

AFRICAGIS 2019 CONFERENCE PROGRAMME

In partnership with UNGGIM-Africa and Digital Earth Africa

“Innovations in Geospatial Technologies for Achieving Sustainable Development Goals in Africa”

(18-22 November 2019, Kigali Conference and Exhibition Village, Rwanda)

TIME	MONDAY 18 TH NOVEMBER 2019
08:00 - 09:00	REGISTRATION FOR AFRICAGIS 20019 and EXHIBITION SET-UP BEGINS
09:00 – 17:30	Workshop 1: <i>Africa GeoPortal & the Power of Imagery</i> by ESRI Event (Venue: Akagera Main Hall)
09:00 – 17:30	Workshop 2: <i>Production and Use of Multi-Temporal Imagery Data Workshop</i> by GeoDyn Technology (Venue: Library Hall)
09:00 – 17:30	Workshop 3: <i>Regional Workshop</i> by UN-GGIM Africa (Venue: Boardroom)
09:00 – 17:30	Workshop 4: <i>FOSS4G (Free and Open Source Software for Geospatial) workshop</i> (Venue: Computer Lab)

TIME	TUESDAY 19 TH NOVEMBER 2019
08:00 – 9:00	REGISTRATION
09:00 – 10:30	SESSION 1: OPENING CEREMONY (Venue: Main Conference Hall – Akagera Hall) 1) <i>Welcome Note</i> - AfricaGIS 2019 – Master of Ceremony – Dr. Valentine Uwamaliya 2) <i>Welcome Address</i> – AfricaGIS 2019 IOC – Mr. Sives Govender 3) <i>Welcome Address</i> – United Nations Economic Commission for Africa (UNECA – Mr. Andre Nonguierma) 4) <i>Welcome Address</i> – Digital Earth Africa (DEA – Mr. Aditya Agrawal) 5) <i>Welcome Address</i> – Vice Chancellor of the University of Rwanda – Prof. Phillip Cotton 6) <i>Speech and Official Opening of the Conference by the Guest of Honour</i> Master of Ceremony: <i>Dr. Valentine Uwamaliya</i>
10:30 – 11:00	GROUP PHOTO, REFRESHMENT BREAK & VIP OFFICIAL EXHIBITION OPENING WALK
11:00– 13:00	SESSION 2: TECHNICAL PLENARY (Venue: Main Conference Hall – Akagera Hall) Innovations in Geospatial Technologies for Achieving Sustainable Development Goals in Africa 1) Keynote: Dr. Tidiane Quattara (Space Science Expert and GMES & Africa Support Program Coordinator - AUC)

- 2) Keynote: Mr. Sohail El Abd (General Manager of ESRI Global for the Middle East & Africa region)
 - 3) Keynote: Dr. Lee Schwartz (The Geographer US Department of State)
- Chairman: *Mr. Sives Govender*

13:00- 14:00

LUNCH

14:00 – 15:30

SESSION 3: PARALLEL SESSIONS

3A. Smart Spatial Solutions for Sustainable Development (Room: Akagera Hall)

- 1) Stephen Peedell, A Science-Policy Knowledge Platform linking Africa and Europe
- 2) Jussi Rasinmäki, Using GIS to Further the Sustainable Development Goal 15, Life on Land
- 3) Roman Meyer, Geostatistical Analysis of Cross-Border Infrastructure
- 4) Ahmed Osman, Promoting Regional Socio - Economic Development in North Africa for Coastal and Land Resources Utilizing Open Source GIS GeoNode portal: Show case GMES & AFRICA/NARSS
- 5) Michael Gould, Digital Transformation at Universities Around the World: Migrating to Modern GIS
- 6) Kenneth Kyamanywa, Online Asset Monitoring and Tracking System: A Case Study of Pole Information Management System for UMEME Ltd

3B. Sustainable Agriculture and Food Security -CGIAR (Room: Library Hall)

