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# CURRICULUM VITAE

## DR. BOSCO ORURU



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### PROFESSIONAL SUMMARY

I am a scientist and educationist with over 22 years of continuous university experience, encompassing diverse environments. I joined the university environment in 2002 as a Bachelor's student and continued through to obtaining a PhD in 2012. I was employed instantly and became an integral part of curriculum development for both undergraduate and graduate programmes. I am quite flexible in terms of content delivery and research. I have lectured and examined 8 graduate course units and 18 undergraduate course units. I am passionate about graduate training, to the extent that I have also trained graduate supervisors. I have 22 publications in peer reviewed journals and 5 conference Proceedings. I have successfully supervised 3 PhD students, 11 MSc students, and 32 third year projects. Besides, I have examined 2 PhD Theses and 22 MSc Dissertations. I have served as a member of the Doctoral Committee of at least 10 students, 8 of whom have successfully completed. Currently, I am supervising 2 PhD students and 4 MSc students. From 2024 to date, I am the Coordinator of Third Year Projects. From 1<sup>st</sup> January 2026 to date, I am the Head, Department of Physics. Besides academic engagements, I have had hands-on experience in administration and management. In addition, I have been involved in community development and education for at least two decades.

### EDUCATION

- **Doctor of Philosophy in Physics** (University of the Free State), with Thesis entitled: "The Propeller Driven Pulsar-like Spin-down and Non-thermal Emission in the Nova-like Variable Star AE Aquarii" (2012).
- **Master of Science in Physics** (University of the Free State/University of Cape Town), with Dissertation entitled: "A Study of Non-thermal Radio to Infrared Emission from the Magnetic Cataclysmic Variable AE Aquarii" (2008).
- **Bachelor of Science (Honours) in Astrophysics and Space Science** (University of Cape Town) (2006).
- **Bachelor of Science with Education - Physics & Mathematics** (Mbarara University of Science and Technology), with Third Year Project entitled: "Design and Implementation of A Sundial at Mbarara University of Science and Technology" (2005).

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- **Postgraduate Diploma in Public Administration & Management** (Uganda Management Institute) (2016).
  - **Diploma in Education Secondary - Physics & Chemistry** (Institute of Teacher Education, Kyambogo) (1997).
  - **Uganda Advanced Certificate of Education** (Lira Hall; Dr. Obote College) (2001; 1995).
  - **Uganda Certificate of Education** (Adwari Secondary School) (1992).
  - **Primary Education** - Alebtong Primary School (1982-1987), Ireda Primary School (1987-1988).

## **WORK EXPERIENCE**

### **Makerere University, Uganda**

- Head, Department of Physics (1<sup>st</sup> January 2026 to date)
- Senior Lecturer of Physics (2022 to date)
- Graduate Supervisors' Trainer (2018-2021)
- Lecturer of Physics (2016-2022)
- Secretary of the Departmental Research and Teaching Programmes Committee (2016 to date)
- Member of the Departmental Appointments and Promotions Committee (2018 to date)

### **Busitema University, Uganda**

- Senior Lecturer of Physics (2015)
- Secretary of Contracts Committee (2014-2015)
- Ag. Deputy Dean, Faculty of Science and Education (2013-2015)
- Ag. Head of Physics Department (2012-2014)
- Lecturer of Physics (2012-2014)

### **Lango Cultural Institution (Tekwaro Lango), Uganda**

- Deputy Speaker of Council of Clan Leaders (2024 to date)
- Clan Leader (Awitong) of Okii Awonodyang (2022 to date)
- Education Minister of Okii Awonodyang (2006-2011, 2017-2022)

### **Lira Catholic Diocese, Uganda**

- Chairperson Education Commission (2022 to date)
- Chairperson Academic and Disciplinary Committee of Board of Governors, Rachele Comprehensive Secondary School (2017-2020)

### **Kyambogo University, Uganda**

- Part-time Lecturer of Physics (2012-2013; 2017-2020)

### **Mbarara University of Science and Technology, Uganda**

- Visiting Lecturer of Physics (2014-2018)

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- General Secretary of Science Education Students' Association (2003-2004)

### **South African Institute of Physics**

- Students' Representative - Astrophysics Division (2010-2011)

### **University of the Free State, South Africa**

- Tutor of Physics (2007-2011)
- Vice Chairperson, Association of Catholic Tertiary Students (2009-2010)
- Spiritual Officer, Association of Catholic Tertiary Students (2007-2008)

