

Curriculum Vitae
Maurice Mugabowindekwe, PhD Fellow.

1. Contact Information

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- Office Location (Denmark): University of Copenhagen, Department of Geosciences and Natural Resources Management, Øster Voldgade 10, 1350 Copenhagen, Denmark. Office no: 06.2.619
- Office Location (Rwanda): University of Rwanda, College of Science and Technology, Centre for Geographic Information Systems and Remote Sensing, KN 73 St, P.O. Box 3900 Kigali, Rwanda

2. Identification

- Nationality: Rwandan
- Status: Married
- Date of Birth: 22nd October 1989
- Place of Birth: Ruhango District, Southern Province, Rwanda
- Languages: Kinyarwanda (Native), English (Fluent), French (Fluent), Danish (Basics)
- ORCID: <https://orcid.org/0000-0003-0803-7417>
- Research Gate: https://www.researchgate.net/profile/Maurice_Mugabowindekwe
- Google Scholar: <https://scholar.google.com/citations?user=LnPKK7kAAAAJ&hl=en>

3. Profile

Maurice Mugabowindekwe (MSc) is in the final year of his PhD Fellowship at the Department of Geoscience and Natural Resources Management at the University of Copenhagen. His PhD research project focuses on applications of deep learning and remote sensing technologies to map and characterize individual trees at large-scale in East Africa. His most recent first-authored scientific article entitled “Nation-wide mapping of tree-level aboveground carbon stocks in Rwanda” was published in Nature Climate Change journal (<https://www.nature.com/articles/s41558-022-01544-w>). He holds an MSc degree in Geo-Information Science and Earth Observation for Natural Resources Management from the University of Twente in the Netherlands (2014 – 2016), and a first class BSc degree in Geography (Major – Environmental Management) from the University of Rwanda (formerly, National University of Rwanda (2010 – 2013). His research interests are spatial ecology, earth observation, machine learning, climate change, environmental sustainability, natural resources management, and environmental modelling. In addition to 14 publications in peer-reviewed journals, Maurice has contributed to a number of technical studies that aimed at informing national and regional policies towards environmental sustainability, especially in Rwanda and East Africa.

4. Academic Qualification

4.1 PhD Degree - Ongoing (expected date of completion: November 2023)

4.2 Highest Qualification: Master of Science

Year of Award: 2016
Research Field: Geo-Information Science and Earth Observation
Major: Natural Resource Management
Institution: University of Twente
Country of Award: The Netherlands

4.3 Advanced Qualification: Bachelor of Science

Year of Award: 2013
Research Field: Geography
Major: Environmental Management
Institution: University of Rwanda (formerly, National University of Rwanda)
Country of Award: Rwanda

5. Professional Career

- **16th November 2020 to Date:** PhD Fellow at the Department of Geosciences and Natural Resource Management, Faculty of Science, University of Copenhagen (<https://ign.ku.dk/english/employees/geography/?pure=en/persons/706365>)
- **19th February 2018 to Date:** Assistant Researcher in Applications of Remote Sensing and GIS for Natural Resources Management at the Centre for Geographic Information Systems and Remote Sensing (www.cgis.ur.ac.rw), College of Science and Technology (www.cst.ur.ac.rw), University of Rwanda (www.ur.ac.rw), Kigali, Rwanda
- **1st May 2017 to Date:** Visiting Lecturer at the Faculty of Environmental Studies, University of Lay Adventists of Kigali (UNILAK), Kigali, Rwanda.
- **1st April 2020 to Date:** Research Affiliate at the African Centre of Excellence in Biodiversity and Natural Resource Management (<https://coebiodiversity.wordpress.com/>), Kigali, Rwanda
- **1st May 2012 – 31st January 2018:** Research Collaborator at the Centre for GIS and Remote Sensing, University of Rwanda (formerly, National University of Rwanda)

