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CONFERENCES/SEMINARS/WORKSHOPS

Participation in Workshops/Conferences

1. Attended 2nd workshop on e-Learning Competency for Yaounde I University Cameroon, 5th December- 9th December 2011
2. Attended 1st workshop on 1st e-learning for Yaounde I University Cameroon 24th June -30th June 2011
3. Attended 1st East African regional Scientific Conference of Pure and Applied Sciences: Kenyatta University, Nairobi, Kenya 10th -14th August, 2010
4. 29th -30th June 2009, Training workshop for members of school curriculum committees: Kenyatta University Conference Centre.
5. 8th November 2007 Participated in a workshop on Mainstreaming HIV and AIDS in science and Engineering at Kenyatta University
6. August 2007; Participated in the Intellectual Property training program for eastern Africa held on 30th-31st August 2007 at ICIPE Campus, Duderuville, Nairobi Kenya – Report on contractual agreements of Kenyatta University researchers and research sponsors
7. June 11-29,. 2007 Intellectual property training program for eastern Africa at ICIPE Campus, Duderuville, Nairobi Kenya
8. 8th -10th May 2007 Higher Education Science and Curricular Reforms: African Universities Responding to HIV/AIDS- In country Training Workshop, Kenya (KIE)
9. June 12-14, 2205 Attended an E-learning workshop on Blackboard Platform for distance learning , Kenyatta University

10. Oct 2004; Actively participated in the Kenya DAAD scholars association conference ‘Universities and communities –Enhancing collaboration to build a working Nation, in October 27th -30th AICAD , JKUAT.

Presentation of Papers at Academic and professional Conferences

1. Mugwanga F. K. Karimi P. K. Njoroge W.K. and Waita S. M. “Optical Characterization of Copper Oxide Thin Films prepared by Reactive DC magnetron sputtering for solar cell applications” Paper presented on the Optoelectronics Conference in Chiromo Campus. August 2010
2. J.O. Agumba, P.M. Karimi, J. Okumu, and W.K. Njoroge, “Design and fabrication of a simple four point probe for electrical characterization of thin films”, 1st East African regional conference of Pure and Applied Sciences, 10th -14th August 2010, Kenyatta University, Nairobi-Kenya.
3. 13th October – 15th October, 2009: The international conference on solar energy materials research. Dar es Salaam, Tanzania. Presented a paper: The influence of sputter power and chamber pressure on the optical properties of tungsten oxide thin films prepared by reactive DC magnetron.
4. April 2009 Kenyatta University First Research Conference, Paper; A New Phase Change Material for PRAM, Kenyatta University, Nairobi, Kenya
5. 18th -20th November 2008 1st regional conference on e-learning, Kenyatta University, Nairobi, Kenya: Paper Blended learning: A Modern instructional Strategy for Quality Education.
6. August 2007; Participated in the Intellectual Property training program for eastern Africa held on 30th -31st August 2007 at ICIPE Campus, Dудuville, Nairobi Kenya – Presented a Report on contractual agreements of Kenyatta University Researchers and Research Sponsors.
7. Germany physical society conference 26th -30th March 2001 at Hamburg (Germany) Presented a poster on the structural transformation of GeSbTe and AgInSbTe films studied by electrical resistivity measurements and X-ray diffraction.
8. Germany physical society conference 22nd -26th March 1999 at Munster Germany). Presented a poster on the structural properties of GeO₂ produced by reactive DC sputtering.
9. International workshop on thin films and plasma application in film technology at National University of Science and Technology Bulawayo – Zimbabwe ; August 27th -29th 1997. Presented a paper entitled ‘Optical and properties of sprayed Zinc Oxide Films’

10. The second workshop on thin films technology at I.T.C.P Trieste Italy 10th March to 30th March 1996. Presented a paper entitled “sprayed aluminium doped zinc oxide thin films for application as window materials for solar cells”
11. Kenya physical society conference held between 19th-23rd September at University of Nairobi 1994. Presented a paper entitled “optical and electrical properties of sprayed zinc oxide films”
12. Third college of thin films technology at University of Dar-es-salaam (Tanzania) 1994; 25th July to August 1994. presented a paper entitled “sprayed aluminium doped zinc oxide thin film for application as window materials for solar cells”

Convening and Coordinating Conferences

1. 10th -14th August, 2010 1st East African regional Scientific Conference of Pure and Applied Sciences: Kenyatta University, Nairobi, Kenya (In-charge of transport)
2. Coordinator of the Department of Physics Curriculum review of Telecommunication and information technology under the Rapid Results Initiative program 2009
3. 4th April 2007; organized a one day workshop on Mainstreaming HIV and AIDS in Sciences and Engineering courses of Kenyatta University, April 4th , Utalii Hotel.
4. June 27-30, 2005 Organized and trained Business School on the use of Black Board Platform as e-learning tool AVU Kenyatta University

RESEARCH AND PUBLICATIONS

Book

F.K. Mugwanga, P.K. Karimi and W.K. Njoroge, *Copper Based Solar Cell Materials*: LAP Lambert Academic Publishing 2013 ISBN-10: 3659305634

Articles in referred Journals

1. F.K. Mugwanga, P.K. Karimi, W.K. Njoroge, O. Omaiyo and S.M. Waita. *Optical Characterization of Copper Oxide Thin Films Prepared by Reactive Magnetron Sputtering for Solar Cell Applications* **Int. J. Thin Film Sci. Tec. 2 No.1** 15-24(2013)
2. O. Omaiyo, P.K. Karimi, W.K. Njoroge, and F.K. Mugwanga *Current-Voltage Characterization of p-CuO/n-ZnO:Sn Solar Cell* **Int. J. Thin Film Sci. Tec. 2 No.1** 25-28(2013)
3. L.K. Munguti, R.J. Musembi and W.K. Njoroge; *ZnO:Sn Deposition by Reactive Evaporation: Effects of Dopping on the Electrical and Optical Properties*; **Elixir Thin Film Tech. 61(2013)** 17162-17165

