Alupe University College Staff Profile

1. Name:	Dr. MENG'WA Kirui Victor Acting Chairman Department of Physics and Computer Science Department of Physics and Computer Science School of Science
2. Passport photo:	
4. Biography:	2017-present: Physics lecturer in Alupe University College 2018: PhD in Physics (Material Science) at University of Eldoret. Nov. 2018: Lecturer at 5thAfrican School on Electronic Structure Methods and Applications(ASESMA-2018) Jan. 2016-Aug. 2018: STEP fellow at ICTP, Trieste, Italy. 2014: MSc in Physics (Material science) at University of Eldoret
5. Academic Qualifications:	**2018**: PhD in Physics at University of Eldoret (Kenya) and Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy. PhD thesis titled: A Density Functional Theory Study of Copper Oxide Nanowires and Clusters on Anatase TiO_2 (101) Surface for Photocatalytic Water Splitting. **2014**: MSc in Physics at University of Eldoret. MSc thesis title: A Density Functional Theory (DFT) Study of Electronic Structure of SnO_2 and TiO_2 Rutile (110) Surfaces with a Catechol Adsorbate.
6. Research Interests:	**Materials for renewable energy applications**: My major interest is in transition metal oxides science for energy applications including photo-electrochemical processes at oxide surfaces. **Catalysis**: I have worked on the materials relevant for photocatalysis and have ongoing works on ectro-catalysis. The reactions of interest include water splitting for hydrogen production, CO_2 reduction to hydrocarbons. **Nanostructured materials**: In metal oxides for renewable-energy

	applications, nanostructuring represents an additional tool to tailor material properties.
7. Publications:	1) Victor Meng'wa, Nicholas Makau, George Amolo, Sandro Scandolo, Nicola Seriani. A Density Functional Theory Study of Water Photo-oxidation at Copper Oxide Nanostructures on the Anatase (101) Surface. The Journal of Physical Chemistry C, 122 (29), 16765-16771, (2018) DOI: 10.1021/acs.jpcc.8b03671. 2) Victor Meng'wa, Nicholas Makau, George Amolo, Sandro Scandolo, Nicola Neriani. Ab-initio Simulations of Copper Oxide Nanowires and Clusters on TiO_2 (101) Anatase Surface. The Journal of Physical Chemistry C, 121(37), 20359-20365, (2017) doi:10.1021/acs.jpcc.7b06681. 3) V. Meng'wa, G. Amolo, N. Makau, S. Lutta, M. Okoth, J. Mwabora, R. Musembi, C. Maghanga, R. Gateru. Electronic properties of Catechol Adsorbed on Rutile TiO_2 and SnO_2 (110) Surfaces: A Density Functional Theory Study. The African Review of Physics (2016) 11:0021 4) V. K. Meng'wa, N. W. Makau, G. O. Amolo. Photoactive Interaction of Catechol Adsorbed on TiO_2 Rutile (110) Surface for Dye Sensitized Solar Cells (DSSCs) Applications: Kenya J. Sci. Tech. Inn. Vol. 4 and 5 2015, 74-84.
8. Classes you teach:	PHY 112: Mechanics, PHY 110: Basic Physics I, PHY 211: Waves and Vibrations, COM 217: Electronics I, PHY 311: Solid State Physics I.
9. Other relevant links:	https://eaifr.ictp.it/research/ Google scholar https://www.ictp.it/about-ictp/media-centre/news/2016/6/ofid-launch-fellowships.aspx Computational Material Science Group (CMSG), University of Eldoret
10. Official Contact Details:	Mobile: +254711607670 Email: victormengwa@gmail.com