6. Publications

6.1 Papers in Peer-reviewed Journals

- **Mugabowindekwe, M.**, Brandt, M., Chave, C., Reiner, F., Skole, D. L., Kariryaa, A., Igel, C., Hiernaux, P., Ciais, P., Mertz, O., Tong, X., Li, S., Rwanyiziri, G., Dushimiyimana, T., Ndoli, A., Uwizeyimana, V., Lillesø, J-P. B., Gieseke, F., Tucker, C. J., Saatchi, S. & Fensholt, R (2022). Nation-wide mapping of tree-level aboveground carbon stocks in Rwanda. Nation-wide mapping of tree-level aboveground carbon stocks in Rwanda. Nature Climate Change. DOI: <https://doi.org/10.1038/s41558-022-01544-w>
- Harindintwali, J.D., Wang, F., Yang, W., Zhou, J., Muhoza, B., **Mugabowindekwe, M.** & Yu, X. (2022). Harnessing the power of cellulolytic nitrogen-fixing bacteria for biovalorization of lignocellulosic biomass. Industrial Crops and Products 186, 115235. <https://doi.org/10.1016/j.indcrop.2022.115235>
- Pritchard, R., Alexandridis, T., Amponsah, M., Khatra, N. B., Brockington, D., Chiconela, T., Castillo, J. O., Garba, I., Gómez-Giménez, M., Haile, M., Kagoyire, C.,

- Kganyago, M., Kleine, D., Korme, T., Manni, A. A., Mashiyi, N., Massninga, J., Mensah, F., Mugabowindekwe, M., Meta, V., Noort, M., Ramirez, P. P., Beltrán, J. S. & Zoungrana, E. (2022). Developing capacity for impactful use of Earth Observation data: Lessons from the AfriCultuReS project. *Environmental Development* 42, 100695. DOI: <https://doi.org/10.1016/j.envdev.2021.100695>
- Skole, D.L., Mbow, C., Mugabowindekwe, M., Brandt, M. S. & Samek, J. H. (2021). Trees outside of forests as natural climate solutions. *Nature Climate Change* 11, 1013–1016. <https://doi.org/10.1038/s41558-021-01230-3>
 - Kulimushi, L.C., Choudhari, P., Maniragaba, A., Elbeltagi, A., **Mugabowindekwe, M.**, Rwanyiziri, G., Byizigiro, R. V., Pingale, S. M. & Singh, S. K. (2021). Erosion risk assessment through prioritization of sub-watersheds in Nyabarongo river catchment, Rwanda. *Environmental Challenges* 5, 100260. <https://doi.org/10.1016/j.envc.2021.100260>
 - Itegere, B., Twarabamenye, E., **Mugabowindekwe, M.**, Rwanyiziri, G. & Tuyishimire, J. Assessment of Grain Legumes Adaptation to Climate Change in Bugesera District, Rwanda. *Rwanda Journal of Engineering, Science, Technology and Environment*, Special Issue 4, 1. DOI: <https://dx.doi.org/10.4314/rjeste.v4i1.6S>
 - Kayijamahe C-B., Rwanyiziri G., **Mugabowindekwe M.** & Tuyishimire J. (2020). Integrating Remote Sensing and GIS to Model Forest Fire Risk in Virunga Massif, Central -Eastern Africa. *Rwanda Journal of Engineering, Science, Technology and Environment*, 3, Special Issue: 145-166. DOI: <https://doi.org/10.4314/rjeste.v3i1.10S>
 - Tuyishimire J., Nsengiyumva P., Rwanyiziri G. & **Mugabowindekwe M.** (2020). Spatial Modelling of Common Chimpanzees' (*Pan troglodytes schweinfurthii*) Ecological Niche in the Western Part of Rwanda. *Rwanda Journal of Engineering, Science, Technology and Environment*, 3, Special Issue: 107-118. DOI: <https://doi.org/10.4314/rjeste.v3i1.7S>
 - Rwanyiziri, G., Kayitesi, C., Mugabowindekwe, M., Byizigiro, R. V., Muyombano, E., Kagabika, M. B., Bimenyimana, T. (2020). Spatio-temporal Analysis of Urban Growth and Its Effects on Wetlands in Rwanda: The Case of Rwampara Wetland in the City of Kigali. *J. Appl. Sci. Environ. Manage.* 24 (9), 1495-1501. Accessible online: <https://www.ajol.info/index.php/jasem/article/view/200601>
 - Rwanyiziri, G., Uwiragiye, A., Tuyishimire, J., **Mugabowindekwe, M.**, Mutabazi, A., Hategekimana, S., Mugisha, J. (2019). Assessing the Impact of Climate Change and Variability on Wetland Maize Production and the Implication on Food Security in the Highlands and Central Plateaus of Rwanda. *Ghana Journal of Geography*, 11(2), 77-102. Accessible on: <https://www.ajol.info/index.php/gjg/article/view/191987>
 - **Mugabowindekwe, M.** and G. Rwanyiziri (2020). Comparative Assessment of Homogeneity Differences in Multi-Temporal NDVI Strata and the Currently Used Agricultural Area Frames in Rwanda. *South African Journal of Geomatics*, 9(1): 89-107. DOI: <http://dx.doi.org/10.4314/sajg.v9i1.7>
 - Byizigiro R-V., Rwanyiziri G., **Mugabowindekwe M.**, Kagoyire C. & Byabarema M. (2020). Estimation of Soil Erosion Using RUSLE Model and GIS: The Case of Satisnkyi Catchment, Western Rwanda. *Rwanda Journal of Engineering, Science, Technology and Environment*, 3, Special Issue: 14-33. DOI: <https://doi.org/10.4314/rjeste.v3i1.2S>
 - Rwanyiziri G., **Mugabowindekwe M.** & Havugimana E. (2020). "Evolution des politiques d'aménagement et de gestion des aires protégées du Rwanda (1925 – 2019)."; "Evolution of planning and management of protected areas policies of Rwanda (1925 –

