

CURRICULUM VITAE

MISSION: EDUCATOR/RESEARCHER

I. BIODATA

Name: Ireetta Tumps Winston
Date of Birth: January 08, 1979
Nationality: Ugandan
Marital Status: Married
Employment Status: Senior Lecturer/ Head of Department

II. ACADEMIC QUALIFICATIONS:

a) University Education:

University	Period	Qualification
Nelson Mandela Metropolitan University (NMMU)	Jan. 2009 – Dec. 2010	Ph.D. (Physics) (Cum Laude)
Norwegian University of Science and Technology (NTNU)	Aug. 2003 - June 2005	M.Sc. (Physics)
Makerere University (Mak.)	Sept. 1998 -June 2001	B.Sc. (2 nd Class Upper, C.G.P.A 4.37 out of 5.0)

b) Pre-University Education:

School/College Attended	Period	Qualification
St. Mary's College Kisubi (SMACK)	1996-1998	Uganda Advanced Certificate of Education (U.A.C.E)
Ntare School	1992-1995	Uganda Certificate of Education (U.C.E)
Nakasero Primary School	1985-1991	Primary Leaving Certificate (P.L.E)

c) Courses undertaken:

Postgraduate School: **Ph.D. Thesis Title:** Aerial Optical Fibres in Telecommunication Systems: SOP and PMD Monitoring, and Tolerance of Modulation Formats.

Postgraduate School: **M.Sc. Thesis Title:** Deformation Measurements using Modern Electro- Optics and Software.

Undergraduate: Physics, Mathematics and Psychology

Pre-University College: Physics, Mathematics and Chemistry

III. WORKING EXPERIENCE:

Period	Position
2013 – Present	Head of Department, Department of Physics, Makerere University
2012 – Present	Senior Lecturer, Department of Physics, Makerere University
2011 – 2012	Ag. Head, Department of Physics, Makerere University
2011 – 2012	Lecturer, Department of Physics, Makerere University
2005 - 2011	Assistant Lecturer, Department of Physics, Makerere University
2009 - 2010	Research Assistant at the Department of Physics, Nelson Mandela Metropolitan University (NMMU)
2005 - 2009	Programme Coordinator, B.Sc. (External), Department of Distance Education, Makerere University
2004 - 2005	Teaching Assistant, Department of Physics, Makerere University
2004 - 2005	Teaching Assistant, Norwegian University of Science and Technology (NTNU)
2001-2003	Programme Coordinator, B.Sc. (External) and Teaching Assistant, Department of Distance Education, Makerere University

IV. TEACHING:

I have been teaching undergraduate courses namely: Properties of Matter, Electromagnetism, Electronics and instrumentation, Nuclear Physics, Quantum Mechanics, Statistical Mechanics, Fibre Optics and Microwaves, Electricity and

Magnetism and Waves and optics and also conducted Electronics practicals to the third year students.

The postgraduate courses taught include: Signal Processing and Microprocessors, Fibre optical Communication, Research Methods, Mathematical Physics, Photovoltaics, Renewable Energy Physics.

V. STUDENTS' SUPERVISION

1. I have supervised a number of undergraduate projects.
2. The following are the postgraduate students under my supervision:

S/N	Name	Reg. No.	Title	Level	Status
1.	Owan Geoffrey	2010/HD16/2116U	Attenuation Reduction in Optical Fibres	MSc.	Graduated January 2014
2.	Mundu M. Mustafa	MSCP/3998/111/DU	Signal Attenuation in Optical Fibre Communication Systems	MSc.	Graduated December 2013
3.	Ssebulime Isaac	2011/HD13/4665U	Design of a Distance Measuring Device	MSc.	Ongoing
4.	Achire Tito	2012/HD13/4335U	Multirate Digital Signal Processing for Image Reconstruction using Error Optimization Techniques	MSc.	Ongoing
5.	Muhammad Danladi	MSCP/38610/123/DF	Generation of Electricity from Biomass in Hadejia, Jigawa State, Nigeria.	MSc.	Ongoing
6.	Wodidi B. Moses	MSCP/...../111/DU	Designing a Ramp Analog to Digital Converter Interfacing with the Optical Media	MSc.	Ongoing
7.	Ayugi Gertrude		Assessment of Radiofrequency Electromagnetic Field Intensities from Mobile Phones and Base Stations in Uganda	PhD	Ongoing

