

CURRICULUM VITAE

For

DR. BOSCO ORURU

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A: PERSONAL INFORMATION

Name:	Bosco Oruru
Date of birth:	27/09/1974
Nationality:	Ugandan
Marital Status:	Married
Language:	English

- I was born in Lira district (Northern Uganda), the 5th out of 9 children. I grew up in a rural environment and my Dad passed away when I was 13 years old. Life was extremely hard, given then the insurgency (LRA war) in Northern Uganda. However, with the help of my paternal uncle (RIP), I completed my Secondary and High School successfully (with a Diploma/Teaching break) and joined University on government sponsorship, the period when my Mum also passed away. I completed my Undergraduate Degree colourfully and obtained instant scholarships to pursue Postgraduate Studies in South Africa. I believe perseverance, hard work and faith in God have contributed greatly to my success.
- Employment has not been an issue to me. I have, in some cases, heard that people get jobs through “technical know whos”, but my papers have always done the talkings. Besides, my work spirit has always left employers delighted... Those in authority are always my parents. How I wish these continue for the rest of my life... The sky is the limit.
- I am happy to be married. My wife, Caroline, and I have helped each other so much. Whoever said, “Behind a successful man, there is a woman”, deserved a noble price. A woman that stands by your side is really for you. I pray that the Lord continues protecting us. To date, we are blessed with five children; Ambrose, Immaculate, Andrew, Joshua & Emmanuel.
- I really own God’s words to Prophet Jeremiah; The Lord said to me, “I chose you before I gave you life, and before you were born I selected you...” (Jer 1:4-5). “I alone know the plans I have for you, plans to bring you prosperity and not disaster, plans to bring about the future you hope for.” (Jer 29:11). My response to the Lord follows from Psalms; I will praise him as long as I live; I will sing to my God all my life. (Ps 146:2).

B: ACADEMIC QUALIFICATIONS

2011	PhD in Physics (Astrophysics)	University of the Free State (South Africa)
2008	MSc in Physics (Astrophysics)	University of the Free State (South Africa)
2006	BSc Honours (Astrophys. Sp. Sci.)	University of Cape Town (South Africa)
2005	BSc Educ (Physics/Mathematics)	Mbarara University of Sci & Tech (MUST)
1997	Dip Educ (Secondary)	Institute of Teacher Education, Kyambogo (ITEK)
2001/1995	Uganda Advanced Cert. of Education	Lira Hall/Dr. Obote College
1992	Uganda Certificate of Education	Adwari Secondary School, Lira
1988	Primary Leaving Examinations Results	Ireda Primary School, Lira

C: WORK EXPERIENCE (HIGHER INSTITUTIONS)

2 Jan 2016 to date	Lecturer (Physics)	Makerere University, Kampala
Jan 2015 – Dec 2015	Senior Lecturer (Physics)	Busitema University, Tororo
Aug 2014 to date	Visiting Lecturer (Astrophysics)	Mbarara University (MUST)
Sep 2013 – Dec 2015	Ag. Deputy Dean, FoSCI	Busitema University, Tororo
2012 - Aug 2014	Ag. HOD, Physics	Busitema University, Tororo
2012 to date	Secretary General	East African Astronomical Society
2012 – 2014	Lecturer (Physics)	Busitema University, Tororo
2012 – 2013	Part-time Lecturer (Physics)	Kyambogo University, Kampala
2010 – 2011	Students' Rep. (Astrophysics)	South African Institute of Physics
2007 – 2011	Tutor (Physics)	UFS (South Africa)
2007 – 2011	Research Student (Astrophysics)	UFS (South Africa)
2007 – 2009	Spiritual Officer/Vice Chairperson, Association of Catholic Tertiary Students	UFS (South Africa)
2003 – 2004	General Secretary, Mbarara University Science Education Students' Association	Mbarara University (MUST)