2019).", Tome 2, pp. 109-124. Accessible online:

<http://www.geocotrop.be/index.php?page=numero-44>

- Rwanyiziri G., Uwayezu E., **Mugabowindekwe M.**, Hategekimana S., Muyombano E., Hitimana J. P. (2020). Using Social Network Analysis (SNA) to Assess the Availability of Spatial Data and Data Sharing Mechanisms in Rwanda. *African Journal of Land Governance and Geospatial Sciences*, 3(2): 32-52. Accessible online: <https://revues.imist.ma/index.php?journal=AJLP-GS&page=article&op=view&path%5B%5D=19854>
- **Mugabowindekwe, M.**, Muyizere, A., Li F., Qiao Y. and Rwanyiziri, G. (2018). Application of Multi-Temporal MODIS NDVI Data to Assess Practiced Maize Calendars in Rwanda. *Journal of Resources and Ecology*, 9(3): 273-280. DOI: <https://doi.org/10.5814/j.issn.1674-764x.2018.03.007>.
- Rwanyiziri, G. and **Mugabowindekwe M.** (2016). Assessing Local Farmers' Awareness and Perceptions towards Wetland Protection and Conservation Strategies: The Case of Bugesera District, Rwanda. *Donnish Journal of Geography and Regional Planning*, 2(3): 22-28. Accessible on <http://donnishjournals.org/djgrp/pdf/2016/october/Rwanyiziri-et-al.pdf>

6.2 Unpublished Conference Papers

- Uwayezu, E., de Vries, W. T. and **Mugabowindekwe, M.** 2019. Urban sprawl and conversion of agriculture land in Kigali city and its outskirts: implications on land rights of farming landowners. In *LANDac Annual International Conference 2019 of which the main theme was "Land Governance in Transition: How to support transformations that work for people and nature?"*, organized by the LANDac: Netherlands Academy on Land Governance in collaboration with LARC: Land & Accountability Research Centre, and held at Kargadoor, Oudegracht 36, Utrecht in The Netherlands on 3rd July 2019.