VI. DISSERTATION/THESIS EXAMINATION

S/N	Name	Reg. No.	Title	Level	Date
1.	Baira John	2009/HD13/15588U (Makerere University)	Device Performance Parameter Extraction from I-V Characteristics of Selected Photovoltaic Modules in Uganda.	MSc	January 2013
2.	Kiragga Festo	(Makerere University)	Effectiveness of the Shielding Mechanism in rooms housing X-ray diagnostic Equipments. A case Study of Mulago Hospital	MSc	February 2013

VII. PUBLICATIONS AND CONFERENCE PROCEEDINGS

- 1) **Winston T. Ireeta**, Vitalis Musara, Lorinda Wu, and Andrew W. R. Leitch, "Essence of Re-Calibrating Optical Instruments: Analysis of the Digital Delay Line," *Advances in Applied Physics*, vol. 1, no. 3, pp. 117-125, 2013.
- 2) Vitalis Musara, **Winston T. Ireeta**^{*}, L. Wu and A.W.R. Leitch, "Polarization Dependent Loss Complications on Polarization Mode Dispersion Emulation," *Optik: International Journal of Light and Electron Optics*, vol. 124, issue 8, pp. 3774-3776, 2013. ^{*}Corresponding Author.
- 3) **Winston T. Ireeta**, Vitalis Musara, Lorinda Wu, and Andrew W. R. Leitch, "Insight into PMD Regimes: An Analysis on Buried Optical Fibres," *International Journal of Optics*, vol. 2013, Article ID 367967, 8 pages, 2013. doi:10.1155/2013/367967.
- 4) **Winston T. Ireeta**, V. Musara, L. Wu and A.W.R. Leitch, "SOP and PMD monitoring on deployed aerial optical fibres," *Optik: International Journal of Light and Electron Optics*, vol. 123, issue 22, pp. 2018-2103, 2012.
- 5) Vitalis Musara, **Winston T. Ireeta**, Samuel K. Fosuhene, Lorinda Wu, and A.W.R. Leitch, "Tuneable polarization mode dispersion emulator: Fixed polarization maintaining fibre sections and rotatable polarization orientations," *Optik: International Journal of Light and Electron Optics*, vol. 123, issue 3, pp. 228-234, 2012.
- 6) Vitalis Musara, **Winston T. Ireeta**^{*}, L. Wu, and A.W.R. Leitch, "The General Interferometry Technique: Interferogram Analysis in The Presence of a High Polarization Mode Dispersion Segment," *IEEE AFRICON 2011*. ISBN: 978-1-61284-993-5 and ISSN: 2153-0025. Dr. W. T. Ireeta is the corresponding author.
- 7) Vitalis Musara, **Winston T. Ireeta**, Lorinda Wu, and A.W.R. Leitch, "The impact of a High Polarization Mode Dispersion Section on the Output State of Polarization of Propagating Light," *IEEE AFRICON 2011*. ISBN: 978-1-61284-993-5 and ISSN: 2153-0025.
- 8) Vitalis Musara, Samuel K. Fosuhene, **Winston T. Ireeta**, Lorinda Wu, and Andrew Leitch, "Emulator with inverse trend in first-order and second-order polarization mode dispersion," *Optics Communications*, vol. 284, issue 12, pp. 2690-2694, June 2011.
- 9) **Winston T. Ireeta**, Vitalis Musara, Lorinda Wu and Andrew W. R. Leitch, "Statistical characterization of the output state of polarization in deployed single mode fibres", *Optics Letters*, vol. 35, issue 12, pp. 2049-2051, June 2010.
- 10) **Winston T. Ireeta**, Vitalis Musara, Samuel K. Fosuhene, and A.W.R. Leitch, "Determining the Rate of PMD Compensation in Deployed Aerial Optical Fibres Through SOP Monitoring," *Southern Africa Telecommunication Networks and Applications (SATNAC) 2010*, pp. 261-265, ISBN: 978-0-620-47934-9.