### **Adwari Secondary School, Uganda**

- Teacher of Physics, Chemistry and Mathematics (1997-2009)
- Staff Representative, Board of Governors (2001-2002)
- Staff Welfare Master (2001-2002)
- Head of Physics Department (1997-2002)
- Games and Sports Master (2000-2002)
- Health Master (1998-2000)
- Member of Pastoral Council, Aliwang Chapel (1998-2000)

## **RESEARCH INTERESTS**

1. Accretion onto magnetized compact objects (black holes, neutron stars and white dwarfs) such as in X-ray Binaries and Cataclysmic Variables.
2. Exotic phenomena in the universe such as gamma ray bursts, supernovae explosions and Active galactic nuclei.
3. Exploration of African Cultural Astronomy. Uganda is an ideal state for venturing African Cultural Astronomy, owing to its multi-cultural nature and its equatorial location which enables clear view of most celestial objects.
4. Radiation Physics, looking at dose optimisation in treatment and health risks owing to radionuclide contamination.
5. I am passionate about community outreach activity, mostly in schools, to motivate learners into studying sciences and to expose them to the vast career opportunities.

## **COURSE UNITS TAUGHT**

- **Masters:** Advanced Nuclear Physics, Advanced Astrophysics, Nuclear Technology, Mathematical Methods in Physics, Quantum Mechanics, Statistical Mechanics, High Energy Astrophysics, and Stellar Structure and Evolution.
- **Bachelors:** Wave Optics, Geophysical Methods, Electronics, Electricity and Magnetism,

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Electromagnetism, Classical Mechanics, Properties of Matter, Heat and Thermodynamics, Elements of Astronomy and Astrophysics, Introduction to Astrophysics, Teaching & Learning Resources Development in Physics, Solid State Physics I & II, Microwaves, Fibre Optics & Laser Technology, Nuclear Physics, Mathematical Methods in Physics, Quantum Mechanics, and Statistical Mechanics.

## PHD SUPERVISION

1. **Vianney Habakwiha** (Makerere University, Uganda) with Thesis entitled: “Estimation of Radiological Effects and Modelling Radionuclide Transfer to Milk and Fish in Kisoro District, South-western Uganda” (2024).
2. **Richard Cliffe Ssenyunzi** (Makerere University, Uganda) with Thesis entitled: “Modeling Precipitable Water Vapour using Global Navigation Satellite System Data over the East African Tropical Region” (2021).
3. **William Ochen** (Makerere University, Uganda) with Thesis entitled: “Measurement and Modeling of Residual Stress in Porcelain Tiles Formulated from Various Quartz Particle Sizes in Uganda” (2021).

## PHD EXAMINATIONS

1. Doctor of Philosophy Thesis of Ms. Pamella Kajumba Katalihwa (Makerere University, Uganda) entitled: “Development and Assessment of a Cooking Unit Integrated with Solar Thermal Energy Storage System” (2022).
2. Doctor of Philosophy Thesis of Mr. Robert Lugolole (Makerere University, Uganda) entitled: “Development of a Sensible Heat Packed Bed Energy Storage System for Medium Temperature Applications” (2020).

## APPOINTMENTS ONTO THE DOCTORAL COMMITTEES

1. **Benjamin Jingo** (Makerere University, Uganda) with Research title: “Development of Low Radon Emitting Clay Bricks with Papyrus Ash Gradients” (August 2025) - **Ongoing Study**.
2. **Henry Kajubi** (Makerere University, Uganda) with Research title: “Analysis of Heavy Metals and Radionuclide Contamination of Surface and Ground Water in and around Kampala, Central Uganda” (August 2023) - **Ongoing Study**.
3. **Vianney Habakwiha** (Makerere University, Uganda) with Research title: “Modelling Radionuclide Transfer Through Food Chain to Milk and Fish in Kisoro District, Uganda” (November 2020) - **Completed and graduated**.