6.3 Unpublished Technical Reports

- Rwanyiziri G., Nyandwi E., Tuyishimire J., **Mugabowindekwe M.**, Kagoyire C. & Mulinga N. (2019b). Vital Signs Data Analysis for Ecosystem Management and Climate Resilient Agricultural System towards Environmental Sustainability Requirements in Rwanda. Kigali: Wildlife Conservation Society – Rwanda Country Program.
- Rwanyiziri G., Nyandwi E., **Mugabowindekwe M.**, Tuyishimire J., and Kagoyire C. (2019c). Rwanda Atlas. Environment, Agriculture & Livelihood Options. Kigali: Wildlife Conservation Society – Rwanda Country Program.
- Rwanyiziri G., Nyandwi E., Tuyishimire J., **Mugabowindekwe M.**, Kagoyire C. & Mulinga N. (2019d). Policy Brief. Ecosystem Management and Climate Resilient Agricultural System towards Environmental Sustainability Requirements in Rwanda. Kigali: Wildlife Conservation Society – Rwanda Country Program.
- Rwanyiziri G., Nyandwi E., Tuyishimire J., **Mugabowindekwe M.**, Kagoyire C. & Mulinga N. (2019a). Review of Policies and Strategies related to Ecosystem Management and Climate Resilient Agricultural System towards Environmental Sustainability Requirements in Rwanda. Kigali: Wildlife Conservation Society – Rwanda Country Program.

7. Research Activities

7.1 Awards for Research Grants

- **November 2017 – October 2021:** Enhancing Food Security in AFRICan AgriCULTUral Systems with the Support of REmote Sensing (a four years project funded by EU Horizon2020). Role: Researcher.
- **November 2019 – October 2022:** Developing a freshwater biodiversity information system for sustainable development and climate change adaptation in Rwanda (a three years project funded by JRS Biodiversity Foundation). Role: GIS Expert

7.2 Professional Awards

- **2019:** The Best Presentation Award, by the World Academy of Science, Engineering and Technology, at the ICGISRSA 2019: International Conference on GIS and Remote Sensing in Agriculture, Copenhagen, Denmark.
- **2014:** VLIR-UOS International Training Programmes (ITP) Award to attend and orally present in a 3 weeks training on “Discovery, Exploration and Exploitation of Free data and Tools for Supporting the Mitigation of and the Adaptation of Agriculture and Forestry to Climate Change”, held at Catholic University of Leuven (KU Leuven), Belgium).
- **2014:** The Earth Observation and GIS in a System Perspective Best Poster Award, by ITC-Faculty of Geo-Information and Earth Observation, University of Twente, Enschede, Netherlands.
- **2014:** Netherland Fellowship Programme Award to pursue graduate studies in Geo-Information Science and Earth Observation for Natural Resources Management at the University of Twente in the Netherlands.
- **2012:** The First (Best Presenter) Award in the First East African University Students’ Debate on East African Community Political Integration, Arusha, Tanzania
- **2008:** Certificate of Merit Award by Lycée de Kigali High School, for Services Offered to the School as Hard Working and Disciplined Security and Information Leader in the School, Kigali, Rwanda.

