

## Publications & Conferences

Dr. Christopher Mkiyema Maghanga,

### PUBLICATIONS

- Maxwell J. Mageto, C.M. Maghanga, M. Mwamburi, Hassan Jafri, G.A. Niklasson and C.G. Granqvist; Transparent and conducting TiO<sub>2</sub>:Nb thin films prepared by spray pyrolysis technique, accepted for publication in Brazilian Journal of Physics in March 2012 .
- Christopher M. Maghanga and Mghendi M. Mwamburi, Book Chapter: **Contribution of Spectrally Selective Reflector Surface to Heat Reduction in Silicon Concentrator Solar Cells** in the book "[Solar Power](#)" edited by Radu D. Rugesu, ISBN 978-953-51-0014-0, InTech, February 2, 2012
- Maxwell Mageto, C. M. Maghanga and Mghendi Mwamburi, The Lorentz Oscillator model simulation illustrating a broad maximum in the bulk reflectance for frequencies above the resonance frequency, The African Review of Physics (2012) 7:0011)
- C.M. Maghanga, G.A. Niklasson, C.G. Granqvist, M. Mwamburi, Spectrally selective reflector surfaces for heat reduction in concentrator solar cells: Modeling and applications of TiO<sub>2</sub>:Nb-based thin films, Appl. Opt. 50, 3296-3302 (2011)
- C.M. Maghanga, J. Jensen, G.A. Niklasson, C.G. Granqvist, M. Mwamburi, Transparent and conducting TiO<sub>2</sub>:Nb films made by sputter deposition: Application to spectrally selective solar reflectors, Solar Energy Materials & Solar Cells 94 (2010) 75–79
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, M. Mwamburi, Optical modeling of spectrally selective reflectors based on TiO<sub>2</sub>:Nb transparent conducting oxide films for silicon solar cell applications, *in* High and Low Concentrator Systems for Solar Electric Applications IV, edited by Lori E. Greene, Proc. of SPIE Vol. 7407, 74070F (2009).
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, Optical Properties of Sputter Deposited Transparent and Conducting TiO<sub>2</sub>:Nb Films Thin Solid Films, 518 (2009) 1254-1258
- Maghanga C., Mwamburi M., Nikalason G., Mageto M., Study of the influence of nitrogen doping on the optical properties of sputter deposited TiO<sub>2</sub> thin films, East African journal of pure and applied science 1 (1) (2008) 86-89 (ISSN 2070-0903).

### Conferences

- M. Kitui, F. Gaitho, M. Mghendi, C. Maghanga; Optical Properties of TiO<sub>2</sub> Multilayer thin films: Application to optical filters, 1<sup>st</sup> Young Scientists MSSEESA Conference on Materials Science and Solar Technology, University of Nairobi, Kenya; 28-29<sup>th</sup> November 2013.
- J. Owino, P. Ragama, C. Maghanga; **An Analysis of Heavy Metals on Human Body: A Survey of Lead Exposure Among the General Public in Nakuru Town Municipality**, Kabarak University 3<sup>rd</sup> Annual International conference- Nakuru, Kenya; 15-18<sup>th</sup> October 2013
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- M. Kitui, F. Gaitho, M. Mghendi, C. Maghanga; Optical Properties of TiO<sub>2</sub> Multilayer thin films: Application to optical filters, Kabarak University 2<sup>nd</sup> Annual International conference- Nakuru, Kenya; 16-18<sup>th</sup> October 2012
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- *Kioko, S; Mwamburi, M., and Maganga, C.;* The Effect of Temperature on the Output Characteristics of a Monocrystalline Silicon Solar Cell using the Laser Beam Induced Current/Voltage (LBIC/LBIV) Technique, Moi University 8th Annual International Conference, Eldoret Kenya 4<sup>th</sup> – 8<sup>th</sup> September, 2012
- Maxwell J. Mageto,, Christopher M. Maghanga, Mghendi M. Mwamburi, Gunnar A. Niklasson, Claes-Göran Granqvist; Electrical and optical properties of TiO<sub>2</sub>:Nb thin films prepared by spray pyrolysis technique, Paper 8470-27, International Symposium on SPIE Solar Energy + Technology, 11<sup>th</sup> -16 August 2012, San Diego, California, U.S.
- 
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, M. Mwamburi, Optical modeling of spectrally selective reflectors based on TiO<sub>2</sub>:Nb transparent conducting oxide films for silicon solar cell applications, ICMAT 2011, 26 June -1 July, 2011, Singapore.
- Peter B. Kibas, Christopher Maghanga, Severinus Kifalu, Mohammed Swaleh and Eliud Wasike, The role of the Micro, Small and Medium Enterprise (MSME) sector in generation or production of sustainable energy for industrialization towards vision 2030 (Nairobi, 2010).
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, M. Mwamburi, “Optical properties of a spectrally selective reflector based on TiO<sub>2</sub>:Nb deposited on Aluminium”. Conference on Opto-Electronic Devices: Their Potential for Sustainable Development July 8th - 9th, 2010, Nairobi, Kenya
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, M. Mwamburi, Optical modeling of spectrally selective reflectors based on TiO<sub>2</sub>:Nb transparent conducting oxide films for silicon solar cell applications, International Symposium on SPIE Solar Energy + Technology, 2-6 August 2009, San Diego, California, U.S.
- C.M. Maghanga, J. Jensen, G.A. Niklasson, C.G. Granqvist, M. Mwamburi, Transparent and conducting TiO<sub>2</sub>:Nb films made by sputter deposition: Application to spectrally selective solar reflectors, XVII International Materials Research Congress (IMRC2008), Symposium 4.- Photovoltaics, Solar Energy Materials and Thin Films, August 17-21, 2008, Cancún, Mexico.
- C. M. Maghanga, G. A. Niklasson and C. G. Granqvist, DC Magnetron sputter deposited solar selective reflector surface based on thin films of Nb:TiO<sub>2</sub> for silicon solar cell application, 2nd International Symposium on Transparent Conductive Oxides, 22 - 26 October, 2008, Crete, Greece,
- C. M. Maghanga, M. Mwamburi, G. A. Niklasson and C. G. Granqvist, Influence of reactive sputtering in the presence of H<sub>2</sub> on the structure of anatase TiO<sub>2</sub>:Nb TCO thin films, International Conference on Solar Energy Materials Research, 13th - October 15th October, 2009, in Dar es Salaam, Tanzania
- C. M. Maghanga, M. Mwamburi, G. A. Niklasson and C. G. Granqvist, Optoelectronic properties of DC Magnetron sputtered thin films of TiO<sub>2</sub>:Nb, , International Conference on Solar Energy Materials Research, 13th - October 15th October, 2009, in Dar es Salaam, Tanzania
- Christopher .M. Maghanga, Mwamburi M Mghendi, Gunnar .A Niklasson., Arne Roos, Maxwell Mageto, A Study of the Influence of Nitrogen Doping On the Optical Properties of Sputter deposited TiO<sub>2</sub> thin films, Moi University 2ND Annual International Conference 29th August 2006 - 2nd September 2006, Kenya