- 1) Renaud Mathieu and Tri D. Setiyono, Bridging Gaps in Rice Agri-Food System: On-Going Initiatives on Geospatial Science and Modeling by IRRI"
- 2) Sebastian Palmas, A spatial Ex Ante Framework for Guiding Agronomic Investments in Tanzania
- 3) Henry Kabango Kanyembo, Smallholder Fish Farmers' Landscaping for Private Sector Investments in Zambia (Northern Region)
- 4) Jawoo Koo, Crop Modeling Support for Impact Assessments
- 5) Faith Musili, Applying human-centered process and science to shift decision culture: A case study of the Laikipia resilience diagnostics tool
- 6) John Mutua and An Notenbaert; Targeting Tools version 1.0
- 7) John Mutua, Kristin Piikki and Mats Söderström; The Sub-Saharan Africa Soil Data Manager (SSA-SDM)

3C Geospatial Technology for Natural Resources and Environment Protection (Room: Computer Lab 1)

- 1) Michael Breetzke, Leveraging Daily Satellite Imagery to Monitor our Most Valuable African Resource – Forests
- 2) Anne-Maud Courtois, Christelle Umwali, Clarisse Kagoyire and Raisa Sell, Geo-ICT Technology for Efficient Management of Forests and Sustainable Provision of Biomass Energy in Rwanda
- 3) Mugabo Jean Pierre ; 2019 Rwanda Forest Cover Map
- 4) Robert Beach, Daniel Lapidus, Marwa Salem, and Kemen Austin, Evaluating the Effects of Alternative Management Strategies on Rwandan Agriculture
- 5) François Kervyn; Geospatial techniques for Disaster Risk Reduction: the Kivu Basin region as a case study

- 6) **Lucy Bastin, Ngugi Kimani and Beryl Nyamgeroh**, The Regional Resource Hub - Supporting Conservation Decision Making in Eastern and Southern Africa

3D Innovative Technologies in Earth Observation and GeoInformation Sciences – UNESCO/IHP (Room: Computer Lab 2)

- 1) **Dominique Mvunabandi**; Overview: UNESCO – International Hydrological Programme (IHP) Implementation
- 2) **Gretta Muhimpundu** Orographic Effects Assessment on an Extreme Rainfall Event in Rwanda using WRF Model
- 3) **Queen Bwiza Noella**; Geospatial information for sustainable groundwater management
- 4) **Abias Maniragaba**; Forecast and Drought monitoring
- 5) **Jean Baptiste Hategekimana**; Water Energy and Food Nexus: Rwandan youth to mainstream sustainably growing their Agribusinesses
- 6) **Charles M. Kasanziki**; UNESCO - International Hydrological Programme (IHP) Rwanda research activities related Water, Soil and Environment interconnection.

3E Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

15:30 – 16:00

REFRESHMENT BREAK

16:00 – 17:30

SESSION 4A: SPONSORS PLENARY (Venue: Main Conference Hall – Akagera Hall)

Innovative Technologies in Earth Observation and GeoInformation Sciences

- 1) Keynote: Matthew Penells (Head of the Digital Transformation for ESRI's MEA Region, ESRI)
- 2) Keynote: (AIRBUS DS)
- 3) Keynote: Rolf Becker (Managing Director, GEODYN TECHNOLOGY), *Multi-Temporal Aerial Imagery for Automatic Mapping and Trend Analysis*

Chairman:

