

PERSONAL INFORMATION **OKELLO Alex**

📍 Department of Science and Vocational Education, Faculty of Education, Lira University.

📞 +256 782834277

✉ alex.okello@mak.ac.ug alokello@lirauni.ac.ug

Gender Male | Nationality Ugandan

WORK EXPERIENCE

- 2025 – To date **Senior Lecturer**
Department of Science and Vocational Education
Faculty of Education
Lira University.
Duties include: Lecturing, Research and Demonstration in Laboratories, community outreach
- 2024 – 2025 **Lecturer**
Department of Physics
College of Natural Sciences
Makerere University.
Duties include: Lecturing, Research and Demonstration in Laboratories, community outreach
- 2014 – 2024 **Assistant Lecturer**
Department of Physics
College of Natural Sciences
Makerere University.
Duties include: Lecturing, Research and Demonstration in Laboratories, and community outreach
- 2008 – 2014 **Teaching Assistant**
Department of Physics
College of Natural Sciences
Makerere University.
Duties include: Lecturing, Research and Demonstration in Laboratories, and community outreach
- 2006 – 2008 **Teaching Assistant**
Department of Physics
Faculty of Science and Education
Gulu University
Duties include: Lecturing, Research and Demonstration in Laboratories, and community outreach

EDUCATION AND TRAINING

- 2019–2022 **Ph.D**
Subject: Physics
Thesis Title: Performance of Selected Natural Dyes in Dye Sensitized Solar Cells
Field of Research: Renewable Energy, Materials science and solar Cells

Makerere University.

2012–2013 **Post Graduate Diploma in Information Technology**
Field of Study: Information Communication Technology

Amity University,
Uttar Pradesh, India

2008–2010 **Master of Science**
Subject: Physics
Dissertation Title: Performance of Selected Silicon Based Photo-voltaic Modules in the Ugandan Market
Field of Research: Renewable Energy, Photovoltaics

Makerere University.

2006–2007 **Post Graduate Diploma in Education**

Gulu University.

2001–2004 **Bachelor of Science**
Subjects: Physics, Chemistry and Mathematics

Makerere University

- Computer skills
- Experience with Python, Matlab, Programming in C++ and LabVIEW
 - Competent with Linux Operating system
 - Competent with Quantum Espresso, Abinit and Siesta Codes for simulating electronic structure of materials

PUBLICATIONS AND CONFERENCE PRESENTATIONS

1. Rios-Vargas, Valeria; Oyeniyi, Ezekiel; Shao, Xuecheng; Fathelrahman Ibrahim Elsayed, Wala; Ogenyi, Sunday Joseph; **Okello, Alex**; Pavanello, Michele, Pseudopotentials for orbital-free DFT: Capturing nonlocality and correcting functional approximants, Phys. Rev. B 113 (12), 125124, 2026
2. **A. Okello**, B. O. Owino, J. Namukobe, D. Okello and J. Mwabora, "Effect of Zirconium Layer on Electron Transport Properties in Dye Sensitized Solar Cells, Next Research, 101327, 2026
3. S.Tenywa, J.T. Inyalot, **A.Okello** "Metal Oxides and Carbonaceous Nanocomposites as Platinum-Free Counter Electrodes for Dye Sensitized Solar Cells; A Review, Heliyon 11 (12), e43547, 2025
4. **A. Okello**, B. O. Owino, J. Namukobe, D. Okello and J. Mwabora, "Influence of pH of anthocyanins on efficiency in dye sensitized solar cells, Heliyon, Vol. 8, pg. e09921, 2022.
5. **Okello, A.** Performance of selected natural dyes in dye sensitized solar cells (Doctoral dissertation, Makerere University).
6. **A. Okello**, B. O. Owino, J. Namukobe, D. Okello and J. Mwabora, "Influence of concentration of anthocyanins on electron transport in dye sensitized solar cells," Heliyon, vol. 7, pg. e06571, 2021.
7. Boniface Otieno Ndinya and **Alex Okello**, Thermodynamics Properties of a System with Finite Heavy Mass Nuclei, American Journal of Modern Physics. Volume 3, Issue 6, November 2014, pp. 240-244. doi: 10.11648/j.ajmp.20140306.16

- Research Interests
- Materials Science for Solar Energy Applications
 - Computational materials Science using ab-initio methods

- Major Awards**
- Makerere University Africa Center of Excellence in Materials, Product Development, and Nanotechnology(MAPRONANO ACE), PhD research grant; 2017 -2021.
 - International Science Program (ISP), PhD research grant through Solar Energy Network for Eastern and Southern Africa (MSSEESA), under UG01 project; 2017 -2021.
 - Japanese International Co-operation Agency(JICA) scholarship for studies in Japan 2011-2012.
 - DAAD Incountry and regional scholarship,for Masters studies in Uganda, 2008-2010.
 - Government of Uganda scholarship,for undergraduate studies, 2001-2004.

REFEREES**Denis Okello, PhD**

Senior Lecturer and Chair,
Department of Physics
College of Natural Sciences,
Makerere University.
Mobile: +256 772 579403
Email: denis.okello@mak.ac.ug

Saphina Biira, PhD

Prof. and Deputy Vice Chancellor,
Busitema University
Mobile: +256 772 523936
Email: bsaphina@gmail.com