

CURRICULUM VITAE

PERSONAL INFORMATION

Name: Benjamin Victor Odari Ombwayo
Nationality: Kenyan
Email: odariivyc@gmail.com; vodari@mmust.ac.ke
Permanent address: P.O. Box 43088-00100, Nairobi, Kenya.

CAREER OBJECTIVES

To succeed in an environment of growth and excellence and achieve personal as well as institutional goals.

EDUCATION BACKGROUND

December 2013 – September 2019: **University of Nairobi**
Doctor of Philosophy in Physics (Renewable Energy)

August 2010 – December 2013: **Masinde Muliro University of Science and Technology**
Masters of Science (Condensed Matter Physics)

August 2005 – November 2009: **Masinde Muliro University of Science and Technology**
Bachelor of Education Science (Physics/Mathematics), 2nd Class Upper Division

February 2000 – November 2003: **Kibabii Boys High School**
Kenya Certificate of Secondary Education
Grade: B+

PERSONAL ATTRIBUTES

- Inspiring and motivating a team of talented professionals
- Setting and achieving goals while demonstrating persistence, commitment and dedication
- Ability to be persuasive when interacting with colleagues and my seniors
- Adapting to changing needs of an individual and management directional changes of an organization
- Planning and prioritizing to ensure that set deadlines are met

TECHNICAL AND TEACHING PROFICIENCY

- Scanning electron microscopy
- Theory of spectroscopic analysis
- Ultraviolet Photoelectron Spectroscopy
- Photoluminescence spectroscopy
- Chemical vapour deposition
- Renewable energy systems
- Thermal evaporation
- Powder X-ray diffraction
- Impedance and Admittance Spectroscopy
- UV-visible absorption spectroscopy
- X-ray Photoelectron spectroscopy
- Wet chemical synthesis techniques
- Photovoltaic device fabrication

RESEARCH INTERESTS

- Materials and Devices Characterization; solar cells, supercapacitors, photocatalysis etc
- Electronic Structure Methods and Applications

WORK EXPERIENCE

November 2023– To date: Masinde Muliro University of Science and Technology

Lead Researcher: Computational and Theoretical Physics (CTheP) Research Group in the Department of Physics, MMUST since 2018

Member of University Webometric Publisher, MMUST, since 2022

Senior Lecturer and Examination & Time table Coordinator, Department of Physics

- Undertake teaching at undergraduate and graduate levels in Physics
- Coordinate teaching, setting, moderation and supervision of all departmental examinations and custodian of exam results
- Chairman, Physics Department Research equipment committee
- Developing of Undergraduate and Postgraduate Physics curricula
- Supervise undergraduate and postgraduate research/projects
- Prepare learning resources and design training exercises for students in various Physics courses
- Undertake individual research and participate in scientific/academic congregations
- Participate and writing of research grant proposals to enhance university research funds and collaborations
- Prepare teaching manuals, simulations and case studies for training
- Assist in student placement for internship and assessment
- Assist in organizing of students Field Trips
- Assess students on teaching and industrial attachment
- Organize internal and external seminars, workshops and conferences for dissemination of knowledge
- Provide guidance and counselling of students
- Provide mentorship to both students and staff in the Department or School
- Involvement in community outreach activities

September 2015– November 2023: Masinde Muliro University of Science and Technology

Lead Researcher: Computational and Theoretical Physics (CTheP) Research Group in the Department of Physics, MMUST since 2018

Member of University Webometric Publisher, MMUST, 2022

Acting Chairman, Department of Physics, MMUST, June 2022

Lecturer and Examination & Time table Coordinator, Department of Physics

- Coordinate teaching, setting, moderation and supervision of all departmental examinations and custodian of exam results
- Chairman, Physics Department Research equipment committee
- Developing of Undergraduate Physics curricula
- Guide and supervise students in building up their practical and research projects
- Prepare learning resources and design training exercises for students in various Physics courses
- Undertake individual research and participate in scientific/academic congregations
- Prepare teaching manuals, simulations and case studies for training
- Assist in student placement for internship and assessment
- Assist in organizing of students Field Trips
- Participate in School Practice Assessment
- Seek research grants and collaborations
- Organize seminars, workshops and conferences for dissemination of knowledge

August 2014– August 2015: University of Nairobi

Physics Laboratory Demonstrator

- Assist undergraduate physics students in carrying out laboratory experiments in various courses
- Mark laboratory reports and submit marks to the lecturer in-charge of laboratory programmes

January 2011– April 2014: Masinde Muliro University of Science and Technology

Part – time Lecturer, Electrical and Communication Engineering Department

- Guide and supervise students in building up their practical and research projects
- Prepare learning resources and design training exercises for students in the following courses:
 - Electronics
 - Digital Electronics
 - Physical Science
 - Engineering Mathematics
- Undertake individual research and participate in scientific/academic congregations
- Prepare teaching manuals, simulations and case studies for training
- Conduct examinations and submit results to the relevant authorities timely

