

ANDREW ODHIAMBO ODUOR

Department: Physics & Materials Science Phone: +254722334179
Maseno University, Kisumu-Busia Road Email: aodhiambo@maseno.ac.ke, andrewoduor22@gmail.com

P.O. Box 333-40105,
Maseno, Kenya

EDUCATION

YEAR	TYPE OF EXAMINATION/AWARD
1972	Kenya Certificate of Primary Education at Morrison Primary School (Nairobi).
1976	Kenya Certificate of Secondary Education at Highway Secondary School (Nairobi).
1981	Kenya Science Teachers College, S.1. (Nairobi).
1985	B. Ed. Physics/Mathematics, Nairobi University, Nairobi.
1988	M. Sc. Polymer Science, Kenyatta University, Nairobi.
1997	Ph.D. Electronic Engineering, Keele University, UK.

RESEARCH EXPERIENCE

PERIOD	LABORATORY/RESEARCH ACTIVITIES
1997	Processing rubber and associated composite compounds at the Car and General rubber processing factory (Nairobi) Measurements of mechanical properties at the factory labs and at Kenyatta University.
1996 - 1997	Thermal evaporation of thin film using binary compounds. Electrical measurements using sandwich method, optical measurements using spectrophotometer to determine film optical parameters. Film thickness measurements using a surface profiler, Department of Physics and Electronic Engineering at University of Keele.
June 07 – June 09, 2016	Operations of Spectro 320, Dynamic Mechanical Analyzer and among many others.
Oct. 01, 2017 – Sept. 29, 2019	Use of digital microscopy, scanning transmission electron microscopy, differential scanning calorimetry, atomic force microscopy, X-ray diffractometer, and vacuum systems at the Experimental Polymer Physics Group (Albert-Ludwigs-University of Freiburg-Germany)

TEACHING EXPERIENCE

DESIGNATION	INSTITUTION	PERIOD	TASK
Lecture	Maseno University	1992 - to date	Research Assistant
Tutorial Fellow	Kenyatta University	1990-92	Tutorials to undergraduates in Physics, Taught courses
Graduate Teacher	Lwak Girls High School.	1985	Mathematics and Physics
SI Teacher	Jaribuni Secondary School-Kilifi	1981	Mathematics and Physics

HONORS AND AWARDS

YEAR	SCHOLARSHIP/AWARD
2011-13	National Council of Science and Technology, (In collaboration with colleagues in Maseno University, St. Paul's University and Masinde Muliro University of Science and Technology). (Research on Arresting lipid oxidation and browning of sundried fish products marketed in western Kenya using low cost fish processing and preservation technologies) (2011-2013) KSh 6,000,000. File No. NCST/5/003/3 rd STI CALL/45.
1999	Maseno University provided Shs 100,000 for my project on solar energy studies in the department of Physics.
1993-97	Kenya Government Scholarship to pursue Ph.D at Keele University in the UK
1985	Kenyatta University Postgraduate Scholarship to pursue master of science in Physics
1981	Awarded a Government Scholarship to Study BEd. Science at Nairobi University, Kenyatta University Campus.
2014	Maseno University Tutorial Fellowship to pursue Ph.D. studies

PROFESSIONAL MEMBERSHIP

1. Member, Kenya Physics Society, (Since October, 1988)

SKILLS AND TRAINING

Trained in the use and operation of several equipment at the Thin Films laboratory in the Department of Physics and Electronic Engineering (University of Keele). I am well versed in the use of X-ray diffractometry, scanning transmission electron microscopy, Edwards 306 coating unit for both sputtering and thermal evaporation. In addition, I have acquired skills in programming in Python and Julia. I was also trained in the installation and management of the ionosonde, (a space weather instrument). I also learned to process the data generated from the measurements from the space weather instruments hosted by Maseno University.