7.3 Conference Organization

- **November 2018 – November 2019:** Member of the Local Organizing Committee and Main Coordinator of Exhibition for AfricaGIS 2019 International Conference entitled: **"Innovations in Geospatial Technologies for Achieving the Sustainable Development Goals in Africa"**, Kigali Convention and Exhibition Village (KCEV), 18th – 22nd November 2019. Accessible on: <https://www.eis.africa/africagis-2019/>
- **June 2015:** Member of University organisation and attendee of FoodFirst Conference entitled “*Future of Farming and Food Security in Africa*”. Rabobank – Duisenberg Auditorium, Utrecht City, Netherlands. Accessible on: http://www.foodfirst.eu/20150622/20150622_Carousel.pdf
- **November – December 2016:** Co-chair of the Organizing Committee of the workshop on “Anti-Corruption Education as a Way of Building Positive Peace in Rwanda”; A workshop sponsored by Shalom Educating for Peace Rwanda

7.4 Conference Attendance (Oral Presentations)

- **Mugabowindekwe, M., Brandt, M. & Fensholt, R. (2022).** Nation-wide mapping and characterisation of individual trees. In the 5-day living planet symposium (<https://lps22.eu/>) organised by the European Space Agency (oral presentation)
- **Mugabowindekwe, M. (2021).** Country-scale mapping of individual forest and non-forest trees and shrubs in Africa - the example of Rwanda. American Geophysical Union

- (AGU) conference 2021 (<https://www.agu.org/Fall-Meeting-2021>) (poster presentation - online). Abstract: <https://ui.adsabs.harvard.edu/abs/2021AGUFM.B55E1254M/abstract>
- **Mugabowindekwe, M.** and Kagoyire, C. 2019. The use of Unmanned Aerial Vehicles (Drones) imageries for planning and monitoring of landscape restoration for human livelihoods improvement: Case of Gishwati-Mukura Landscape in Rwanda. In *a 3-day workshop on “How can satellite Earth Observation help increase social-ecological resilience in rural Africa?”* organized by The University of Sheffield in collaboration with the Centre for Geographic Information Systems and Remote Sensing of the University of Rwanda, and held at The University of Sheffield, the United Kingdom from 2nd to 5th July, 2019 (oral presentation and workshop facilitator).
 - **Mugabowindekwe, M.** and Rwanyiziri, G. 2019. Application of Remote Sensing Time Series Data to Improve the Seasonal Agricultural Statistics in Rwanda. In *ICGISRRA 2019: International Conference on GIS and Remote Sensing in Agriculture*, organized by the World Academy of Science, Engineering and Technology, held at Park Inn by Radisson Blu Hotel, Copenhagen, Denmark from 11th to 12th June 2019 (Awarded Certificate of Best Presentation Award)
 - **Mugabowindekwe, M.** and Muyizere, A. 2018. Use of Remote Sensing Technology to Map and Assess Changes in Maize Crop Calendars in Rwanda. In *the International Conference on Sustainable Agricultural and Natural Resource Management under Changing Climate in Sub Saharan Africa*, organized by Lilongwe University of Agriculture and Natural Resources (LUANAR), Malawi and Norwegian University of Life Sciences (NMBU), Norway held at Bingu International Conference Centre (BICC) in Lilongwe, Malawi from 16th to 18th October 2018 (*Oral Presentation*).
 - **Mugabowindekwe, M.** and Rwanyiziri, G. 2018. Application of Remote Sensing to Assess and Improve the Level of Homogeneity within the Currently Used Agricultural Area Frames in Rwanda. In *the 2nd Regional Centre for Mapping of Resources for Development International Conference*. Nairobi, Kenya (*Oral Presentation*).
 - *Joint Symposium on Soil & Water Conservation and High Yield & Efficiency Agriculture in Headwater of Nile*. A symposium jointly organized by University of Lay Adventists of Kigali (UNILAK) and Institute of Geographical and Natural Resources Research of Chinese Academy of Science, and held at UNILAK, 29th August 2017 (*Attendance*)
 - **Mugabowindekwe, M.** and Ndikumana, D. 2016. Controlled Agriculture using Hydroponic Systems in Rwanda. In *Investing in Agribusiness for Food Security in Africa*, Africa Agribusiness Academy, Kigali, Rwanda, 29th September 2016 (*Oral presentation*).