September 2013– February 2014: Eshinutsa Secondary School (Khwisero)

Teacher, Physics and Mathematics

- Prepare learning resources for students in the following courses:
 - Physics (Form I – Form IV)
 - Mathematics (Form I – Form IV)
- Prepare students for Physics and Mathematics contests, symposiums and Science Congress.
- Prepare teaching manuals, simulations and case studies for training
- Conduct examinations and submit results to the relevant authorities timely

February 2010– September 2010: Our Lady of Victory, Kapnyeberai (Nandi)

Teacher, Physics and Mathematics

- Prepare learning resources for students in the following courses:
 - Physics (Form I – Form IV)
 - Mathematics (Form I – Form IV)
- Prepare students for Physics and Mathematics contests, symposiums and Science Congress.
- Prepare teaching manuals, simulations and case studies for training
- Conduct examinations and submit results to the relevant authorities timely
- In charge and trainer of In-door games (Tennis, Table Tennis and Badminton)

SCIENTIFIC PUBLICATIONS AND COMMUNICATIONS

Thesis

1. **Benjamin Victor Odari**, *Characterization of Sb₂S₃ Based Extremely Thin Absorber Solar Cells Employing TiO₂:Nb Compact Layer*. PhD Thesis, University of Nairobi, Nairobi, Kenya, 2019 Available in <http://erepository.uonbi.ac.ke/handle/11295/106699>
2. **Benjamin Victor Odari**, *Effect of Fluorine Incorporation on Palladium Doped Tin Oxide for Carbon Monoxide Gas Sensing Application*. MSc Thesis, Masinde Muliro University of Science and Technology, Kakamega, Kenya, 2013

Refereed Journal Publications

1. Nancy Obare, Wycliffe Isoe, Amos Nalianya, Maxwell Mageto and **Victor Odari**, Numerical study of copper antimony sulphide (CuSbS₂) solar cell by SCAPS-1D, Heliyon, Volume 10, Issue 5, E26896, 2024 doi: <https://doi.org/10.1016/j.heliyon.2024.e26896>
2. Kipkorir Kirui Pius, Nicholas O. Ongwen, Maxwell Mageto, **Victor Odari** and Francis Magiri Gaiho, Mechanical Properties of Al–Mg–Si Alloys (6xxx Series): A DFT-Based Study, Alloys, Volume 2, Issue 3, 2023, 213–226 <https://doi.org/10.3390/alloys2030015>

3. Emmanuel Akoto, Victor Isahi, **Victor Odari**, Christopher Maghanga and Francis Nyongesa, Monolith Cs_{1-x}Rb_xSnI₃ Perovskite – Silicon 2T Tandem Solar Cell Using SCAPS-1D, Results in Optics, Volume 12, 2023, 100470, <https://doi.org/10.1016/j.rio.2023.100470>.
4. Wycliffe M. Isoe, Maxwell J. Mageto, Christopher M. Maghanga, Maurice M. Mwamburi, **Benjamin V. Odari**, Optical modelling of TCO based FTO/TiO₂ multilayer thin films and simulation in hydrogenated amorphous silicon solar cell, Scientific African, Volume 20, July 2023, e01678, <https://doi.org/10.1016/j.sciaf.2023.e01678>
5. Jasmine Wakini, Carolyne Songa, Stephen Chege, Felix O. Saouma, Elica Wabululu, P.W.O Nyawere, **Victor Odari**, James Sifuna, George S. Manyali, Low Born effective Charges, High Covalency and Strong Optical Activity in X₃²⁺Bi³⁻N³⁻ (X=Ca,Sr,Ba) inverse-perovskites, [arXiv:2203.00359](https://arxiv.org/abs/2203.00359) [cond-mat.mtrl-sci], <https://doi.org/10.48550/arXiv.2203.00359> (Pre-print)
6. Nancy Obare, **Victor Odari**, Maxwell Mageto, Effect of Antimony Concentration on Optical, Electrical and Structural Properties of Copper Antimony Sulphide Thin Films Deposited by Spray Pyrolysis Technique, Iranian Journal of Physics Research, Volume 22, Issue 3, 2022, 89 – 94, <https://doi.org/10.47176/ijpr.22.3.71283>
7. Milimo Amos Nalianya, Celline Awino, Henry Barasa, **Victor Odari**, Francis Gaitho, Benard Omogo, Maxwell Mageto, Numerical study of lead free CsSn_{0.5}Ge_{0.5}I₃ perovskite solar cell by SCAPS-1D, Optik, Volume 248, 2021, 168060, <https://doi.org/10.1016/j.ijleo.2021.168060>
8. Wycliffe Isoe, Maxwell Mageto, Christopher Maghanga, Maurice Mwamburi, **Victor Odari**, and Celline Awino, Thickness Dependence of Window Layer on CH₃NH₃PbI_{3-x}Cl_x Perovskite Solar Cell, International Journal of Photoenergy, 2020; <https://doi.org/10.1155/2020/8877744>
9. Brian Owino, Francis Nyongesa, Alex Ogacho, Bernard Aduda and **Victor Odari**, Effect of TiO₂ Blocking Layer on Photovoltaic Characteristics of TiO₂/Nb₂O₅ Dye Sensitized Solar Cells, MRS Advances, 2020; DOI: <https://doi.org/10.1557/adv.2020.16>
10. Celline Awino, Godfrey Barasa and **Victor Odari**, Light Induced Degradation of the Transport Length of CH₃NH₃PbI₃ studied by Modulated Surface Photovoltage Spectroscopy after Goodman, Organic Electronics, 2019; <https://doi.org/10.1016/j.orgel.2019.105503>
11. **Victor Odari**, Robinson Musembi and Julius Mwabora, Device Simulation of Sb₂S₃ Solar Cells by SCAPS-1D software, African Journal of Physical Sciences, 2019; 3: 39 – 54 Available in <http://journals.uonbi.ac.ke/index.php/ajps/article/view/1799>