LEADERSHIP EXPERIENCE

1. Treasure, Maseno University SACCO, (2016 to date).
2. Chairman, Department of Physics and Materials Science, (2016 to date).
3. Member, Board of Management of Dibuoro Secondary School, (2014 to 2018).
4. Ag. Dean, Faculty of Science, Maseno University (2008).
5. Chairman, Department of Physics
6. Class teacher (Forms I, II & III), Lwak Girls High School (1985), Siaya.
7. Class teacher (Forms I - IV), Jaribuni Secondary School (1981), Kilifi.
8. Boarding Master, Jaribuni Secondary School (1981), Kilifi.

CONFERENCES AND WORKSHOPS

CONFERENCES

1. **Mulama A. A.**, Mwabora J. M., Oduor A. O., and Muiva C. M. (2017). *Investigation of performance and heat management for optimized concentrator arrangements of Cu(In,Ga)Se₂ micro solar cells (Poster Presentation)*. Proceedings of the MSSEESA Solar Energy Materials for Energy Needs in Africa, United Kenya Club, Nairobi-Kenya, October 30 –November 2, 2017.
2. A.O. Oduor, P. Baki, E. Asino, K.M. Groves, V.V. Paznukhov and C. Bridgwood, (2016) “GNSS Observations in Equatorial Africa at two spatially dispersed locations”, International Beacon Satellite Symposium 2016, Trieste.
3. Odhiambo H., Oduor A, Amuzu J., and Othieno H. (2004). *Production and Optical Characterization of Thermally Deposited ZnS Thin Films*, **Proceedings of the Eighth College on Thin Film Technology**, Volume 8.7
4. **Mulama A. A.**, Mwabora J. M., Oduor A. O., and Muiva C. M. (2013). *Optical Properties of Flash Evaporated Se_{100-x}Bi_x Thin Films: Effect of Film Thickness (Oral Presentation)*. Proceedings of the MSSEESA Conference on Material Science and Solar Cell Technology, United Kenya Club, Nairobi-Kenya, November 28 –November 30, 2013.
5. A.O. Oduor, (2010). “Project KIRO, The Kenya International Radio Observatory”, East, Central and Southern Africa GNSS and Space Weather Workshop, July 19-2, Six Eighty Hotel, Nairobi.
6. A.O. Oduor and T.O. Ogada,(1990). “Plastic waste management in Nairobi city”, Proceeding of the Kenya National Association of Physicists, Nairobi University, Nairobi, August.

PUBLICATIONS

Referred Journals

1. Mulama A. A., Roumpos K., Pradipkanti L., Oduor A. O., & Reiter G. (2020). Comparative Dewetting Study of Thin Films of Blends of Isotactic Polystyrene and Isotactic Poly(*para*-methylstyrene). *Macromolecules*, under review.
2. Mulama A. A., Chandran S., Roumpos K., Oduor A. O., & Reiter G. (2019). Dewetting Rheology for Determining Viscoelastic Properties of Nonequilibrium Thin Polymer Films. *Macromolecules*, **52**(20), 7894 – 7903.
3. Mulama A. A., Mwabora J. M., Oduor A. O., & Muiva C. M. (2018). Compositional and Thickness Effects on the Optical Properties of Zinc – Doped Selenium – Antimony Thin Films. *Tanzania Journal of Science*, **44**(4), 51 – 58.
4. Esokomi Solomon Nuni, Indoshi Francis and Oduor A.O. (2016). "Influence of Science Club Activities (SCA) on Secondary School Students' Interest and Achievement in Physics in Vihiga County of Kenya", International Journal of Science and Research Publications, Vol.3, 88-94.
5. Mulama A. A., Mwabora J. M., Oduor A. O., Muiva C. M., Muthoka B., Amukayia B. N., and Mbetete D. A. (2015). *Role of Bismuth and Substrate Temperature on the Optical Properties of Some Flash Evaporated $Se_{100-x}Bi_x$ Glassy System*. *New Journal of Glass and Ceramics*, **5**(2), 16-24.
6. Onyinge G.O., Oduor A.O. and Othieno H.E. (2015). "The design and testing of an indirect cabinet solar dryer, for thin layer drying of *Rastrineobola argentea* fish, under the climatic conditions of Maseno, Kenya", African Journal of Food Science, Vol. 9(1)1-16.
7. Mulama A. A., Mwabora J. M., Oduor A. O., Muiva C. M., Muthoka B., Amukayia B. N., and Mbetete D. A. (2015). *Stability Investigation in the Optical Properties of Thermally Evaporated $Ge_5Se_{95-x}Zn_x$ Thin Films*. *Journal of Advances in Physics*, **7**(3), 1923-1930.
8. Mulama A. A., Mwabora J. M., Oduor A. O., Muiva C. M., and Muthoka B. (2014). *Investigation of the Effect of Film Thickness on the Optical Properties of Amorphous $Se_{85-x}Te_{15}Sb_x$ Thin Films*. *Africa Journal of Physical Sciences*, **1**(1), 38-42.
9. Odhiambo H., Amolo G., Makau N., Othieno H., and Oduor A. (2015). *Ab Initio Study of the Electronic and Optical Properties of Hexagonal and Cubic $Ge_2Sb_2Te_5$* , **African Review of Physics**, Volume 10
10. Mulama A. A., Mwabora J. M., Oduor A. O., Muiva C. M., and Walloga C. M. (2014). *Effect of Ga Incorporation and Film Thickness on the Optical Properties of as-Deposited Amorphous Ga_xSe_{1-x} Thin Films*. *IOSR-Journal of Applied Physics*, **6**(5), 01-06.