- 11) Vitalis Musara, **Winston T. Ireeta**, Samuel K. Fosuhene, Lorinda Wu, and A.W.R. Leitch, "The Influence of High first-order Polarization Mode Dispersion Sections on Optical Network System Performance," Southern Africa Telecommunication Networks and Applications (SATNAC) 2010, pp. 273-276, ISBN: 978-0-620-47934-9.
- 12) V. Musara, **W.T. Ireeta**, L. Wu and A.W.R. Leitch, "Detecting the dominance of PMD from a fibre segment on an optical network system through state of polarization monitoring", Southern Africa Telecommunication Networks and Applications (SATNAC) 2009, pp. 461-462. ISBN: 978-0-620-44106-3.
- 13) V. Musara, **Winston T. Ireeta***, Lorinda Wu, and Andrew W. R. Leitch, "Essence of Re-calibrating Optical Instruments: Analysis of the Digital Delay Line," Oral presentation at the 57th South African Institute of Physics (SAIP) Conference, Pretoria, South Africa (9th to 13th July 2012). Dr. W. T. Ireeta is the corresponding author.
- 14) **Winston T. Ireeta**, Vitalis Musara, and A.W.R. Leitch, "A Comparison of the tolerance of DQPSK, NRZ and RZ Modulation Formats in a PMD-induced Environment," Oral presentation at the 55th South African Institute of Physics (SAIP) Conference, CSIR, Pretoria, South Africa (27th September to 1st October 2010). Published in the Conference Proceedings, ISBN: 978-0-620-46211-2.
- 15) Samuel K. Fosuhene, Vitalis Musara, **Winston T. Ireeta**, and Andrew W. R. Leitch, "Forward and Single-ended Polarization Mode Dispersion (PMD) Measurements on a Tunable PMD Emulator," Poster presentation at the 55th South African Institute of Physics (SAIP) Conference, CSIR, Pretoria, South Africa (27th September to 1st October 2010). Published in the Conference Proceedings, ISBN: 978-0-620-46211-2.

VIII. SCHOOLS, WORKSHOPS AND TRAININGS:

- a) Winter College on Optics: Fundamentals of Photonics – Theory, Devices and Applications, held from 10th to 21st February 2014, ICTP, Trieste, Italy
- b) Preparatory School to the Winter College on Optics: Fundamentals of Photonics – Theory, Devices and Applications, held from 3rd to 7th February 2014, ICTP, Trieste, Italy
- c) Active Learning in Optics and Photonics (ALOP) School, held from 17th to 23rd November 2013 at University of Addis Ababa, Addis Ababa, Ethiopia
- d) Workshop on Nanophotonics held from 3rd to 7th December 2012 at ICTP, Trieste, Italy.
- e) 5th African Laser Centre Workshop 2012, held from 14th to 18th November 2012 at University of Namibia, Windhoek, Namibia.

- f) Facilitator/co-organizer of the Fibre Optic Workshop held from 17th to 22nd September 2012 at Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.
- g) Active Learning in Optics and Photonics (ALOP) School, held from 13th to 18th November 2011 at Kigali Institute of Science and Technology (KIST), Kigali, Rwanda.
- h) 4th African Laser Centre Workshop 2011, held from 9th to 13th November 2011 at Zevenwacht Wine Estate, Stellenbosch, South Africa.
- i) First National Conference on Communications held from 5th to 6th September 2011 at Imperial Royale Hotel, Kampala, Uganda.
- j) A workshop on “Entrepreneurship and Business Skills for Science Researchers in Uganda” held from 5th to 10th June 2011 at Silver Springs Hotel, Kampala, Uganda.
- k) A workshop on “Entrepreneurship for Physicists and Engineers from Africa” held from 9th to 13th November 2009 at iThemba LABS in Cape Town, South Africa.
- l) A workshop on “Writing for Publication in the Sciences” organized by the Research Capacity Development Division of Nelson Mandela Metropolitan University, South Africa held on 8th October 2009 in Port Elizabeth, South Africa.
- m) A workshop on “Writing a Funding Proposal for Sciences” organized by the Research Capacity Development Division of Nelson Mandela Metropolitan University, South Africa held on 28th May 2009 in Port Elizabeth, South Africa.
- n) A workshop on “Writing a Research Proposal” organized by the Research Capacity Development Division of Nelson Mandela Metropolitan University, South Africa held from 13th to 15th May 2009 in Port Elizabeth, South Africa.
- o) A workshop on “Time and Stress Management for Researchers” organized by the Research Capacity Development Division of Nelson Mandela Metropolitan University, South Africa held on 6th April 2009 in Port Elizabeth, South Africa.
- p) Fiber Optic Communications Technology Training Course held from 23rd to 28th March 2009 at the Nelson Mandela Metropolitan University, South Africa in collaboration with the Engineering School of Communications of Tunis (Sup’Com), Tunisia.
- q) Participated in an Interdisciplinary course at the Norwegian University of Science and Technology (NTNU) called “Experts in Team” from January to June 2004