12. James Sifuna, George S. Manyali, Felix Saouma, Celline Awino, **Victor Odari** and George Amolo. The Physics of strong correlated materials. Conference proceedings Kabarak University, September 2019
13. **Victor Odari**, Robinson Musembi and Julius Mwabora, Enhanced Performance of Sb_2S_3 Mesoscopic Sensitized Solar Cells Employing $TiO_2:Nb$ Compact Layer, *Journal of Materials Science: Materials in Electronics*, 2018; 29(19):16359–16368 doi:10.1007/s10854-018-9726-4
14. Celline Awino, **Victor Odari** and Thomas Sakwa, Investigation of Structural and Electronic Properties of $CH_3NH_3PbI_3$ Stabilized by Varying Concentrations of Poly(Methyl Methacrylate) (PMMA), *Coatings*, 2017; 7(8): 115 doi:10.3390/coatings7080115 Available in www.mdpi.com/journal/coatings
15. Miller Elly Shatsala, Maxwell Joel Mageto, Mwamburi Mghendi and **Victor Odari**, *Investigating Non-Uniformities in Mono-Crystalline Solar Cells Using Out-put Response Signal of LBIC/LBIV of Unknown of Probe Profile*, International Journal of Innovative Science, Engineering & Technology, 2015; 2(12): 820-827 Available in <http://ijiset.com/articlesv2/articlesv2s12.html>
16. Patrick Mwathe, Robinson Musembi, Mathew Munji, Francis Nyongesa, **Benjamin Odari**, Walter Njoroge, Bernard Aduda and Boniface Muthoka, *Effect of Annealing and Surface Passivation on doped SnO_2 thin films Prepared by Spray Pyrolysis Technique*, Advances in Materials, 2015; 4(3): 51-58 doi: 10.11648/j.am.20150403.12 Available in <http://www.sciencepublishinggroup.com/j/am>
17. Valentine Muramba*, Maxwell Mageto, Francis Gaiitho, **Victor Odari**, Robinson Musembi, Silas Mureramanzi, and Kennedy Ayodo, *Structural and Optical characterization of Tin Oxide codoped with Aluminum and Sulphur*, American Journal of Materials Science 2015, 5 (2): 23-30 DOI: 10.5923/j.materials.20150502.01 Available in <http://article.sapub.org/10.5923.j.materials.20150502.01.html>
18. Patrick Mwathe, Robinson Musembi, Mathew Munji, **Victor Odari**, Lawrence Munguti, Alex Ntilakigwa, John Nguu and Boniface Muthoka, *Effect of Surface Passivation on Electrical Properties of Pd-F:SnO₂ thin Films Prepared by Spray Pyrolysis Technique*, *Coatings*, 2014; 4: 747-755 doi:10.3390/coatings4040747 Available in www.mdpi.com/journal/coatings
19. Patrick Mwathe, Robinson Musembi, Mathew Munji, **Benjamin Odari**, Lawrence Munguti, Alex Alfred Ntilakigwa, Julius Mwabora, Walter Njoroge, Bernard Aduda and Boniface Muthoka, *Surface passivation effect on CO₂ sensitivity of spray pyrolysis deposited Pd-F: SnO₂ thin film gas sensor*, Advances in Materials, 2014; 3(5): 38-44 doi: 10.11648/j.am.20140305.12 Available in <http://www.sciencepublishinggroup.com/j/am>
20. Patrick Mwathe, Robinson Musembi, Mathew Munji, **Benjamin Odari**, Lawrence Munguti, Alex Alfred Ntilakigwa, John Nguu, Bernard Aduda and Boniface Muthoka, *Influence of surface passivation on optical properties of spray pyrolysis deposited Pd-F:SnO₂*, International Journal of Materials Science and Applications, 2014; 3(5): 137-142. doi: 10.11648/j.ijmsa.20140305.11. Available in <http://www.sciencepublishinggroup.com/j/ijmsa>