S4B: Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

TIME	WEDNESDAY 20 TH NOVEMBER 2019
08:00 – 09:00	REGISTRATION
09:00 – 10:30	SESSION 5: TECHNICAL PLENARY (Main Conference Hall – Akagera Hall) Smart Spatial Solutions for Sustainable Development 1) Keynote: ICT and Innovations in Rwanda, (Ministry of ICT and Innovation - Republic of Rwanda) 2) Keynote: Dr. Greg Scott (UNGGIM Africa) 3) Keynote: Ms. Andiswa Mlisa (SANSA) 4) Keynote: Dr Adam Lewis, (Managing Director ,Digital Earth Africa) Chairman: Dr Elias Nyandwi
10:30 – 11:00	REFRESHMENT BREAK
11:00 – 12:30	SESSION 6: PARALLEL SESSIONS 6A Geospatial Support Systems for Food Security (<u>Room</u>: Library Hall) 1) <u>Vivianne Meta</u> and Steve Omondi , Unlocking the Potential of Small-Scale Farmers in Africa using Space Technologies. A pathway to Enhancing Precision Agriculture for Food Security and Poverty Alleviation 2) <u>Robert Beach</u>, Daniel Lapidus, Meghan Hegarty-Craver, Jason Polly, James Rineer, and Dorota Temple ; Using Remote Sensing and Geospatial Systems to Support Decision-Making for Sustainable Agriculture and Food Security in Rwanda 3) <u>Henk Remme</u>, Peter Hoefsloot, Rob Marjot, Philippe Rumenera, Adrie Mukashema, and Jules Kazungu ; Rwanda Smart Satellite Crop Monitoring Application 4) <u>Thomas Alexandridis</u>, Ines Cherif, Dimitris Kasampalis, Giorgos Ovakoglou, Dimitrios Moshou, Giovanni Laneve, Eleni Katragkou, Mahlatse Kganyago , Nosiseko Mashiyi, Kanhu Pattnayak, Andy Challinor, Stelios Kotsopoulos, Clarisse Kagoyire, and Juan Suarez Beltran , Land, Livestock, Crops, Water and Weather Services of the AfriCultuReS Project for Food Security in Africa 5) <u>James Rineer</u>, Robert Beach, Daniel Lapidus, Meghan Hegarty-Craver, Jason Polly and Dorota Temple , Using UAV Collected Ground Truth Data and Computer Vision Modeling for Identification of Crop Type for Sustainable Agriculture and Food Security in Rwanda 6B Environment, Climate Change and Natural Resources Management (<u>Room</u>: Akagera Hall) 1) <u>Providence Akavez</u> , Erosion Hotspots as Potential Causes of Sebeya River Sedimentation 2) <u>Deborah B. Alaigba</u> and Ehiremen E. Osolase , Vulnerability Assessment of Gully Erosion Using Geospatial Techniques, Benin City, Nigeria 3) <u>Jean Damascene Niyonsenga</u>, Maurice Mugabowindekwe, Christophe Mupenzi ; Spatial Analysis of Soil Erosion Sensitivity using RUSLE Model in Nyamasheke District, Rwanda

- 4) **Rutazuyaza Vaillant Byizigiro and Rwanyiziri Gaspard**, Soil Erosion Risk in the Gatumba Mining Sector
- 5) **Adnane Labbaci, Belkacem Kabbachi, Abdelkarim Ezaidi, Said.Marghadi and Said Laaribya**; Integrating Sentinel Data and PAPCAR Model to Map Water Erosion Using ArcGIS Pro: Case of Beni Boufrah Watershed
- 6) **Francois Xavier Tetero**; Catchment Restoration Opportunities Mapping for Rwanda (CROM)

6C Geo-ICT Technology for Land Administration and Management (Room: Computer Lab 1)

- 1) **Adewale Akingbade, Mor Awa Dieng, Joseph Oloukoi and Hubert Yadjemi**, Funding and Implementation Options for Systematic Land Titling and Registration in Nigeria
- 2) **Xiaoyu Zhang, Shengce Wang and Jiaqi Lei**; "Application of GIS Technology in Land Management of China"
- 3) **Alfred Gasore**, The role of Cadastral Information In Peri-Urban Settlement Planning in Kigali city
- 4) **Roman Meyer**, The African Union Border Programme (AUBP)
- 5) **Samuel Larbi Darko and Walter Volkmann**, Drones and The Structure from Motion (SfM) Technique in Land Right Formalization and Municipal Administration – First Experiences in Accra, Ghana.
- 6) **Emmanuel Tembo and Prosper Mulenga**, Digitization of Cadastral Maps as Part of The Cadastral Index In Zambia

6D Spatial Planning for Urban and Rural Spaces (Room: Computer Lab 2)

- 1) **Clovis Kwizera**, Spatial Planning for Smart Cities and Rural Space in Africa.
- 2) **Quijun Li, Xiaoyu Zhang and Shengce Wang**, Application of the New Generation of 3D GIS in Smart Cities
- 3) **Jin Igarashi and Larissa Dusabe**, Case Study of Data Collection & Data Sharing for Rural Water Supply Management in Rwanda
- 4) **Barifashe Theodomir**, Using Geo-Information Technology for Performance Assessment of Infrastructure Service Provision. Case Study of Drinking Water Supply in Nyamirambo, Kigali.
- 5) **Eric Muvunyi**, Geospatial Analysis and Living Urban Geometry
- 6) **Lisah Khadiala Ligono**, A GIS Based Intelligent Transportation System for Traffic Incident Management