7.5 MSc Supervision

- **1 MSc Student** has been co-supervised within the Master of Sustainable Tropical Forestry (SUTROFOR) with Forest and livelihoods as a specialization at the Department of Food and Resource Economics (IFRO), University of Copenhagen
 1. **Thaulin Dushimiyimana (2022)**. Smallholder Farmers in Rwanda; survey of tree species, tree crown cover and motivations for planting, University of Copenhagen, Copenhagen, Denmark (Co-supervisor)
- **1 MSc Student** has been co-supervised within the MSc in Geo-information Science for Environment and Sustainable Development, School of Architecture and Built Environment, College of Science and Technology, University of Rwanda

1. **Kayitesi Christine (2019)**. Spatial-Temporal of Urban Growth Impact on Wetlands' Resources in Rwanda. A Case Study of Rwampara Wetland in the City of Kigali. MSc Thesis in Geo-information Science for Environment and Sustainable Development, University of Rwanda, Kigali, Rwanda (Co-Supervisor).
- **1 MSc Student** has been co-supervised within the MSc Programme in Environmental Information Systems, Faculty of Environmental Studies, University of Lay Adventists of Kigali
 1. **Niyonsenga Jean Damascène (2019)**. Spatial Analysis of Soil Erosion Sensitivity in Nyamasheke District, Rwanda. MSc Thesis for Master of Science in Environmental Information Systems, Department of Environment and Development Studies, Faculty of Environmental Studies, University of Lay Adventists of Kigali (Co-Supervisor)

7.6 BSc Supervision

- In total, **12 BSc students** have been supervised within the BSc in Surveying and Geomatics Engineering, School of Engineering, College of Science and Technology, University of Rwanda
 1. **Safali Yusufu, Niyonizera Placidie and Sebiziga Joseph (2019)**. Monitoring of Rice Crop Growth Conditions and Yield Prediction using Remote Sensing and GIS. Case Study: Kabuye Marshland in Gasabo District. BSc Dissertation in Surveying and Geomatics Engineering, School of Engineering, College of Science and Technology, University of Rwanda (Role: Main Supervisor).
 2. **Mwafurika Charles, Hirwa Shimwa Bryant and Niyonkuru Emile (2019)**. Landslide Hazard Mapping and Risk Assessment Using GIS. Case Study: Nyabihu District. BSc Dissertation in Surveying and Geomatics Engineering, School of Engineering, College of Science and Technology, University of Rwanda (Role: Main Supervisor)
 3. **Umuhoza Natasha, Shema Josbert. and Shema Ishimwe Bruce (2019)**. Assessing Impacts of Rainfall-Runoff Using GIS. Case of Nyamabuye Cell, Gatsata Sector in Gasabo District. BSc Dissertation in Surveying and Geomatics Engineering, School of Engineering, College of Science and Technology, University of Rwanda (Role: Main Supervisor).
 4. **Mahoro Aminatha, Cyizere Charline and Mukasensiyo Vestine (2019)**. Developing and Disseminating a Hospital Navigation Map using GIS. Case of CHUK in Kigali, Rwanda. BSc Dissertation in Surveying and Geomatics Engineering, School of Engineering, College of Science and Technology, University of Rwanda (Role: Main Supervisor).

8. Teaching Activities

8.1 Teaching in Postgraduate Programmes

- **November 2019 to Date:** Component of "**Spatial Modelling of Biodiversity**" within the module of "**Biodiversity Modelling**" (MSc. Programme in Geo-information Science for Environment and Sustainable Development, School of Architecture and Built

Environment, College of Science and Technology, University of Rwanda, Kigali, Rwanda). Teaching Team Member