21. **Benjamin Victor Odari**, Robinson Juma Musembi, Maxwell Joel Mageto, Herick Othieno, Francis Gaitho, Mwamburi Mghendi and Valentine Muramba, *Optoelectronic properties of F-co-doped PTO thin films deposited by spray pyrolysis*, American Journal of Materials Science 2013, 3(4): 91-99 DOI: 10.5923/j.materials.20130304.05 Available in <http://article.sapub.org/10.5923.j.materials.20130304.05.html>
22. **Benjamin .V. Odari**, Maxwell Mageto, Robinson Musembi, Herick Othieno, Francis Gaitho and Valentine Muramba, *Optical and electrical properties of Pd doped SnO₂ thin films deposited by spray pyrolysis*, Australian Journal of Basic and Applied Sciences, 7(2): 89-98, 2013 Available in <http://ajbasweb.com/old/ajbas/2013/February/89-98.pdf>

WORKSHOPS AND CONFERENCES PARTICIPATED

1. ANSOLE Mini-Symposium in Kenya (AMSK 2013), University of Nairobi, Chiromo Campus, Nairobi, May 2013.
2. Regional Workshop on Materials Science for Solar Energy Conversion, Ithemba Labs, Cape Town, 4th – 8th November 2013.
3. The 1st Young Scientists Material Science and Solar Energy Network for Eastern and Southern Africa (MSSEESA), United Kenya Club, Nairobi, 28th – 29th November, 2013.
4. Renewable Energies for Africa: Solar Energy and its Applications, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha, Tanzania, 13th - 18th July 2015
5. DAAD Scholars E-resources Training Workshop, Silver Springs Hotel, Nairobi, 21st – 24th September, 2015
6. **(Organizer)** Role of Research in Community Transformation: Interventions that Change Lives, PUEA, Kikuyu, 5th – 6th November, 2015
7. 5TH ANNIVERSARY OF ANSOLE (2011-2016): International Conference on Renewable Energy (INCORE 2016), 6TH of October City", Egypt, 3rd – 6th February, 2016
8. 6th Joint Workshop-Seminar of Forschungszentrum Jülich IEK5-Photovoltaik and Helmholtzzentrum Berlin, Dept. Silizium-Photovoltaik (SE1), Hirschegg, Kleinwalsertal (Austria), 11th – 16th September, 2016
9. Computational Modeling and Materials Science (CMMS) Workshop, Kakamega, Kenya, 6th – 7th July, 2017
10. Sustainable Energetics for Africa (SE4A), Summer School 2, Yaounde and Buea (Cameroon), 31st July, 2017 – 4th August, 2017

11. International DAAD Alumni Seminar – *“Enhancing Water Security and Adaptive Capacities in Vulnerable Catchments in East Africa ”*, Mbale (Uganda), 14th – 22nd August, 2017
12. International Conference on Higher Education – *“University Industry Linkages: Identifying and Synergizing Opportunities for Quality Higher Education”*, Meru University of Science and Technology, Main Campus (Kenya), 4th – 6th October, 2017
13. National Commission for Science Technology and Innovation AFRA Project Counterparts Meeting, NACOSTI Headquarters, Nairobi (Kenya), 15th – 17th November, 2017
14. AYGN – KYGN Integrated Nuclear Workshop on Nuclear Advocacy and Communication, Safari Park Hotel, Nairobi (Kenya), 29th – 30th November, 2017
15. Capacity Building workshop on Strengthening Science, Technology and Innovation (STI) Governance in Kenya and Improving Participation of Women and Girls in STI, Izaak Walton Hotel, Embu (Kenya), 6th – 8th December, 2017
16. 4th Africa Mini Grids Summit, Intercontinental Hotel, Nairobi, 21st – 23rd March, 2018
17. The Kenya DAAD scholars Association (KDSA) Annual National Conference and AGM, Sarova Panafric Hotel, Nairobi 14th – 15th June, 2018
18. 5th Alexander von Humboldt Fellows in Kenya, Sportsman’s Arms Hotel, Nanyuki, 19th – 21st June, 2018
19. The First Biophysical Society (BPS) Sponsored Conference on Harnessing Scholarly Biophysical Potential in Africa, Masinde Muliro University of Science and Technology, Kakamega, 6th July, 2018.
20. **(Convener):** The Joint MSSEESA and DAAD International Conference on Materials Science Research for Sustainable Energy in Africa, Chiromo Campus, University of Nairobi, 26th – 27th September, 2018.
21. International Workshop on One Health Workshop, Pwani University, Kilifi, 17th – 19th December, 2018.
22. DAAD Alumni Conference; Young Scholars in Africa – Challenges and Opportunities, Olesereni, Nairobi, 1st – 3rd March, 2019
23. Research Administration and Grant Proposal Writing Workshop, University of Nairobi, Chiromo Campus, 12th – 14th March, 2019
24. Graduate Supervision of the 21st Century Workshop, Technical University of Kenya, Samsung Hall, 22nd – 23rd May, 2019
25. The Role of Universities and Research Institutions in Kenya’s Big Four Agenda, The Kenya DAAD scholars Association (KDSA) Annual National Conference and AGM, Sirikwa Hotel, Eldoret 12th – 14th June, 2019