4. Karanja J., Karimi P., Njoroge W. and Wamwangi D. *A New Phase Change Random Memory Based on SnSe₄*, **Journal of Thin Solid Films Vol 527, pgs 1-384 January 2013**
5. Karanja J. Karimi P. Njoroge W. and Wamwangi D. **A New Phase Change Random Memory Based on SnSe₄, Accepted for Publication by Journal of Thin Solid Films (2012)**
6. Agumba J. O. Karimi P. M. Okumu J. Njoroge W. K. Design and Fabrication of a simple four Point Probe System for Electrical Characterization of Thin Films. **International Journal of Current Research Vol 3. Issue, 7, pp 135-139, July 2011**
7. W.K. Njoroge C.K. Wangati and J. Okumu "The influence of sputter power and chamber pressure on the optical properties of tungsten oxide thin films prepared by reactive DC magnetron." **(Accepted for publication by Tanzanian Journal Of Physical Society 2010)**
8. Gathua J.K. Migwi C. M. Njoroge W.K. "Greenhouse gas emission mitigation measures in Kenya Cement Industries" **Submitted to East Africa Journal of Physical sciences- 2009**
9. Wangati C.K. Njoroge W.K and Okumu J.
"Influence of Deposition Parameters on the Optical Properties of Thin Tungsten Oxide Films Prepared by Reactive DC Magnetron Sputtering" **East Africa Journal of Physical Sciences Vol. 8-part 1 Nov. 2008 pg. 55-74**
6. W.K.Njoroge, H.Dieker, M.Wuttig: "Influence of dielectric capping layers on the crystallization kinetics of Ag₅In₆Sb₅₉Te₃₀ films" **J. Applied Physics, Vol. 96 ,p.2624(2004)**
7. W. Njoroge, H.-W.Wöltgens, M. Wuttig "Density changes upon crystallization of Ge₂Sb_{2.04}Te_{4.74} films" **J. Vac. Sci. Technol. A, Vol. 20 , p. 230 (2002)**
8. D. Wamwangi, W. Njoroge, M. Wuttig: "Crystallization kinetics of Ge₄Sb₁Te₅ films" **Thin Solid Films, Vol. 408 , p. 310 (2002)**
9. M. Wuttig, R. Detemple, I. Friedrich, W.K. Njoroge, I. Thomas, V. Weidenhof, H.- W. Wöltgens, S. Ziegler: "The quest for fast phase change materials" **J. Mag. Mag. Mat., Vol. 249 , p. 492 (2002)**
10. T. Pedersen, J. Kalb, W. Njoroge, D. Wamwangi, M. Wuttig, F. Spaepen: "Mechanical stresses upon crystallization in phase change materials" **Appl. Phys. Lett., Vol. 79 , p. 3597 (2001)**
11. W. Njoroge, M. Wuttig: "Crystallization kinetics of sputter-deposited amorphous AgInSbTe films" **J. Appl. Phys., Vol. 90 , p. 3816 (2001)**
12. H.-W. Wöltgens, I. Friedrich, W. Njoroge, W. Theiss und M. Wuttig: "Optical, electrical and structural properties of Al-Ti and Al-Cr thin films" **Thin Solid Films, Vol. 388 , p. 237 (2001)**
13. S. Venkataraj, H. Weis, O. Kappertz, W. Njoroge, R. Jayavel, M. Wuttig: "Structural and optical properties of thin lead oxide films produced by reactive DC magnetron sputtering" **J. Vac. Sci. Technol. A, Vol. 19 , p. 2870 (2001)**

14. I. Friedrich, V. Weidenhof, W. Njoroge, P. Franz und M. Wuttig: "Structural transformations of Ge₂SbTe₅ films studied by electrical resistance measurements" **J. Applied Physics, Vol. 87 , p. 4130 (2000)**
15. W. Njoroge, T. Lange, H. Weis, B. Kohnen und M. Wuttig: "Defect formation upon reactive DC magnetron sputtering of GeO₂ films" **J. Vac. Sci. and Technol. A, Vol. 18 , p. 42 (2000)**
16. T. Lange, W. Njoroge, H. Weis, M. Beckers und M. Wuttig: "Physical Properties of thin GeO₂ films produced by reactive DC sputtering" **Thin Solid Films, Vol. 365 , p.82 (2000)**

Articles in Conference Proceedings

1. Mugwanga F. K. Karimi P. K. Njoroge W.K. and Waita S. M. " Optical Characterization of Copper Oxide Thin Films prepared by Reactive DC magnetron sputtering for solar cell applications" Paper presented on the Opticalelectronics Conference in Chiromo Campus. August 2010
2. H.-W. Wöltgens, R. Detemple, I. Friedrich, W.K. Njoroge, I. Thomas, V. Weidenhof, S. Ziegler und M. Wuttig: "*Exploring the limits of fast phase change materials*" **MRS Symposium Proceedings, Vol. 674 , p. V1.3 (2001)**
3. R. Detemple, I. Friedrich, W.K. Njoroge, I. Thomas, V. Weidenhof, H.-W. Wöltgens, S. Ziegler und M. Wuttig: "*Microscopic studies of fast transformations in GeSbTe films*" **MRS Symposium Proceedings, Vol. 674 , p. V1.8 (2001)**