11. George O. Onyinge, Andrew O. Oduor and Herrick E. Othieno **(2014)**. “*Investigating the Thin Layer Drying Characteristics of Vegetable Kales in a Natural Convection Solar Cabinet Drayer, under the Climatic Conditions of Maseno, Kenya*”, *International Journal of Engineering , Research and Technology (IJERT)*, Vol. 3(8)1527-1535.
12. Mulama A. A., Mwabora J. M., Oduor A. O., and Muiva C. M. **(2014)**. *Optical Properties and Raman Studies of Amorphous Se-Bi Thin Films. The African Review of Physics*, **9**(6), 33-38.
13. Boniface Ndinya, Andrew Oduor and Joseph Omollo **(2013)**. “Energy Transfer Approach in the Generation of Atomic Entangled States”, *The African Review of Physics*, Vol8 139-144.
14. Reccab Ochieng’, Andrew Oduor **(2013)**. “Direct current (d.c.) to Alternating Current (a.c.) inverters/oscillators for use in homes, schools and clinics in rural areas of developing countries”, *International Journal of energy, environment and economics*, 19 547-554.
15. Reccab M. Ochieng, Frederick N. Onyango and Andrew O. Oduor **(2013)**. “Development of Direct Current (d.c) to Alternating Current (a.c) Inverters/Oscillators for Use in Homes, Schools and Clinics in Rural Areas of Developing Countries”, Chapter 15 of: *Energy, Environment and Economics Research Compendium, Edited by Riad Benelmir* ISBN: 978-1-62257-802-3, 1st Quarter.
16. Erick Ogam, Franck Ruffer, Armand Wirgin, and Andrew Oduor **(2010)**. Miniaturization of insect-inspired acoustic sensors, *Journal of Acoust. Soc. Am.*, Vol. 127(3) 1971.
17. Reccab M. Ochieng’, Fredrick N. Onyango and Andrew O. Oduor **(2010)**. “*International Journal of energy, environment and economics*”, 18 1-7.
18. Reccab M. Ochieng’, Fredrick N. Onyango, Andrew O. Oduor **(2009)**. “A Mathematical Approach to the calculation of Geometric concentration ratio of a modified cone concentrator”, *International Journal of Mathematics, Game theory and Algebra*, 19, issue 2/3, ISSN: 1060-9881, 1-6.
19. A.O. Oduor and R.D. Gould **(1995)**. “Space-Charged-Limited conduction in evaporated Cadmium Selenide thin films”, *Thin Solid Films*, 270 387-90.
20. A.O. Oduor and R.D. Gould **(1998)**. “A comparison of DC conduction properties in evaporated Cadmium Selenide thin films using gold and aluminum electrodes”, *Thin Solid Films*, 317 409-12.