



# Habumugisha Isaac

## *Curriculum Vitae*

### BIODATA

- Date of Birth
- Place of Birth
- District of Origin
- Marital Status
- 26<sup>th</sup> January 1980
- Kambuga
- Kanungu
- Married (with five Children)

### Education

- 2014–2020 **PhD (Astrophysics)**, *Mbarara University of Science and Technology (MUST)*, Uganda.
- 2010–2013 **MSc (Physics)**, *MUST*, Uganda.
- 2011–2012 **PGD in Development Studies (PPM)**, *MUST*, Uganda.
- 2002–2005 **BSc.Ed (Mathematics and Physics)**, *MUST*, Uganda.

### Theses

- PhD Thesis *Modelling Peculiar Plasma Structures. Accretion Discs around magnetised neutron stars* under the supervision of Associate professor Edward Jurua [PhD], Associate professor Solomon Belay Tessema [PhD] & Associate professor Simon K. Anguma [PhD]
- MSc Thesis *Dust ion acoustic solitary waves with a streaming ion beam* under the supervision of Associate professor Simon K. Anguma [PhD] & Associate professor Edward Jurua [PhD]
- PGD(PPM) Thesis *Modelling economic viability of Renewable sources of energy of selected plants in Mbarara District* under the supervision of Associate professor Charles Tushabomwe Kazooba [PhD]

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## Professional Experience / Employment

- 2009–2015 **Senior Education Officer**, DEPARTMENT OF PHYSICS AND MATHEMATICS, Busano Secondary School, Mbale District, Uganda.  
Head of Physics department, teacher Physics and Mathematics
- Detailed achievements:
- Conducting Physics Practical Lessons
  - Distribution load allocations in the department
  - Guiding and counselling students in the department
  - Negotiated individual learning goals with learners
- 2006–2009 **Education Officer**, DEPARTMENT OF PHYSICS AND MATHEMATICS, A'LEVEL SECTION, Gombe Secondary School, Butambala District, Uganda.  
Head of Library department, teacher Physics and Mathematics, First Patron and Founder of Gombe Mathematics Club
- 2009–2015 **Assistant Lecturer**, DEPARTMENT OF PHYSICS, Faculty of Science, Islamic University in Uganda.  
Instructor in the department for both Bachelor of science and bachelor of education students.
- 2017–Present **Lecturer**, DEPARTMENT OF PHYSICS, Faculty of Science, Kabale University.  
Instructor in the department for both Bachelor of science and bachelor of education students.

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## Consultancy works

- 2014-Present Lead Physics Consultant at Cognitive Consults (U) Ltd  
2010-2016 Examiner at Uganda National Examinations Board (UNEB)

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## Community engagements

- 2013-Present Chairman Hayat Community Development Association (HACODA)

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## Award

- 2002-2005 Uganda Government Undergraduate Scholarship  
2010-2013 International Science Program (ISP), Sweden, MSc Scholarship  
2014-2017 East African Astronomical Research Network, (EAARN) PhD Scholarship

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## Academic Visits

- June-Aug 2016 3 months Research visit to Entoto Observatory and Research Centre funded by ISP and EAARN
- June-Aug 2017 3 months Research visit to Ethiopian Space Science and Technology Institute (ESSTI) by ISP and EAARN
- March 2019 1 month Research visit to Entoto Observatory and Research Centre funded by ISP and EAARN

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## Poster Presentations

- Isaac Habumugisha, (2013), Poster presentation at the First ICTP-NCP international College on Plasma Physics. Pakistan. Entitled '*Compressive and Rarefactive solitary waves in complex*

plasma with a streaming ion beam'.

## Oral Presentations

- Isaac Habumugisha, (2017), Oral presentation at the 4<sup>th</sup> Middle East and African IAU Regional Meeting (MEARIM), Addis Ababa Ethiopia Entitled '*Solitary structures beyond double layers in a 4-component dusty plasma*'.

## List of Publications

### Journal Articles

- [1. ] Habumugisha I, Tessema, S. B., Jurua, E., and Anguma, S.K., (2020) JoAA (Still under review)
- [2. ] N. Noreen. A. Shiekh, I. Habumugisha, S. Zaheer, H. A. Shah, (2020) Plasma Research Express 2, 2: Linear analysis of bump on tail instability with non-Maxwellian distribution function
- [3. ] Habumugisha I, Jurua, E., Tessema, S and Anguma, S.K., (2018) ApJ 859 147: The Structure of a Quasi-Keplerian Accretion Disk around Magnetized Stars
- [4. ] Habumugisha, I., Anguma, S.K. and Jurua, E. (2017) Dust ion acoustic double layers in a 4-component dusty plasma *Indian Journal of Physics*, **92**, 1049.
- [5. ] Anguma, S.K., Habumugisha, I., Nazziwa L. Jurua, E. and Noreen, N. (2017) Non-linear ion-acoustic solitary waves in electron-positron-ion plasmas with non-thermal electrons. *Journal of Modern Physics*, **8**, 892-902.
- [6. ] Namugaya J. and Habumugisha, I., (2017) Current Causes of Girls' Low Performance in Physical Sciences from Hard-to-reach Secondary Schools in Eastern Uganda *International Journal of Secondary Education*, **5(1)**, 12-15.
- [7. ] Habumugisha, I., Anguma, S.K., Jurua, E. and Noreen, N. (2016) Onset of Linear Instability in a Complex Plasma with Cairns Distributed Electrons. *International Journal of Astronomy and Astrophysics*, **6**, 1-7.