26. The Multidisciplinary Biophysical Society (BPS) Sponsored Curriculum Development and Chapter Promotion Workshop, Masinde Muliro University of Science and Technology, 2nd July, 2019
27. **(Organizer):** Exploring Biophysics Diversity for Sustainable Industrial and Economic Development, Masinde Muliro University of Science and Technology, 3rd – 4th July, 2019
28. ANSOLE DAYS 2019 & BALEWARE 2019 on “Sustainable Energetics and Water”, College of Science and Technology, University of Rwanda, Kigali, Rwanda, 10th – 12th September, 2019
29. **(Organizer):** Materials Science and Solar Energy Network for Eastern and Southern Africa: Postgraduate Students Seminar, Chiromo Campus, University of Nairobi, 16th – 17th October, 2019.
30. Seminar on Bulk Elemental Analysis, EKA Hotel, Mombasa Road, Nairobi, 5th November, 2019.
31. Mini-African School on Electronic Structure Methods and Applications (MASESMA), College of Science and Technology, University of Rwanda, Kigali, Rwanda, 11th – 15th November, 2019
32. African Materials Research Society (AMRS) Pre-conference on Computation Physics/Biology, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha, Tanzania, 8th -9th December, 2019
33. Grant Writing Proposal Workshop for PASET Africa Host Universities (AHU), International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya, 20th – 24th January, 2020.
34. The Need for Awareness of Areas of Research in Scientific Computing and Advancement of Learning Workshop, Technical University of Kenya (TUK), Nairobi, Kenya, 20th February, 2020.
35. **(Organizer):** ANSOLE Scientific Meeting in Kenya (ASMKE), Technical University of Kenya (TUK), Nairobi, Kenya, 03rd March, 2020.
36. **(Organizer):** Density Functional Theory and Beyond Workshop, Catholic University of East Africa (CUEA), Nairobi, Kenya, 5th – 6th March, 2020.
37. **(Coordinator):** Materials Research Society of Kenya (MRSK) / Computational Theoretical Physics (CTheP) Materials Science Webinars in Kenya. (Over 15 webinars with over 40 participants from close to 15 institutions in Kenya, Tanzania and South Africa).
38. On-line Workshop on Excited Charge Dynamics in Semiconductors, International Centre for Theoretical Physics (ICTP), Trieste, Italy, 28th – 30th September, 2020.

39. **(Organizer):** 2nd Young Scientists' MSSEESA Conference on Materials for Solar Energy Conversion, University of Nairobi, Department of Physics, Nairobi, Kenya, 4th – 6th November, 2020.
40. APS International Young Leaders Forum (IYLF): APS Annual Leadership Meeting, 5th February, 2021
41. 20th International Workshop on Computational Physics and Materials Science: Total Energy and Force Methods, International Centre for Theoretical Physics (ICTP), Trieste, Italy, 23rd - 25th February, 2021
42. Virtual R – training DAAD I- StaR – Workshop, Pwani University, Kilifi, Kenya, 3rd – 7th May, 2021
43. Virtual Training Workshop: Conducting Research During a Pandemic: The Covid-19 Case, Moi University, Eldoret, Kenya, 5th – 7th May, 2021
44. **(Organizer):** The 2021 Kenya DAAD Scholars Virtual Conference, Masinde Muliro University of Science and Technology, Kakamega, Kenya, 15th – 18th June, 2021
45. The 6th Alexander Von-Humboldt – Kenya 'Kollegs' Conference, Kirinyaga University, Kerugoya, 6th - 8th October, 2021
46. **(Organizer):** The East-African School on Density Functional Theory and its Applications using the SIESTA code, The Technical University of Kenya, Nairobi, Kenya, 11th -15th October, 2021
47. **(Organizer):** 2021 MSSEESA Workshop on Materials for Solar Energy Conversion, University of Eldoret, School of Sciences, Eldoret, Kenya, 2nd – 3rd December, 2021.
48. ANSOLE's 11th Anniversary International Online Conference (A²IOC 2022), Hosted by Université Mohammed V Rabat, Morocco & Zewail City of Science and Technology, Gizeh, Cairo, Egypt, 4th February, 2022.
49. **(Convener):** Density Functional Theory and Molecular Dynamics Workshop, Computational and Theoretical Research Group, Department of Physics, Masinde Muliro University of Science and Technology, Kakamega, Kenya, 7th – 8th April, 2022
<https://mrsk.or.ke/news-and-calls/>
50. Integrating Collaborative Online International Learning (COIL) And Virtual Exchanges In Higher Education Institutions In Kenya, Virtual Workshop, Technical University of Mombasa (Main Campus), Mombasa, Kenya, 9th – 11th May, 2022.
51. Advancing Interdisciplinary Research in Mathematical Sciences and the Future of Modeling in Applied Sciences, International Conference on Mathematical, Pure & Applied Sciences, Kabarak University, Nakuru, Kenya, 12th July, 2022.
52. 2nd East African Endometriosis Conference (EAEC, 2022), Sarova Panafric Hotel, Nairobi, Kenya, 22nd – 24th June, 2022.