- I am a co-founder member of the East African Astrophysics Research Network (EAARN), an Astrophysics/Astronomy network (hosted at Mbarara University of Science & Technology), formed by researchers within the East African region, and currently training graduate students from the region.
- I have lectured the following Physics and Astrophysics courses: Quantum Mechanics (BSc, MSc), Statistical Mechanics (MSc), Electronics (BSc), Electromagnetism (BSc), Classical Mechanics (BSc), Properties of Matter (BSc), Heat and Thermodynamics (BSc), Elements of Astronomy and Astrophysics (BSc), Introduction to Astrophysics (BSc), Stellar Structure and Evolution (MSc), Teaching & Learning Resources Development in Physics (BSc), High Energy Astrophysics (MSc).
- I am currently supervising three (3) postgraduate students, all at Mbarara University of Science & Technology.
- I have successfully supervised eleven (11) third year research projects.

D: RESEARCH INTERESTS

- Accretion onto magnetized compact objects (black holes, neutron stars and white dwarfs) such as in X-ray Binaries and Cataclysmic Variables. I am interested in the dynamics of the interaction of matter (gas) and the magnetic field, radiation (high energy) emission processes, and multi-wavelength modeling at the limit of the magnetically dominated region around compact objects. In the case of fast rotating magnetospheres, the interaction may be turbulent and such processes like the magnetospheric propeller and particle acceleration may result. I intend to study the scenarios theoretically, numerically and observationally.
- Exotic phenomena in the universe such as gamma ray bursts, supernovae explosions and Active galactic nuclei. Many of these phenomena are not yet well understood. Just like in the first case, I intend to study these theoretically, numerically and observationally. In both cases, I intend to model the radiation emission mechanisms.
- I look forward to securing a postdoctoral scholarship to enable me boost my research knowledge and skills, as well as develop research linkages with experts across the globe. In addition, I require funding to recruit some graduate students who will form part of my Astrophysics Research Team.

E: ACADEMIC EXCELLENCE AND AWARDS

- Best PhD presentation in astronomy; a documentary presentation was made with South African Broadcasting Corporation (SABC). SKA Postgraduate Bursary Conference (2009).
- MSc dissertation passed with Distinction. Department of Physics, University of the Free State (2008).
- BSc (Educ) Honours passed with First Class, also becoming the first student to obtain this at faculty level. Faculty of Science, Mbarara University of Science

- and Technology (2005).
- UCE Best Division I Candidate, also holding school record for five (5) years. Adwari Secondary School (1992).

F: EXTERNAL EXAMINATIONS

1. Master of Science Dissertation of Mr. Frank Mujuni (Mbarara University of Science and Technology, Uganda) entitled: “Characterization of β Cepheid Stars in the Kepler Field of View” **(2016)**
2. 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)**
3. 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)**
4. 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 δ Scuti Stars” **(2014)**
5. 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)**
6. 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)**
7. 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)**

G: PUBLICATIONS AND CONFERENCE PROCEEDINGS

1. **Oruru B.**, Meintjes P. J., 2014. The Peculiar Binary System AE Aquarii from its Characteristic Multi-wavelength Emission. EJP Web Conf., 64, 07003
2. **Oruru B.**, Meintjes P. J., 2012. X-ray Characteristics and the SED of AE Aquarii. MNRAS, 421, 1557
3. 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
4. Rodriguez-Lopez 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. MNRAS, 401, 23
5. **Oruru B.**, Meintjes P. J., 2011. Spectroscopy of the Pulsar-like White Dwarf AE Aquarii from Chandra and Swift-XRT Data. Proceeding of Science, Fast X-ray Timing & Spectroscopy at Extreme Count Rates, Champéry, Switzerland [PoS (HTRS 2011) 063]