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4. **Ignatius Komakech** (Makerere University, Uganda) with Research title: “Quantifying Quality and Safety of Radiotherapy Services in Uganda: A Case of the Low Income Country of the Sub-Saharan Africa”(November 2020) - **Completed; awaits graduation.**
  5. **Philip Opio** (Makerere University, Uganda) with Research title: “Validation of the Adopted 350 km Effective Height of the Ionosphere for the Equatorial Region of Africa”(August 2019) - **Completed and graduated.**
  6. **Jimmy Chaciga** (Makerere University, Uganda) with Research title: “Deposition of Hematite A Metal Oxide for Photovoltaic Solar Cell Production”(June 2019) - **Completed; awaits graduation.**
  7. **Swaleh Tusiime** (Makerere University, Uganda) with Research title: “Development of A Thermal Storage System with A Controlled Charging Temperature”(May 2019) - **Completed; awaits graduation.**
  8. **William Ochen** (Makerere University, Uganda) with Research title: “Modeling and Simulation of Thermal Residual Stresses in Porcelain Made from Locally Sourced Raw Materials in Uganda”(June 2017) - **Completed and graduated.**
  9. **Peter Opio** (Makerere University, Uganda) with Research title: “Determination and Analysis of Radiofrequency Intensities from Digital Television Broadcasting Transmitters in Kampala, Uganda”(May 2017) - **Completed and graduated.**
  10. **Richard Cliffe Ssenyunzi** (Makerere University, Uganda) with Research title: “Estimation of the Tropospheric Water Vapour using the Propagation Delay in Global Navigation Satellite System Signal”(May 2016) - **Completed and graduated.**

## MSC SUPERVISION

1. **Moses Oyet** (Makerere University, Uganda) with Dissertation entitled: “Approximation of Skin Dose for Selected Setup Parameters During External Beam Radiotherapy at Uganda Cancer Institute” (**2025**).
2. **Nelson Owot Kidega** (Makerere University, Uganda) with Dissertation entitled: “End-to-End Dosimetry Test for Intensity Modulated Radiotherapy Treatment at the Uganda Cancer Institute” (**2025**).
3. **Joseph Atine** (Makerere University, Uganda) with Dissertation entitled: “Assessment of Radioactivity Levels and Radiological Risks of Chemical Fertilizers in Kampala City, Uganda” (**2025**).
4. **Prosscovia Nambi** (Makerere University, Uganda) with Dissertation entitled: “Paediatric Clinical Indications Based Computed Tomography Dose Optimisation in Selected Imaging Centres in Kampala” (**2023**).

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5. **Henry Kajubi** (Makerere University, Uganda) with Dissertation entitled: “Gamma-ray Spectrometric Analysis of Radionuclides in Chicken Feeds, Meat and Bones from Selected Suppliers in Kampala, Uganda” (2023).
  6. **Juma Kamulali** (Makerere University, Uganda) with Dissertation entitled: “Analysis of X-ray Characteristics of Narrow Line Seyfert 1 Galaxies from *NuSTAR* Data” (2022).
  7. **Dickson Okello** (Makerere University, Uganda) with Dissertation entitled: “Investigating the Characteristics of X-ray Emission from Black Hole Binaries V4641 Sagittarii and V1033 Scorpii from *Chandra* Data” (2022).
  8. **Michael Ojok** (Makerere University, Uganda) with Dissertation entitled: “X-ray Emission Properties of Supernova Remnants SN1987A and SN1006 from *Chandra* Data” (2021).
  9. **Moses Todo** (Makerere University, Uganda) with Dissertation entitled: “Indoor Radon Concentrations in the Dormitories of Selected Secondary Schools in Otuke District, Northern Uganda” (2019).
  10. **Jamira Nangobi** (Mbarara University of Science & Technology, Uganda) with Dissertation entitled: “Characteristic Optical, Ultra-violet and X-ray Radiations from Cygnus X-3 using Swift Data” (2018).
  11. **Enoch Ejopu** (Makerere University, Uganda) with Dissertation entitled: “Determination of the Characteristics of High-Energy Radiations from High-Mass X-ray Binary IGR J17200-3116” (2017).

## MSC EXAMINATIONS

1. Master of Science Dissertation of **Mr. Hosman Enap** (Makerere University, Uganda) entitled: “Evaluation of Radionuclides Contamination in Water sources in Kaabong District” (2025).
2. Master of Science Dissertation of **Mr. Anthony Okello** (Kyambogo University, Uganda) entitled: “Assessment of Radiological Hazards Due to Radionuclides in Soil and Khat (*Catha Edulis*) from Dadamu Sub-county in Arua District, Uganda” (2025).
3. Master of Science Dissertation of **Ms. Hadijah Ndagire** (Makerere University, Uganda) entitled: “Establishment of Diagnostic Reference Levels for Selected Interventional Radiology Procedures at Uganda Heart Institute, Mulago Hospital” (2024).
4. Master of Science Dissertation of **Mr. Peter Mbayo** (Busitema University, Uganda) entitled: “Weighted Mean Temperature Model for Estimating Global Navigation Satellite System Precipitable Water Vapor over East Africa” (2024).
5. Master of Science Dissertation of **Ms. Magdeline Matobe** (North-West University,