53. Practical HPC 2022 Winter School Online Course, Partnership for Advanced Computing in Europe (PRACE) and Edinburgh Parallel Computing Centre (EPCC) at The University of Edinburgh, 22nd August to 5th September 2022 (2 Weeks).
54. Partnership for Advanced Computing in Europe (PRACE) Supercomputing MOOC, 15th August – 16th September, 2022 (5 Weeks).
55. First International Conference on Advanced Computational Modelling of Materials CAMOM, University of Pretoria, 18th – 21st September 2022.
56. Pan-African Initiative to Build Research and Innovation Capacity to achieve SDG7 for Africa, Science Summit at United Nation General Assembly 77 (SSUNGA77), 21st September, 2022.
57. Writing Winning Proposals – With a Donor Market Place Training, The National Environment Trust Fund (NETFUND) and Project Management Institute Kenya, Alps Hotel, Nakuru, Kenya, 27th – 30th September, 2022.
58. **(Organizer):** 2022 MSSEESA Conference on Materials for Solar Energy Conversion, University of Eldoret, School of Sciences, Eldoret, Kenya, 15th – 18th November, 2022.
59. **(Moderator: Computational Materials):** 11th International Conference of the African Materials Research Society, Universite Cheikh Anta-Diop, Dakar, Senegal 10th - 15th December, 2022.
60. **(Organizer):** Pan African Conference of Crystallography (PCCr3), Bomas of Kenya, Nairobi, 17th – 21st January, 2023 <http://pccr3africa.org/>
61. **(Organizer):** ANSOLE´s 12th Anniversary International Online Conference (A²IOC 2023), Hosted by Masinde Muliro University of Science and Technology, Kakamega, Kenya, and University of Tunis El Manar, Tunis, Tunisia, 4th February, 2023.
62. Kenya HPC User Engagement, KENET Training Room, Jomo Kenyatta Memorial Library, University of Nairobi (Main Campus), Nairobi, 22nd June, 2023.
63. **(Organizer):** Fundamentals of X-ray Diffraction Virtual Workshop, Masinde Muliro University of Science and Technology, Kakamega, Kenya, 18th – 20th July, 2023.
64. 2023 X-TechLab Training Session: An Intensive Introductory Course in X-ray Crystallography, X-TechLab, Seme City, Benin, 18th – 29th September, 2023.
65. MMUST IDeL workshop for module development, Golf Hotel Kakamega, Kakamega, 23rd – 25th October, 2023.
66. Training of Editors for proposed MMUST Academic Journals, Chef West Hotel, Busia, 25th – 26th January, 2024.
67. **(Organizer):** 17th International Multidisciplinary Conference, Masinde Muliro University of Science and Technology, Kakamega, Kenya, 15th – 17th May, 2024.

68. Powder Diffraction: Advancing Real Materials in the Information Era, International School of Crystallography, Erice, Italy, 31st May – 8th June, 2024.
69. **(Organizer):** The East-African School on Density Functional Theory & its Applications, The Catholic University of Eastern Africa (CUEA), Nairobi, 8th – 10th July, 2024.

RESEARCH LINKS

Google Scholar

<https://scholar.google.com/citations?user=QOkk3hQAAAAJ&hl=en&oi=ao>

ORCID: <https://orcid.org/0000-0001-9840-7826>

Web of Science ResearcherID: [AAG-8094-2021](https://orcid.org/0000-0001-9840-7826)

Researchgate <https://www.researchgate.net/profile/Benjamin-Odari>

JOURNAL REVIEWER

1. Solar Energy <https://www.journals.elsevier.com/solar-energy>
2. Africa Journal of Physical Sciences <http://journals.uonbi.ac.ke/index.php/ajps>
3. International Energy 2021 Conference On “Renewable Energy and Digital Technologies for the Development of Africa” <http://energyconference2021.com/> (Review of Conference proceedings)
4. Discover Materials <https://link.springer.com/journal/43939>
5. Scientific Reports <https://www.nature.com/srep/>
6. Discover Applied Sciences <https://link.springer.com/journal/42452>