- **June 2017 to Date:** Module of “**Digital Image Processing of Remotely Sensed Data**” (MSc Programme in Environmental Information Systems, Faculty of Environmental Studies, University of Lay Kigali Adventist of Kigali (UNILAK). Role: Visiting Lecturer
- **July 2017 to Date:** Module of “**Modelling of Environmental Processes**” (MSc. Programme in Environmental Information Systems, Faculty of Environmental Studies, University of Lay Adventists of Kigali). Role: Visiting Lecturer
- **2017:** Module of “**GIS and Remote Sensing Applications in Resource Planning and Management**” (MSc Programme in Environmental Economics and Natural Resources Management, Faculty of Environmental Studies, University of Lay Adventists of Kigali (UNILAK). Role: Visiting Lecturer
- **2017:** Module of “**Computer-Assisted Cartography**” (MSc programme in Environmental Information Systems, Faculty of Environmental Studies, University of Lay Adventists of Kigali (UNILAK). Role: Visiting Lecturer

8.2 Teaching in Undergraduate Programmes

- **October 2022:** Component of “Object-based Image Analysis - OBIA” within the module of “Classification of Spatial Data” (BSc. Programme in Geography, Department of Geosciences and Natural Resource Management, Faculty of Science, University of Copenhagen, Copenhagen, Denmark). Teaching Team Member
- **September 2018 to Date:** Module of “**Introduction to Geographic Information Systems (GIS) and Remote Sensing**” (2nd Year in Environmental Chemistry, Department of Chemistry, School of Science, Department of Chemistry, College of Science and Technology, University of Rwanda). Role: Overall Module Coordinator
- **January 2020 to Date:** Component of “**Environmental Degradation**” within the Module of “**Regional Ecology and Environmental Degradation**” (3rd Year Environmental Planning, Department of Geography and Urban Planning, School of Architecture and Built Environment, College of Science and Technology, University of Rwanda). Role: Teaching Team Member
- **November 2018 to Date:** Component of “**Climate Science and Climate Change**” within the module of “**Urbanization, Climate Change and Sustainable Development**” (4th Year in Urban and Regional Planning, Department of Geography and Urban Planning, College of Science and Technology, University of Rwanda). Role: Teaching Team Member
- **September 2018 to Date:** Component of “Introduction to Geographic Information Systems” within the module of “Spatial Statistics and GIS” (4th Year, Department of Applied Statistics, College of Business and Economics, University of Rwanda). Role: Teaching Team Member
- **June 2018 to Date:** Module of “**Introduction to Geographic Information Systems (GIS) and Cartography**” (1st Year, Department of Geography and Urban Planning, College of Science and Technology, University of Rwanda). Role: Overall Module Coordinator
- **November 2018 – 2020:** Module of “**Advanced Geographic Information Systems**” (2nd Year, Department of Geography and Urban Planning, College of Science and Technology, University of Rwanda). Role: Overall Module Coordinator
- **November 2018 – 2020:** Module of “**Map Projections**” (4th Year in Surveying and Geomatics Engineering, Department of Civil, Environmental and Geomatics

Engineering, College of Science and Technology, University of Rwanda. Role: Overall Module Coordinator

- **November 2018 – 2020:** Module of “**Spatial Data Infrastructure**” (4th Year in Surveying and Geomatics Engineering) Department of Civil, Environmental and Geomatics Engineering, College of Science and Technology, University of Rwanda). Role: Overall Module Coordinator
- **February 2018 - 2020:** Module of “**Introduction to Geographic Information Systems** (3rd Year, Department of Architecture, School of Architecture and Built Environment, College of Science and Technology, University of Rwanda). Role. Overall Module Coordinator