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- South Africa) entitled: “Asteroseismic and Astrometric Characterization of Members in the NGC 6866 Open Cluster” (2024).
6. Master of Science Thesis of **Mr. Calvince Otieno Juma** (Technical University of Kenya) entitled: “Characterisation of Cornish-South Ultracompact HII- Regions Sample Using the MeerKAT” (2023).
  7. Master of Science Dissertation of **Mr. Francis Ochola** (Makerere University, Uganda) entitled: “An Automatic Electronic Photovoltaic Heating System for Charging Thermal Energy Storage Tank” (2022).
  8. Master of Science Dissertation of **Mr. Batya Daniel** (Mbarara University of Science & Technology, Uganda) entitled: “Estimation of Astrophysical Parameters of Solar-like Oscillating Long Period Variables in the Large Magellanic Cloud” (2022).
  9. Master of Science Dissertation of **Mr. Denis Egesa** (Makerere University, Uganda) entitled: “Performance Analysis of 1.6 MWp Bukuzindu Hybrid PV-Diesel Power Plant in Kalangala District of Uganda” (2021).
  10. Master of Science Dissertation of **Ms. Grace Nanteza** (Makerere University, Uganda) entitled: “Utilization of Excess Power Generated by Stand-alone Solar Photovoltaic System: A Case Study in Uganda” (2019).
  11. Master of Science Dissertation of **Mr. Abush Mengiste** (Mbarara University of Science & Technology, Uganda) entitled: “Effect of Metallicity on Pulsation of Red Giant Stars in Kepler Clusters” (2018).
  12. Master of Science Dissertation of **Mr. John Bosco Ssebandeke** (Makerere University, Uganda) entitled: “Impact of Atmospheric Aerosols and Clouds on Solar Irradiance in Kampala, Uganda” (2018).
  13. Master of Science Dissertation of **Mr. Jimmy Chaciga** (Makerere University, Uganda) entitled: “Construction of High Temperature ( $\sim 2000$  C) Oil Pump for Cooking Applications” (2018).
  14. Master of Science Dissertation of **Mr. Geoffrey Lugonvu** (Makerere University, Uganda) entitled: “Comparison of Ionospheric Scintillations During Storm and Non-storm Periods Over the East African Region Using GPS and Ionosonde Data” (2017).
  15. Master of Science Dissertation of **Mr. Francis Twinomugisha** (Makerere University, Uganda) entitled: “Total Electron Content Prediction in Low Latitude Region of East Africa Using Nequick2 Model” (2016).
  16. Master of Science Dissertation of **Mr. Frank Mujuni** (Mbarara University of Science & Technology, Uganda) entitled: “Characteristics of  $\beta$  Cepheids Stars in the Kepler Field of View” (2016).

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17. Master of Science Dissertation of **Mr. Paul Ecuru** (Makerere University, Uganda) entitled: “Detection of Quiet Time Disturbances (Q Disturbances) in Kampala Using Vertical Total Electron Content (TEC) Data During a Year of Low Solar Activity” (2014).
  18. Master of Science Dissertation of **Mr. Phillip Opio** (Makerere University, Uganda) entitled: “Measurement of Ionospheric Variation along the Different Latitudes of the African Sector using GPS TEC Data for the Year 2011” (2014).
  19. Master of Science Dissertation of **Ms. Barbra Namirimo** (Mbarara University of Science & Technology, Uganda) entitled: “Investigation of the Existence of Combination Frequencies in Some Selected  $\delta$  Scuti Stars” (2014).
  20. Master of Science Dissertation of **Ms. Priscilla Muheki** (Mbarara University of Science & Technology, Uganda) entitled: “Investigation of the Effect of Disc Tilt and Twist on the Accretion Disc Warp in Hercules X-1” (2014).
  21. Master of Science Dissertation of **Ms. Lukiya Nazziwa** (Mbarara University of Science & Technology, Uganda) entitled: “A Study of Non-linear Ion-acoustic Waves in Electron-Positron-Ion Plasmas with Non-thermal Electrons” (2014).
  22. Master of Science Dissertation of **Mr. Isaac Habumugisha** (Mbarara University of Science & Technology, Uganda) entitled: “A Study of Dust Ion-acoustic Solitary Waves with A Streaming Ion Beam” (2013).