6. **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, the 56th Annual Conference of the South African Institute of Physics (ISBN: 978-1-86888-688-3)
7. **Oruru B.,** Meintjes P. J., 2011. X-ray timing and spectral analysis of the unusual magnetic cataclysmic variable AE Aquarii. Proceedings of SAIP 2011, the 56th Annual Conference of the South African Institute of Physics (ISBN: 978-1-86888-688-3)
8. **Oruru B.,** Meintjes P. J., 2010. A Signature of Non-thermal X-ray Emission in AE Aquarii: Swift-XRT Data. Proceedings of SAIP 2010, the 55th Annual Conference of the South African Institute of Physics (ISBN: 978-0-620-46211-2)

H: CONFERENCES/WORKSHOPS/MEETINGS/SUMMER SCHOOLS

1. 5th East African Astronomical Society Workshop. 29 June - 1 July 2015, Entoto Observatory & Research Center, Addis Ababa, Ethiopia (Oral presentation).
2. National Consultative Forum on the Post 2015 Development Agenda. 8 August 2014, Office of the Prime Minister, Kampala, Uganda (Busitema University Representative).
3. 4th East African Astronomical Society Workshop. 30 June - 4 July 2014, University of Rwanda, Kigali, Rwanda (Oral presentation).
4. International scientific conference: Physics at the Magnetospheric Boundary. 25-28 June 2013, Geneva, Switzerland (Oral presentation).
5. 3rd East African Astronomical Society Workshop. 20 - 23 November 2012, Mbarara University (MUST), Mukono, Uganda (Oral presentation).
6. South African Institute of Physics Conference. 12 - 15 July 2011, UNISA, Pretoria, South Africa (Oral & Poster presentations).
7. The 2nd Middle-East and Africa Regional IAU Meeting. 10-15 April 2011, Cape Town, South Africa (Oral presentation).
8. International scientific conference: Fast X-ray timing and spectroscopy at extreme count rates. 7-11 February 2011, Champéry, Switzerland (Poster presentation).
9. South African Square Kilometre Array Postgraduate Bursary Conference. 29 November - 3 December 2010, STIAS, Cape Town, South Africa (Oral presentation).
10. Synthesis Imaging in Radio Astronomy. 9-16 October 2010, HartRAO, Pretoria, South Africa (Hands-on sessions).
11. South African Institute of Physics Conference. 27 September - 1 October 2010, CSIR, Pretoria, South Africa (Oral presentation).
12. South African Square Kilometre Array Postgraduate Bursary Conference. 2-6 December 2009, STIAS, Cape Town, South Africa (Oral presentation).
13. The 1st Summer School on Multiwavelength Astronomy. 29 June - 10 July 2009, Paris, France (Hands-on sessions).
14. South African Square Kilometre Array Postgraduate Bursary Conference. 1-5 December 2008, STIAS, Cape Town, South Africa (Oral presentation).
15. High Energy Astrophysics Summer School. 28 July - 1 August 2008, Urbino,

- Italy (Hands- on sessions).
16. South African National Astrophysics and Space Science Programme Honours Summer School. 28 January - 19 February 2006, Cape Town, South Africa (Hands-on sessions).

I: SCHOLARSHIPS RECEIVED

1. The Square Kilometre Array Project & National Research Foundation (South Africa) - to pursue PhD at the University of the Free State (2008 - 2011).
2. National Astrophysics and Space Science Programme & National Research Foundation (South Africa) - to pursue BSc Honours and MSc at the University of Cape Town and the University of the Free State respectively (2006 - 2008).
3. Ugandan Government Sponsorship - to pursue BSc (Educ) Honours at Mbarara University of Science and Technology (2002 - 2005).

REFEREES

1. Dr. Thumps Winston Ireeta, Department of Physics, Makerere University, P. O. Box 7062, Kampala, Uganda; Phone: +256 752 272 366; Email: ireeta@physics.mak.ac.ug
2. Prof. Tom Oti, Department of Physics, Makerere University, P. O. Box 7062, Kampala, Uganda; Phone: +256 772 509655; Email:
3. Prof. P. J. Meintjes, Department of Physics, University of the Free State, P. O. Box 339, Bloemfontein 9300, South Africa; Phone: +27 842 841 250; Email: MeintjPJ@ufs.ac.za