

# HENRY ODHIAMBO OTUNGA

Department  
Maseno University, Kisumu-Busia Road  
P.O. Box 333-40105,  
Maseno, Kenya

Phone: +254-704392103/+254-737362318  
Email: [hotunga@maseno.co.ke](mailto:hotunga@maseno.co.ke)  
[henod2001@yahoo.com](mailto:henod2001@yahoo.com)  
[henod2001@gmail.com](mailto:henod2001@gmail.com)

## EDUCATION

*2008-2016: Doctor of Philosophy (PhD), Department of Physics and Materials Science, Maseno University, Kenya. PhD thesis titled *A Computational Study of the Structural, Electronic, Optical and Thermal Properties of Hexagonal and Cubic Germanium-Antimony-Telluride (Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>)*.*

*2004-2007: Master of Science (MSc), Department of Physics and Materials Science, Maseno University, Kenya. MSc thesis titled *Optical Characterization of Thermally Deposited Zinc Sulphide Thin Films*.*

*1997-2001: Bachelor of Science (BSc), Department of Physics and Materials Science, Maseno University, Kenya.*

*1992-1995: Kenya Certificate of Secondary Education (KCSE), Kisumu Boys High School, Kisumu, Kenya.*

*1983-1991: Kenya Certificate of Primary Education (KCPE), Shaurimoyo Primary School, Kisumu, Kenya.*

## RESEARCH EXPERIENCE

1. Thin Film Deposition and Characterization
2. *Ab Initio* Calculations using Density Functional Theory (DFT) as Implemented in Quantum ESPRESSO Computer Code.
3. Calculation of Excited States using GW and Bethe Salpeter Equation (BSE) as Implemented in the Yambo Computer Code.

## TEACHING EXPERIENCE

*December, 2016 to date: Lecturer, Department of Physics and Materials Science, Maseno University, Kenya.*

*August, 2010 to December, 2016: Assistant Lecturer, Department of Physics and*

Materials Science, Maseno University, Kenya.

*April, 2008 to August, 2010:* Tutorial Fellow, Department of Physics and Materials Science, Maseno University, Kenya.

### **HONORS AND AWARDS**

Second Best Poster Presentation at the III Latin American Postgraduate Program of Biophysics Course/I Colloquium Brazil - Africa for Biophysics, Biophysical Institute of Carlos Chagas Filho, Health Science Center, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

### **PROFESSIONAL MEMBERSHIP**

1. Member, Physics Society of Kenya (PSK)
2. Member, African Materials Research Society (AMRS)
3. Member, Materials Research Society (MRS)

### **SKILLS AND TRAINING**

1. Proficient user of the Linux and Windows operating systems.
2. Experienced user of Quantum Espresso (Density Functional Theory-DFT), cp2k (Molecular Dynamics) and Yambo (Electronic Excitations) materials simulation computer codes.
3. Web design using HTML

### **LEADERSHIP EXPERIENCE**

Chair, Departmental Postgraduate Studies Committee

### **CONFERENCES AND WORKSHOPS**

*11<sup>th</sup> to 15<sup>th</sup> November, 2019:* Mini-African School of Electronic Structure Methods and Applications (MASESMA), ICTP-East African Institute for Fundamental Research (EAIFR), Unzdxiversity of Rwanda. Kigali.

*1<sup>st</sup> to 31<sup>st</sup> May, 2016:* Condensed Matter and Statistical Physics (CMSP) Section, The Abdus Salaam International Centre for Theoretical Physics (ICTP), Trieste, Italy.

2<sup>nd</sup> to 6<sup>th</sup> December, 2013: Centre for High Performance Computing (CHPC) National Meeting, Cape Town International Convention Centre, Republic of South Africa.

3<sup>rd</sup> to 7<sup>th</sup> December, 2012: Centre for High Performance Computing (CHPC) National Meeting, Durban International Convention Centre, Republic of South Africa.

28<sup>th</sup> May to 8<sup>th</sup> June, 2012: 2<sup>nd</sup> African School on Electronic Structure Methods and Applications (ASESMA 2012), University of Eldoret, Kenya.

30<sup>th</sup> August to 9<sup>th</sup> September, 2010: The III Latin American Postgraduate Program of Biophysics Course/I Colloquium Brazil - Africa for Biophysics, Biophysical Institute of Carlos Chagas Filho, Health Science Center, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

13<sup>th</sup> to 15<sup>th</sup> October, 2009: International Conference on Solar Energy Materials Research, University of Dar es Salaam, Tanzania.

6<sup>th</sup> to 9<sup>th</sup> April, 2009: Training Workshop on Laser Science and Applications- Development of CO<sub>2</sub> Lasers, Jomo Kenyatta University of Agriculture and Technology, Kenya.

19<sup>th</sup> August to 1<sup>st</sup> September, 2007: Summer School on Cost Effective Photovoltaics Research, Jomo Kenyatta University of Agriculture and Technology, Kenya.

26<sup>th</sup> July, 2003 to 7<sup>th</sup> August, 2003: 8<sup>th</sup> College on Thin Film Technology, University of Dar es Salaam, Tanzania.

## **PUBLICATIONS**

1. Odhiambo H., Oduor A., Amuzu J., and Othieno H., *Production and Optical Characterization of Thermally Deposited ZnS Thin Films*, **Proceedings of the Eighth College on Thin Film Technology**, Volume 8.7 (2004).
2. Odhiambo H., Amolo G., Makau N., Othieno H., and Oduor A., *Ab Initio Study of the Electronic and Optical Properties of Hexagonal and Cubic Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>*, **African Review of Physics**, Volume 10 (2015).
3. Odhiambo H. and Othieno H., *Ab Initio Study of the Structural, Vibrational and Thermal Properties of Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>*. **International Journal of Computational Materials Science and Engineering**, Volume 4, No. 2 (2015).
4. Odhiambo H., Amolo G., Makau N., Kiptiemoi K. and Othieno H., *Nitrogen Doping of Hexagonal and Cubic Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> Nanocrystals*. **International Journal of Nanoscience**. Volume 17, No. 3 (2018).

5. Isiaho S.L., Odhiambo H.O. and Rapando B.W., Structural, Magnetic and Electronic Properties of NbN Polymorphs by *Ab Initio* Study. **Journal of Multidisciplinary Engineering Science and Technology (JMEST)**. Volume 7, Issue 6 (June 2020).