### THIRD YEAR PROJECT SUPERVISION

1. **Daniel Tumwebaze Mutabazi** (Makerere University, Uganda) with Report entitled: “Investigation of Optical Activity of Commonly Used Antimalarial Local Herbs” (2023).
2. **Annet Nanfuka** (Makerere University, Uganda) with Report entitled: “The Study of the Patterns of Eclipses in Uganda” (2022).
3. **Daniel Agec** (Makerere University, Uganda) with Report entitled: “Variation of Eclipses in Uganda” (2022).
4. **James Ocom** (Makerere University, Uganda) with Report entitled: “Design and Construction of A Mini Quadcopter” (2022).
5. **James Odur** (Makerere University, Uganda) with Report entitled: “Design and Construction of A Wind Turbine” (2022).
6. **Kevin Amego** (Makerere University, Uganda) with Report entitled: “Construction of A Wireless Power Transmitter Device Using Inductive Coupling” (2022).
7. **Isaac Cosmos Okello** (Makerere University, Uganda) with Report entitled: “Determi-



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- nation of Coordination Number and Packing Fraction of Metal Chloride Models” (2022).
8. **Brian Asimwe** (Makerere University, Uganda) with Report entitled: “Control of Foam During Industrial Processes” (2022).
  9. **Grace Nangale** (Makerere University, Uganda) with Report entitled: “Design of A Temperature and Light Control System for Poultry Brooders” (2021).
  10. **Rashid Ssemombwe** (Makerere University, Uganda) with Report entitled: “Solar Power Production Efficiency” (2021).
  11. **Patience Komujuni** (Makerere University, Uganda) with Report entitled: “Variability of Rainfall and Temperature Ober Kampala Due to Yearly Motion of the Sun” (2020).
  12. **Doreen Nakibuye** (Makerere University, Uganda) with Report entitled: “Generation of Hydrogen Gas by Direct Solar Water Splitting for Use as Fuel” (2020).
  13. **Colnelius Ajuna** (Makerere University, Uganda) with Report entitled: “Design and Construction of A Simple Cell Phone Detector” (2017).
  14. **Isaac Kikomeko** (Makerere University, Uganda) with Report entitled: “Design and Fabrication of A Solar Water Purification System” (2017).
  15. **Joseph Byaruhanga** (Makerere University, Uganda) with Report entitled: “Construction of A Door Alarm” (2017).
  16. **Esther Were** (Makerere University, Uganda) with Report entitled: “Mixed Mode Solar Dryer for Agricultural Produce” (2017).
  17. **Geoffrey Ocan** (Makerere University, Uganda) with Report entitled: “Construction of A Simple Electric Motor” (2017).
  18. **Nelson Taremwa** (Makerere University, Uganda) with Report entitled: “The Infrared Motion Detector Circuit” (2017).
  19. **Patrick Ndyomugabe** (Makerere University, Uganda) with Report entitled: “Design and Construction of A Simple Fire Detector Alarm System” (2017).
  20. **Benson Kanzira** (Makerere University, Uganda) with Report entitled: “Classification of Stars in the Solar Neighbourhood” (2016).
  21. **Lawrence Musinguzi** (Makerere University, Uganda) with Report entitled: “Possible Evolutionary Tracks of Stars in the Solar Neighbourhood” (2016).
  22. **Jamira Nangobi** (Busitema University, Uganda) with Report entitled: “Investigating the Occurrence of Eclipses and their Implications” (2015).

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23. **Zaina Mukyala** (Busitema University, Uganda) with Report entitled: “Determination of Possible Sites of Life in the Solar Neighbourhood” (2015).
  24. **Julius Weleba** (Busitema University, Uganda) with Report entitled: “Construction of A Low-power Electric Fun” (2015).
  25. **Jockim Thembo** (Busitema University, Uganda) with Report entitled: “Construction of An Elevator for Busitema University Physics Department” (2015).
  26. **Lawrence Amanyanya** (Busitema University, Uganda) with Report entitled: “Construction of Proximity Body Detector Using Capacitance Sensing” (2014).
  27. **Gaspar Niwebyona** (Busitema University, Uganda) with Report entitled: “Construction of Security Alerting System” (2014).
  28. **Saidi Appeli** (Busitema University, Uganda) with Report entitled: “Construction of An Alarm Water Level Indicator” (2013).
  29. **Sylvia Nampungu** (Busitema University, Uganda) with Report entitled: “Monitoring the Solar System Planets and the Moon from Busitema University Nagongera Campus” (2013).
  30. **Kulusumu Namanda** (Busitema University, Uganda) with Report entitled: “Monitoring the Solar System Planets and the Moon from Busitema University Nagongera Campus” (2013).
  31. **Bashir Tenywa** (Busitema University, Uganda) with Report entitled: “Construction of A Simple DC-AC Inverter” (2013).
  32. **Henry Mbulamaye** (Busitema University, Uganda) with Report entitled: “Determination of the Relationship Between Young’s Modulus and Relative Density of Local Timber” (2013).