IX. COMMITTEES:

I serve on the following committees at Makerere University as well as to the community outside Makerere University.

- a) Welfare Officer, Makerere University Academic Staff Association, MUASA (February 2013- Present)
- b) Member on the Makerere University Fundraising Sub-Committee for celebrations of 90 years of Makerere University (August 2012 – August 2013)
- c) College of Natural Science Representative on the Ceremonies Senate Committee, Makerere University (April 2011 – Present)
- d) Member, College of Natural Sciences Administrative Board (February 2011- Present)
- e) Member, Finance Committee, College of Natural Sciences (February 2011- Present)
- f) Member, Establishment and Appointments Committee, College of Natural Sciences (February 2011- Present)
- g) Vice Chairman, College of Natural Science Norwegian Programme for Capacity Building in Higher Education and Research-NORHED Committee (February 2012 – Present)
- h) Member, Sexual Harassment Committee, Faculty of Science (January 2006 – present)
- i) Member, Examinations Committee, Department of Physics (January 2006 – present)
- j) Member, St. Kakumba Chapel Fathers Union, Kyambogo University (May 2007 – present)
- k) Member, Rotary Club of Kampala Ssesse Islands (June 2008 – present)

X. ACADEMIC MEMBERSHIP

- a) Member, Optical Society of America (OSA)
- b) Member, Institute of Electrical and Electronic Engineers (IEEE), Photonics Society.

XI. SERVICES

- a) Reviewer for the National Research Foundation, South Africa.

- b) Reviewer for Optics Letters, an Optical Society of America Journal.
- c) Reviewer for the South African Institute of Physics (SAIP).
- d) Reviewer for the British Journal of Mathematics and Computer Science.

XII. PROJECTS

- a) Co-Investigator, Modelling and experimental investigation of advanced PMD, nonlinear effects and modulation format on the performance of next generation optical fibre networks of R170,000 from 2014 to 2015 from African Laser Center. This is a collaboration of the following institutions, Nelson Mandela Metropolitan University, South Africa, Engineering School of Communications of Tunis (Sup'Com), Tunisia, University of Eldoret, Kenya and Makerere University, Uganda.
- b) Co-Investigator, Modelling and experimental investigation of advanced PMD, nonlinear effects and modulation format on the performance of next generation optical fibre networks of R225,600 from 2012 to 2013 from African Laser Center. This was a collaboration of the following institutions, Nelson Mandela Metropolitan University, South Africa, Engineering School of Communications of Tunis (Sup'Com), Tunisia, Chepkoilel University College, Kenya and Makerere University, Uganda.
- c) Member, African Laser Center support to the organization of a School of Fibre Optical Communication training of R300,000.00 in 2012. This was a collaboration of the following institutions, Nelson Mandela Metropolitan University, South Africa, Engineering School of Communications of Tunis (Sup'Com), Tunisia, Chepkoilel University College, Kenya and Makerere University, Uganda.
- d) Team member, Upgrading the Bachelor of Science in Physics Programme for the Department of Physics, Makerere University project of \$1.2M. It is supported by the Millennium Science Initiative (MSI) through Uganda National Council of Science and Technology (UNCST); 2008 – 2010.
- e) Team Member, Distance Education Policy Formulation at Makerere University support by Carnegie Corporation (\$0.1M); 2005 – 2007.
- f) Team Member, Development of the Bachelor of Science External Programme at Makerere University with support from the Carnegie Corporation (\$0.304M); 2001 – 2005.

For more references please contact:

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