

2013 fall - 2014 spring Physics Department, Western Illinois University.

Instructional Assistant:

● Conducted experiments for Physics Department Outreach Program.

● Tutored undergraduate Physics I & II.

● Proctored exams in the Physics Dept.

2012 spring - 2013 spring Physics Department, Western Illinois University.

Graduate Assistant:

● Tutored undergraduate Physics I & II.

● Instructor for online classes PHYS 101Y Introduction to

Astronomy and PHYS 150 Energy and the Environment

● Graded assignments for courses PHYS 430 Quantum

Mechanics I and PHYS 310 Statics.

● Conducted lab experiments and demonstrations for the

Physics Department Outreach Program.

**K-12 Level**

2000 - 2004 Rainbow Secondary School, Gaborone, Botswana.

● Taught physics, science, algebra, trigonometry, and calculus.

1997 - 1999 Waterford Kamhlaba School, Mbabane, Eswatini

●Taught science, physics, and Internal Baccalaureate (IB) physics.

1989-1998 St. Marks High School, Mbabane, Eswatini.

●Taught physics and Advanced Level (A-Level) physics.

**SERVICE**

2016 fall - 2017 spring Graduate Students representative on the College of Education Technology Committee.

2014 - Present Virtual Science Mentor SAGANet <http://saganet.org/>

2013 - Present WyzAnt Tutoring, approved tutor for Geometry, Physics, Calculus,

Algebra 1 & 2, and Trigonometry.

2012 - 2013 Member of the Physics Department Outreach Program.

Maintained a database for over 200 teachers in the Outreach Program.

**PRESENTATION**

March 06, 2020 The Education Summit, College of Education, University of Wyoming.

Paper: Is Classical Mechanics a prerequisite for learning physics of the 20th

Century?

**SCHORLARLY MEMBERSHIP**

2012 - Present Physics Honor Society (Sigma Pi Sigma).

2019 - Present American Association for Colleges for Teacher Education (AACTE).

2919 - Present National Science Teaching Association (NSTA)

IB Physics syllabus:

<https://ibphysics.org/wp-content/uploads/2016/01/ib-physics-syllabus.pdf>

A-Level Physics Syllabus:

<https://www.cambridgeinternational.org/Images/329533-2019-2021-syllabus.pdf>

LinkedIn Profile:

<https://www.linkedin.com/in/godfrey-walwema-192b703/>