## PUBLICATIONS AND CONFERENCE PROCEEDINGS

1. Gertrude Ayugi, **Bosco Oruru**, Henry Kyagulanyi, Emmanuel Muhoozi, Wellen Rukundo (2025). Adult Size Specific, Organ, and Effective Dose Estimates in Computed Tomography. *International Journal of Clinical and Experimental Medicine Research*, **9(1)**: 73-81.
2. **Bosco Oruru**, Henry Kajubi and Winston Tumps Ireeta (2024). Measurement of Radionuclide Concentrations in Chicken Feeds, Meat and Bones from Commercial Suppliers in Kampala, Uganda. *Journal of Radiation and Nuclear Applications*, **9(1)**:53-58.
3. Amos Olanya, Denis Okello, **Bosco Oruru**, and Akisophel Kisolo (2023). Natural

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Radioactivity Levels and Radiogenic Heat Production in River Sediments from Gulu and Amuru Districts, Northern Uganda. *International Journal of Sciences: Basic and Applied Research*, **70(1)**: 60-85.

4. Habakwiha V, **Oruru B**, and Ireeta WT (2023). Modeling Radionuclide Transfer from Pasture to Milk in Kisoro, South-Western Uganda. *East African Journal of Science, Technology and Innovation*, **4(3)**: 1-15.
5. Emmanuel Muhoozi, Gertrude Ayugi, Denis Muyimbwa, **Bosco Oruru**, Henry Kyagulanyi and Ruth Wabwile (2023). Heavy Metals and Naturally Occurring Radionuclides Distribution Risk Assessment in Wetlands in Kampala, Uganda. *Journal of Radiation and Nuclear Applications*, **8(2)**: 35-41.
6. Vianney Habakwiha, **Bosco Oruru**, and Winston Tumps Ireeta (2023). Estimation of Radiological Effects from Consumption of milk from Volcanic areas of Kisoro, South-western Uganda. *Journal of Radiation and Nuclear Applications*, **8(1)**: 81-91.
7. Amos Olanya, Denis Okello, **Bosco Oruru**, and Akisophel Kisolo (2022). The Primordial Radionuclides Activity Concentrations and Associated Minerals in Rocks from Selected Quarries in Northern Uganda. *International Journal of Sciences: Basic and Applied Research*, **66(1)**: 45-65.
8. **Bosco Oruru**, Harriet Najjemba, Caroline Joyce Atim, Ronald Nteziyaremye, and Merciline Nayibinga (2021). Cultural astronomy in Uganda from the perspectives of the Acholi, Banyankole, Iteso and Lugbara. *African Journal of History and Culture*, **13(2)**: 88-101.
9. Ayugi, G., **Oruru, B.**, Kiragga, F., Kitembo, H., Kyagulanyi. H. (2021). Establishment of Computed Tomography Diagnostic Reference Levels on Paediatric Patients in Uganda. *Journal of Radiation and Nuclear Applications*, **6(3)**: 189-192.
10. William Ochen, Florence Mutonyi D'ujanga , **Bosco Oruru**, Peter Wilberforce Olupot (2021). Physical and mechanical properties of porcelain tiles made from raw materials in Uganda. *Results in Materials*, **11**: 100195.
11. Ssenyunzi, C.R., **Oruru, B.**, Florence D'ujanga, M.F. (2021). Linear regression models to predict the tropospheric parameters at the Global Positioning systems' sites over the East African region. *East African Journal of Science, Technology and Innovation*, **2(3)**.
12. William Ochen, Florence Mutonyi D'ujanga , **Bosco Oruru** (2021). Influence of residual stress on the mechanical behavior of ceramics with various quartz sizes. *Scientific African*, **11**: e00648.
13. **Bosco Oruru**, Moses Todo, and Akisophel Kisolo (2020). Background Radiations and Radon Concentrations in the Dormitories of Secondary Schools in Otuke District, Uganda. *Journal of Radiation and Nuclear Applications*, **5(3)**: 211-218.

