

PERSONAL INFORMATION

GUMA ISDORE PATERSON



+256-774 566175 +256-706 956388

i.p.guma@gu.ac.ug ORCID iD: <https://orcid.org/0000-0002-8282-2993>

Scopus Author ID: 57199846580

Sex MALE | Marital Status Married | Date of birth 11/04/1977 | Nationality UGANDAN

WORK EXPERIENCE

Oct 2017 To Date

Assistant Lecturer

Gulu University P.O Box 166, Gulu

Lecturing, Supervision of graduate and undergraduate research projects and Community out reach

2014 - 2017

Graduate Trainee

Gulu University P.O Box 166, Gulu

Lecturing and Supervision of undergraduate research projects

2009 -2014

Teaching Assistant

- Lecturing and Supervision of research projects at undergraduate level

2005 - 2008

Laboratory Technician (Physics)

Organising practical for students

Keeping inventory of equipment

Preparation budgets for Physics Laboratory equipment

EDUCATION AND TRAINING

August 2019 To Date

PhD Candidate Makerere University

Master of Science in Information Systems (2012 -2018)

Graduated in January 2017- Makerere University

Bachelor of Science (Computer Science) – (2005-2008)

Gulu University and Graduated in January 2009

Diploma in Science Technology (Physics)- (2001 - 2003)

Kyambogo University and Graduated in March 2004

PhD Programme & Research Area

PhD in Information Systems (Majoring in System Dynamics).

Proposed Research Title: A Spatial System Dynamics Model to support decision-making in land-use change management: The Case of Mt. Elgon Region.

Humans have engaged in land modification to benefit from it to meet basic needs. They have been forced to combat this degrading trend due to the limitation of available resources. These activities range from expansion of agricultural land, poor farming methods, cutting down trees for timber and charcoal, encroachment on wetlands among others, causing massive destruction of forests and woodlands, wetland degradation, floods, mudslides etc. Degradation of land and loss of biodiversity has underprivileged human communities of important ecosystem services. As a result, there has been ongoing climate change which has increased the frequency and severity of droughts, flooding, and heat, facilitating increased damage and casualties from weather-related disasters, decreased agricultural production, degraded or destroyed ecosystems, and other effects. The mounting observational evidence and the reality of human-induced climate change today are no longer disputed. Such assessments of the land use in an area requires employing scientific methods. Hence, it is against this backdrop that this study intends to integrate a system dynamics model and a Geographic Information System to model temporal and spatial dimensions of land-use changes and formulate suitable policies in the future to balance economic development and natural resource conservation.

PERSONAL SKILLS

Mother tongue(s) Lugbara

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/2	C1/2	B1/2	C1/2	C1/2
	English				
Kiswahili	A1/2	A1/2	A1/2	A1/2	A1/2
	Kiswahili				
Luo	A1/2	A1/2	A1/2	A1/2	A1/2
	Luo				

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Group Model Building ▪ No formal experience but I have the skills of collaborative problem solving

Communication skills ▪ Good communication skills in delivery of lectures

Consultancy Services Associate Consultant with Uganda Management Institute from 2018 to date

Organisational / managerial skills Acting Head of Department-Computer Science (March 1, 2019 – February 29, 2020)

Laboratory management, keeping of financial records for West Nile Gulu Eagles' Saving Scheme as Treasurer from 2014 to March 2021

Job-related skills ▪ Coordinator Industrial placement for department of Computer Science – Gulu University (2015 To 2020).
▪ Coordinator Graduate Training Research Presentations.

Computer skills Simulation and modelling with Stella, Stella Architect, excellent computer skills in MS applications, Programming skills in languages such as Java, Python, Scripting languages and C++.

Other skills Football and Listening to Gospel Songs

Driving licence ▪ Possess Driving Permit Class A and B Since 2008

ADDITIONAL INFORMATION

- Masters Dissertation Title** A System Dynamic Model for Food Security Policy Analysis
- Research Publications**
- Guma, I. P., Rwashana, A. S., & Oyo, B. (2021). A system dynamics model of land-use change for climate change adaptation: The case of Uganda. *Proceedings of the 11th International Conference on Simulation and Modeling Methodologies, Technologies and Applications, SIMULTECH 2021*, Simultech, 191–198. <https://doi.org/10.5220/0010342101910198>.
- Guma, I. P., Rwashana, A. S., & Oyo, B. (2018). Food Security Indicators for Subsistence Farmers Sustainability: A System Dynamics Approach. *International Journal of System Dynamics Applications*, 7(1), 45–64. <https://doi.org/10.4018/IJSDA.2018010103>.
- Guma, I. P., Rwashana, A. S., & Oyo, B. (2018). Food Security Policy Analysis Using System Dynamics: The Case of Uganda. *International Journal of Information Technologies and Systems Approach*, 11(1), 72–90. <https://doi.org/10.4018/IJTSA.2018010104>.
- Oyo, B., Kalema, B. M., & Guma, I. P. (2018). Re-conceptualizing smallholders' food security resilience in sub Saharan Africa: A System Dynamics Perspective. *International journal of system dynamics applications*. <https://doi:10.4018/978-1-5225-4077-9.ch018>.
- Guma, I. P., Rwashana, A. S., & Oyo, B. (2016). Household food security policy analysis: A System dynamics perspective. *International Journal of Scientific & Technology Research*, 5(7).
- References**
- Assoc. Prof. Agnes Rwashana Semwanga
Makerere University Box 7062 Kampala-Uganda
e-mail: asemwanga@cit.ac.ug
Mobile: +256-772 412438
- Dr. Benedict Oyo
Gulu University, Box 166, Gulu – Uganda
e-mail: b.oyo@gu.ac.ug
Mobile: +256 - 752 634334