9. Professional Trainings/Workshops

- **3rd – 5th July 2019:** “Earth Observation and Social-Ecological Resilience in rural Africa” University of Sheffield, UK (organised by The University of Sheffield)
- **2nd – 6th September 2019:** “Open Foris Collect Earth for Land Use Change Monitoring and GHG Inventory Data Compilation”, Kigali, Rwanda (organised by Rwanda Environment Management Authority and Food and Agriculture Organisation)
- **July – August 2019:** “Google Earth Engine Training – Introduction And Sample Application Areas”, Kigali, Rwanda (organised by Regional Centre for Mapping of Resources for Development (RCMRD) and NASA)
- **31st March – 11th April 2014:** “Discovery, Exploration and Exploitation of Free data and Tools for Supporting the Mitigation of and the Adaptation of Agriculture and Forestry to Climate Change”, organised by *Katholieke Universiteit Leuven* (KU Leuven), Belgium.
- **30th November – 6th December 2013:** Improving Electricity Customer Services with GIS. ET SOS, Kigali, Rwanda (organised by ESRI Rwanda)
- **2013:** “Participatory Mapping of Building Materials”, SKAT Swiss Resource Centre and Consultancies for Development, Karongi District, Rwanda.
- **1st – 7th December 2012:** Planning of Rural Settlements Supported by GIS. ET, Kigali, Rwanda (organised by ESRI Rwanda)

10. Professional Conferences

- **23rd - 27th May 2022:** Living planet symposium, Bonn, Germany (a conference organised by the European Space Agency)
- **13th - 17th December 2021:** American Geophysical Union (AGU) meeting, New Orleans, Louisiana, USA (a conference organised by the American Geophysical Union)
- **11 – 12th June 2018:** ICGISRSA 2019:21th International Conference on GIS and Remote Sensing in Agriculture. Copenhagen, Denmark (organised by World Academy of Science, Engineering and Technology)
- **15 – 17 August 2018:** RIC 2018 International Conference, Nairobi, Kenya (a conference organised by RCMRD)
- **16 – 18th October 2018:** International Conference on “Sustainable Agricultural and Natural Resource Management under Changing Climate in Sub Saharan Africa”, Lilongwe, Malawi. (a conference organised by The Lilongwe University of Agriculture and Natural Resources (LUANAR) and the Norwegian University of Life Sciences (NMBU))

11. Memberships

- **April 2020 to Date:** Member of the Sub – Committee for Monitoring and Evaluation College Action Plan and Performance Contracts, College of Science and Technology, University of Rwanda;
- **March 2016 to Date:** Member of ITC – Faculty of Geo-Information Science and Earth Observation, University of Twente Alumni Association
- **August 2013 to Date:** Member of the University of Rwanda Alumni Association

12. Computer Skills

- Tools for Spatial Data Management and Manipulation: Fluency with Python (libraries such as GDAL, OGR, rasterio, numpy, TensorFlow, PyTorch, geopandas, scikit-learn etc.), QGIS, ArcGIS, ENVI, ERDAS, and Google Earth Engine
- Tools for Spatial Data Acquisition: Fluency with Various Types of GNSS and GPS receivers (Settings and Operations)
- Programming Skills: Python Programming Language and Google Earth Engine (Java Script for manipulating remote sensing dataset and cloud computing)
- Tools for Statistical Analysis: Fluency with Python (libraries such as pandas, geopandas, matplotlib, seaborn, math, SciPy, numpy, etc.), SPSS, and MS Excel

13. Contact Persons

- Dr. Martin Stefan Brandt, Assistant professor, Section of Geography, Department of Geosciences and Natural Resource Management, Faculty of Science, University of Copenhagen, Copenhagen, Denmark
E-mail: mabr@ign.ku.dk
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Prof. Gaspard Rwanyiziri, Director of Centre for Geographic Information Systems and Remote Sensing (CGIS) and Associate Prof. in Department of Geography and Urban Planning, College of Science and Technology, University of Rwanda, Kigali, Rwanda
E-mail: grwanyiziri@gmail.com / g.rwanyiziri@ur.ac.rw
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- Mrs. Raisa Sell, Expert in Forest Management and Forest Information Systems at Arbonaut Ltd, Helsinki, Finland
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Done at Copenhagen, 27th June 2023

(Sé)

Maurice Mugabowindekwe