CURRICULUM REVIEWER

1. Bachelor of Science in Physics with Appropriate Technology 2021, Masinde Muliro University of Science and Technology
2. Bachelor of Education Science, Kabarak University, 8th October, 2021
3. Bachelor of Science in Pure and Applied Biophysics, Masinde Muliro University of Science and Technology, on-going curriculum development since 2022
4. Masters in Medical Physics, MMUST (New programme, 2023)

PUBLISHED PHYSICS STORIES

ANSOLE: African Network for Solar Energy, African Physics Newsletter, Issue 4, December 2019

Growing a community of SIESTA (Spanish Initiative for Electronic Simulations with Thousands of Atoms) users in Kenya,

https://personales.unican.es/junqueraj/SIESTA_school_Kenya.pdf

Promoting Electrospinning in Africa, African Physics Newsletter, Issue 5, April 2020, https://mcusercontent.com/63e42c583930d9f7a8b637982/files/5fe40471-bd64-4afe-a989-5046f9e3f98d/Promoting_Electrospinning_in_Africa.pdf

Mini-African School on Electronic Structure Methods and Applications: MASESMA, African Physics Newsletter, Issue 5, April 2020, https://mcusercontent.com/63e42c583930d9f7a8b637982/files/5074bf4c-2d06-4184-003dba841bc4548/Mini_African_School_on_Electronic_Structure_Methods_and_Applications_MASESMA.pdf

Letter from Kenya: Masinde Muliro University, African Physics Newsletter, Issue 6, June 2020

https://mcusercontent.com/63e42c583930d9f7a8b637982/files/bfafa3f3-22ab-4ea6-98d1-a8db105bc16a/11_Letter_from_Kenya_Masinde_Muliro_University.pdf

Teaching and Research Support by the Kenya Education Network (KENET) During the COVID-19 Lockdown in Kenya, African Physics Newsletter, Issue 7, September 2020

https://mcusercontent.com/63e42c583930d9f7a8b637982/files/11b4a5b2-062d-41c6-969a-83abdf3aac32/5_Teaching_and_Research_Support_by_the_Kenya_Education_Network_KENET_During_the_COVID_19_Lockdown_in_Kenya.pdf

MMUST Exhibits Leadership and Expertise as the Host of this Year's Annual Biophysical Society- Kenya Chapter Conference <https://www.mmust.ac.ke/index.php/news-media/news-and-events/417-mmust-exhibits-leadership-and-expertise-as-the-host-of-this-year-s-annual-biophysical-society-kenya-chapter-conference>

Workshop On Density Functional Theory And Molecular Dynamics Is A Sign That Mmust Is Championing Computational Materials Science In Kenya

<https://www.mmust.ac.ke/index.php/news-media/news-and-events/861-workshop-on-density-functional-theory-and-molecular-dynamics-is-a-sign-that-mmust-is-championing-computational-matreials-science-in-kenya>

The Department Of Physics Trains Natural Scientists On How To Use An X-Ray Diffractometer Equipment <https://shorturl.at/dgwGM>

POSTER PRESENTATION

Next generation of earth-abundant materials for solar energy, European Material Research Society 2017 Spring Meeting; May 22-26, Strasbourg Convention Centre – France: Characterization of transport properties of Sb₂S₃ layer by admittance spectroscopy

SCHOLARSHIPS AND GRANTS AWARDED

1. Africa Oxford Initiative (AfOx) Catalyst Grant: A Foundry for Research into emerging Photovoltaic Materials, 2023, GBP 5000
2. The Cambridge Crystallographic Data Centre (CCDC) sponsorship for Fundamentals of X-Ray Diffraction Virtual Workshop, 2023, GBP 150
3. International Centre for Diffraction Data (ICDD) Grant support for young scientists to participate in Pan-African Conference on Crystallography (PCCr3), 2023, USD 1,500
4. Materials Science Research Equipment donation from Max Planck Institute of Solid State Research, heisenbergstraße, Struttgart, Germany in collaboration with Materials Research Society of Kenya (MRSK), 2022, 3 Keithley 2000 series: 6.5 Digital multimeters with scanning and 1 power supply, ≈ Ksh 500,000
5. **Principal Investigator**, Masinde Muliro University of Science and Technology (MMUST) University Research Fund (URF) 2021, Magneto-Electric Devices for Future Technologies: A DFT Based Study, URF2022/1-026, KSh 450,000
6. Masinde Muliro University of Science and Technology (MMUST) University Research Fund (URF) 2021, Optimization of Interface Study of Metal Oxide/ Perovskite Absorber Material for Solar Cells, URF2022/1-027, KSh 450,000
7. International Center for Theoretical Physics (ICTP) to host the East-African School on density-functional calculations with atomic orbitals: a hands-on tutorial on the SIESTA code, Nairobi, Kenya in October 2021, EURO 5,000
8. 2020 TWAS Research Grant Programme in Basic Sciences (Groups), USD 28,489.00 (Collaborator)
9. Regional Scholarship and Innovation Fund's (RSIF) Research Award (*RSIF-RA*) , 2020, USD 90,000
10. A Foundry for Research into Emerging Photovoltaic Materials, Internal Global Challenge Research Fund (GCRF) 2020, University of Oxford, GBP 39,112.32
11. 2019, International Centre for Theoretical Physics (ICTP), Sponsorship towards my conference travel and living expenses to attend the Mini-African School on Electronic Structure Methods and Applications (MASESMA) in Kigali, Rwanda, USD 400
12. Computational Modelling and Materials Science (CMMS) Research Mini-Grant, Kenya Education Network (KENET), 2019, \$15,000
13. DAAD Small Alumni Activities in East Africa 2018, Workshop Grant, EURO 8,000
14. Short term research visit (DAAD) at Forschungszentrum Julich, Germany (June, 2016 to November, 2016)
15. German Academic Exchange Service (DAAD): In-Country Scholarship 2014/2016 (PhD)
16. National Council of Science and Technology, 2011(MSc), Ksh 200,000

PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS

1. Materials Research Society (MRS) 2020-2021, 2022-2023 <https://www.mrs.org/>
2. Materials Research Society of Kenya (Co-founder, Treasurer and Webinar Coordinator) <https://mrsk.or.ke/>
3. African Network for Solar Energy (ANSOLE) – Country Representative (Kenya) https://www.ansole.org/index.php?id=1&p=home_4&spr=en
4. African Renewable Energy Alliance <https://area-network.ning.com/>
5. Chairman, Kenya DAAD Scholars Association MMUST Chapter (2021 – To date)
6. International Union of Crystallography (IUCr) World Directory of Crystallographers <https://www.iucr.org/people/wdc>
7. Kenya Bureau of Standards Renewable Energy and Energy Management Technical Committee (KEBS/TC092) member, 2019 – 2022
8. African Physics Newsletter (Editor) (2019 – 2022)
9. Condensed Matter Research Group, University of Nairobi (2013 – 2020)
10. Material Science and Solar Energy Network for Eastern and Southern Africa (MSSEESA) (2013 – To date)

POSTGRADUATE STUDENTS SUPERVISION

1. SPH/H/01-70195/2021 Wycliffe Isoe: Experimental and Computational Investigation of BaTiO₃ Compounds for Photocatalytic Applications, Masinde Muliro University of Science and Technology. (PhD Physics)
2. Amos Milimo Nalianya : Interface Study and Charge carrier Dynamics in TiO₂ (ETL)/FA_{0.7}Cs_{0.3}Pb(I_{0.9}Br_{0.1})₃ Perovskite Solar Cells, Masinde Muliro University of Science and Technology. (PhD Physics)
3. SPH/H/01-70590/2022 Nancy Obare: Interface study and Defects passivation of CsFAPb_{1-x}Br_x Perovskite Solar Cells, Masinde Muliro University of Science and Technology. (PhD Physics)
4. GMP/M/1895/09/20 Emmanuel Akoto: Modelling of Photovoltaic Characteristics of Lead Free Cs_{1-x}Rb_xSnI₃ Using Scaps 1D for Solar Cell Applications, Kabarak University. (Msc Physics) – **Graduated in Dec 2023**
5. SPH/G/01-55014/2017 Nancy Moraa Obare: Structural, Optical and Electrical Characterization of CusbS₂ for Photovoltaic Application: An Experimental and Numerical Simulation Approach. (MSc Physics) – **Graduated in Dec 2022**
6. SPH/G/01-55515/2017 Milimo Amos Nalianya: Numerical Study of Lead Free CsSn_{0.5}Ge_{0.5}I₃ Perovskite Solar Cell by SCAPS-1D, Masinde Muliro University of Science and Technology. (MSc Physics) – **Graduated in Dec 2022**

THESIS EXAMINATION

INTERNAL EXAMINER

1. Structural, Morphological and Optical Characterization of Copper Antimony Sulphide Thin Films Deposited by Spin Coating for Solar Cells Applications, Masinde Muliro University of Science and Technology. (MSc Physics)

COMMUNITY SERVICE

1. Cambridge Structural Database (CSD) Champion for Kenya
<https://www.ccdc.cam.ac.uk/community/ccdc-for-the-community/people-in-the-community/csd-champions/>
2. Treasurer – Materials Research Society of Kenya <https://mrsk.or.ke/>
3. *Tutor* – STEMLab MMUST
4. Interim Secretary, Physics Community – Kenya, *An avenue of collaboration of all physicists in Kenya*
5. Member, The Beaming Broad Band CBO (The 3-B CBO), community organization conducting Anti-jiggers campaign in Vihiga County, home improvement for the vulnerable, mentorship program in schools and provision of sanitary towels.

REFEREES

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