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14. **Bosco Oruru**, Harriet Najjemba, Annet Eva Zawedde, Ronald Nteziyaremye, Merciline Nayibinga, and Florence Mutonyi D’ujanga (2020). The first track of cultural astronomy in Uganda: Perspectives of the Baganda, Bagisu, Banyoro and Langi. *African Journal of History and Culture*, **12(2)**: 35-48.
  15. Matthias Bissinger né Kühnel, Ingo Kreykenbohm, Carlo Ferrigno, Katja Pottschmidt, Diana M. Marcu-Cheatham, Felix Fürst, Richard E. Rothschild, Peter Kretschmar, Dmitry Klochkov, Paul Hemphill, Dominik Hertel, Sebastian Müller, Ekaterina Sokolova-Lapa, **Bosco Oruru**, Victoria Grinberg, Silvia Martinez-Núñez, José M. Torrejón, Peter A. Becker, Michael T. Wolff, Ralf Ballhausen, Fritz-Walter Schwarm, and Jörn Wilms (2020). The giant outburst of 4U 0115+634 in 2011 with Suzaku and RXTE: Minimizing cyclotron line biases. *Astronomy and Astrophysics*, **634**, A99.
  16. Richard Cliffe Ssenyunzi, **Bosco Oruru**, Florence Mutonyi D’ujanga, Eugenio Realini, Stefano Barindelli, Giulio Tagliaferro, Axel von Engeln, Nick van de Giesen (2020). Performance of ERA5 data in retrieving Precipitable Water Vapour over East African tropical region. *Advances in Space Research*, **65**, 1877–1893.
  17. Richard Cliffe Ssenyunzi, **Bosco Oruru**, Florence Mutonyi D’ujanga, Eugenio Realini, Stefano Barindelli, Giulio Tagliaferro, Nick van de Giesen (2019). Variability and Accuracy of Zenith Total Delay Over the East African Tropical Region. *Advances in Space Research*, **64(4)**, 900-920.
  18. William Ochen, Florence Mutonyi D’ujanga , **Bosco Oruru** (2019). Effect of Quartz Particle Size on Sintering Behavior and Flexural Strength of Porcelain Tiles Made from Raw Materials in Uganda. *Advances in Materials*, **8(1)**: 33-40.
  19. Ochen, W., D’ujanga, F.M., **Oruru, B.** (2019). Microstructure and Residual Stress Effect on the Flexural Strength of Porcelain Tiles Formulated from Locally Available Materials in Uganda. *East African Journal of Science, Technology and Innovation*, **1(1)**: 68-81.
  20. **Oruru B.**, Meintjes P. J. (2014). The Peculiar Binary System AE Aquarii from its Characteristic Multi-wavelength Emission. *EJP Web Conf.*, **64**, 07003.
  21. **Oruru B.**, Meintjes P. J. (2012). X-ray Characteristics and the SED of AE Aquarii. *Monthly Notices of the Royal Astronomical Society*, **421**, 1557.
  22. P. J. Meintjes, **B. Oruru** and A. Odendaal (2012). The multifrequency properties of AE Aquarii and its evolution from a high mass transfer history. *Italian Astron. Soc. J.*, **83**, 643.
  23. Rodríguez-López C., Lynas-Gray A. E., Kilkenny D., MacDonald J., Moya A., Koen C., Woudt P. A., Wium D. J., **Oruru B.**, Zietsman E. (2010). The rapidly pulsating sdO star, SDSS J160043.6+074802.9. *Monthly Notices of the Royal Astronomical Society*, **401**, 23.
  24. **Oruru B.**, Meintjes P. J. (2011). Spectroscopy of the Pulsar-like White Dwarf AE Aquarii

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from Chandra and Swift-XRT Data. *Proceeding of Science* [PoS (HTRS 2011) 063].

25. **Oruru B.**, Meintjes P. J. (2011). Pulsar-like hard X-ray emission in AE Aquarii from Chandra and Swift-XRT Data. *Proceedings of SAIP 2011* (ISBN: 978-1-86888-688-3).
26. **Oruru B.**, Meintjes P. J. (2011). X-ray timing and spectral analysis of the unusual magnetic cataclysmic variable AE Aquarii. *Proceedings of SAIP 2011* (ISBN: 978-1-86888-688-3).
27. **Oruru B.**, Meintjes P. J. (2010). A Signature of Non-thermal X-ray Emission in AE Aquarii: Swift-XRT Data. *Proceedings of SAIP 2010* (ISBN: 978-0-620-46211-2).