### Books

- (i) Isaac Habumugisha, Akoba Rashidah and Chukondo Geoffrey. (2014). *A Holistic Approach to Ordinary level Physics Practicals*. ISBN: 978-3-659-10380-3
- (ii) Isaac Habumugisha and Charles Tushabomwe Kazooba. (2013). *Modelling Economic Viability of renewable sources of energy. A case study of Mbarara District- Western Uganda*. ISBN: 978-3-659-31722-4
- (iii) Isaac Habumugisha, Simon K. Anguma and Edward Jurua. (2013). *A Study of dust ion acoustic solitary waves with a streaming ion beam*. ISBN: 978-3-659-40214-2

## Selected undergraduate student research supervision

- Ecou H. (2019) Design of a plasma ball. (Kabale University)
- Magezi P. (2018) Propagation nonlinear waves in magnetised epi plasma. (Kabale University)
- Kabenge H. (2015) Construction of a Voltage Doubler.
- Nandutu F. (2014) Causes of poor performance in Physics. A case study of Mbale schools.

## Meetings/Colleges/Schools/ Conferences /Workshops

### Meetings

- 4<sup>th</sup>MEARIM 4<sup>th</sup> Middle East and African IAU Regional Meeting (MEARIM), Addis Ababa Ethiopia  
From 22<sup>nd</sup>-26<sup>th</sup> May 2017

## Colleges

First ICTP-NCP 1<sup>st</sup> ICTP-NCP International College on Plasma Physics, Islamabad Pakistan From 11<sup>th</sup>-15<sup>th</sup> November 2013

## Summer Schools

53<sup>rd</sup> CCFE School 53<sup>rd</sup> Culham Summer School on Plasma Physics, Abingdon, London, from 18<sup>th</sup>-29<sup>th</sup> July 2016

## Conferences

MUST 2019 MUST PhD symposium

MUST 8<sup>th</sup> MUST Annual research dissemination conference held on 19<sup>th</sup> December 2012 at Lake View Hotel, Mbarara

MUK Annual Mathematics Teachers Conference, Organised by UMS and MUK on 27<sup>th</sup> July 2007

## Workshops

Astronomy The Panchromatic Universe workshop, at Ethiopian Space Science and Technology Institute Organised by Canary Islands Observatory, from 10<sup>th</sup>-21<sup>st</sup> July 2017

Aviation Aviation and Space Science workshop, at Makerere University Organised by Joint Aviation Limited, on 17<sup>th</sup> December 2015

Photovoltaic 2<sup>nd</sup> Training Workshop on on Photovoltaic solar energy Technology, Organised by CREEC and MUK on 13<sup>th</sup> September 2013

Montorship Training on Mentorship and student Supervision by MUST, JCRC and CORE from 8<sup>th</sup> to 12<sup>th</sup> October 2012

Meetings Management of Meetings, Organised by UIIU from 13<sup>th</sup> to 14<sup>th</sup> March 2009

Cyber Schools Computer teacher level 1 training, Organised by ministry of Education, Science, Sports and Technology, 23<sup>rd</sup> to 26<sup>th</sup> April 2007  
Technology

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## Computer skills

Basic PYTHON, STATA, SPSS

Advanced L<sup>A</sup>T<sub>E</sub>X, LibreOffice, OpenOffice, MsOffice

Symbolic and Numerical MATHEMATICA, SAGEMath, ALADIN, TOPCAT, FAST, VOSA

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## Other Skills

Policy Policy Analysis and Evaluation

Montorship Research Mentorship and Evaluation

Project Project Planning Skills, Monitoring and Evaluation

Photovoltaic Installation Photovoltaic Installation, Care and Maitainance

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✉ [hisaac08@yahoo.co.uk](mailto:hisaac08@yahoo.co.uk)

## Languages

Arabic **Intermediate**  
Lunyankole **Mothertongue**  
English **Full professional proficiency (read/spoken/written)**

## Interests

- Reading
- Writing articles
- Running
- Playing Tennis and Badminton

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## Referees

1. **Assoc. Prof. Edward Jurua [PhD]**  
Department of Physics  
Faculty of Science  
Mbarara University of Science and Technology  
Mbarara-Uganda  
Email: ejurua@gmail.com  
Tell: +256 701 638 268
  
2. **Assoc. Prof. Simon K. Anguma [PhD]**  
Deputy Vice Chancellor  
Muni University  
Arua-Uganda  
Email: sanguma@gmail.com  
Tell: +256 702 205 901
  
3. **Assoc. Prof. Solomon B. Tessema [PhD]**  
Director  
Entoto Observatory and Research centre  
Addis Ababa, Ethiopia  
Email: tessemabelay@gmail.com  
Tell: +251 91 201 0792