## CONFERENCES/WORKSHOPS/MEETINGS/SUMMER SCHOOLS

1. 32<sup>nd</sup> International Astronomical Union (IAU) General Assembly. 6-15 August 2024, Cape Town, South Africa (*Poster Presentations*).
2. 386<sup>th</sup> International Astronomical Union (IAU) Symposium. 13-17 November 2023, Space Science and Geospacial Institute, Addis Ababa, Ethiopia (*Oral Presentation*).
3. X-Vision 2023 - I-HOW & COSPAR Capacity Building Workshop in X-ray Astronomy. 6-17 February 2023, North-West University, Potchefstroom, South Africa (*Hands-on sessions, and Oral Presentation*).
4. Southern African Large Telescope (SALT) Workshop. 14-15 November 2022, South African Astronomical Observatory (SAAO), South Africa (*Online lectures and hands-on sessions*).
5. The 4<sup>th</sup> Middle-East and Africa Regional IAU Meeting. 22-25 May 2017, Addis Ababa, Ethiopia (*Oral presentation*).
6. School on High Energy and Spectroscopy in Rwanda. 26 September - 5 October 2016, University of Rwanda (Nobleza Hotel), Kigali, Rwanda (*Oral presentation & Hands-on sessions*).
7. 5<sup>th</sup> Workshop on Solar Energy Installation & Maintenance (Photovoltaics), Biogas Production & Solar Thermal Systems. 1 - 6 August 2016, College of Natural Sciences, Makerere University, Kampala, Uganda (*Hands-on sessions*).
8. 5<sup>th</sup> East African Astronomical Society Workshop. 29 June - 1 July 2015, Entoto Observatory & Research Center, Addis Ababa, Ethiopia (*Oral presentation*).
9. National Consultative Forum on the Post 2015 Development Agenda. 8 August 2014, Office of the Prime Minister, Kampala, Uganda (*Busitema University Representative*).
10. 4<sup>th</sup> East African Astronomical Society Workshop. 30 June - 4 July 2014, University of

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- Rwanda, Kigali, Rwanda (*Oral presentation*).
11. International scientific conference: Physics at the Magnetospheric Boundary. 25-28 June 2013, Geneva, Switzerland (*Oral presentation*).
  12. 3<sup>rd</sup> East African Astronomical Society Workshop. 20 - 23 November 2012, Mbarara University (MUST), Mukono, Uganda (*Oral presentation*).
  13. South African Institute of Physics Conference. 12 - 15 July 2011, UNISA, Pretoria, South Africa (*Oral & Poster presentations*).
  14. The 2<sup>nd</sup> Middle-East and Africa Regional IAU Meeting. 10-15 April 2011, Cape Town, South Africa (*Oral presentation*).
  15. International scientific conference: Fast X-ray timing and spectroscopy at extreme count rates. 7-11 February 2011, Champéry, Switzerland (*Poster presentation*).
  16. South African Square Kilometre Array Postgraduate Bursary Conference. 29 November - 3 December 2010, STIAS, Cape Town, South Africa (*Oral presentation*).
  17. Synthesis Imaging in Radio Astronomy. 9-16 October 2010, HartRAO, Pretoria, South Africa (*Hands-on sessions*).
  18. South African Institute of Physics Conference. 27 September - 1 October 2010, CSIR, Pretoriworkshop on the Southern African Large Telescope (SALT), held at the South African Astronomical Observatory (SAAO) and online via Zoom from 14 - 15 November 2022.a, South Africa (*Oral presentation*).
  19. South African Square Kilometre Array Postgraduate Bursary Conference. 2-6 December 2009, STIAS, Cape Town, South Africa (*Oral presentation*).
  20. The 1<sup>st</sup> Summer School on Multiwavelength Astronomy. 29 June - 10 July 2009, Paris, France (*Hands-on sessions*).
  21. South African Square Kilometre Array Postgraduate Bursary Conference. 1-5 December 2008, STIAS, Cape Town, South Africa (*Oral presentation*).
  22. High Energy Astrophysics Summer School. 28 July - 1 August 2008, Urbino, Italy (*Hands-on sessions*).
  23. South African National Astrophysics and Space Science Programme Honours Summer School. 28 January - 19 February 2006, Cape Town, South Africa (*Hands-on sessions*).

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## REFEREES

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