6E Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

12:30- 14:00

LUNCH & POSTER PRESENTATIONS

14:00 – 15:30

SESSION 7: PARALLEL SESSIONS

7A Smart Spatial Solutions for Sustainable Development (Room: Library Hall)

- 1) **Pekka Sarkola and Niina Ahtonen**, Open Source GI Solutions for the Management of Geological Data and Mining Cadastre
- 2) **Providence Akavezu**, Suggesting Priority Sites for Conservation Investments in and around Nyungwe National Park, Rwanda

- 3) **Rob Nieuwenhuis**, GIS-Based Decision Support for Catchment Restoration to Reduce Soil Erosion in Rwanda: CROM DSS
- 4) **Maggie Munthali, Joel O. Botai, Nerhene Davis and Abiodun M. Adeola**, The Implications of Land Use and Land Cover Changes on Natural Resource Base in Central Malawi: A Case of Dedza District
- 5) **Abel Ramoelo, L. Dziba and K.K. Ayisi**, Essential Biodiversity Variables' Framework: Contribution of Earth Observation Technologies for Monitoring Protected Areas
- 6) **Lisho C. Mundia and Elisia. N Sheya²**, Detecting Land Cover Changes in the Kabbe South Constituency of the Zambezi Region, Namibia: A Remote Sensing Approach

7B Sustainable Agriculture and Food Security (Room: Akagera Hall)

- 1) **Marie Brigitte Makuate, Inoussa Toko Mouhamadou, Vincent Orekan and Placide Cledjo**, Identification of Suitable Land for Rice Cultivation Using Remote Sensing and GIS Techniques in Cameroon
- 2) **Getie Gebrie Eshetie**, Investigating Climate Variability in Spatio-Temporal Domains and Its Impact on Crop Production Using GIS and Statistical Techniques: The Case of North and South Wello Zones, Northern Ethiopian Highlands
- 3) **Mahlatse Kganyago, Nosiseko Mashiyi and Issa Garba**; Preliminary Products Demonstration for AfriCultuReS Livestock Service over South Africa and Niger Test Sites.
- 4) **Catherine Lilian Nakalembe, Inbal Becker-Reshef, Jan Dempwolf, Kenneth Mwangi and Lilian Ndungu**, GEOGLAM and NASA Harvest Supporting National and Regional EO-based Agriculture Monitoring in Eastern Africa
- 5) **Joseph Tuvishimire, Clarisse Kagoyire, Maurice Mugabowindekwe, Elias Nyandwi, Gaspard Rwanyiziri, John Mugisha, and Jean Pierre Hitimana**, A review on Crop Yield and Pasture Health Monitoring and Forecasting in East Africa
- 6) **Elias Nyandwi**, Rwanda Agriculture Land Spatial Planning.

7C Spatial Planning for Urban and Rural Spaces (Room: Computer Lab 1)

- 1) **Kipketer Daniel**, Climate Change and Settlement Patterns
- 2) **Maria Angela Dissegna, Tiangang Yin, Shanshan Wei, Dan Richards and Adrienne Grêt-Regamey**, Quantifying the Influence of Vegetation in the Radiative Budget of Urban Landscapes Using DART
- 3) **Fidele Mwizerwa, Twarabamenye Emmanuel and Bizimana Jean Pierre**, Analysis of Public Transport Service Accessibility in the City of Kigali, Rwanda
- 4) **Hakeem M. Olujide**, Geospatial Analysis of Land Use/Land Cover Changes in Monitoring Urban Sprawl in Ede County, Nigeria
- 5) **Dara Keogh, Bruce McCormack and Pierre Rossouw**, "Addressing"

7D Closed Meeting UNGGIM (Room: EAIFR-ICTP Conference Room)

15:30 – 16:00

REFRESHMENT BREAK

8A Innovative Technologies in Earth Observation and GeoInformation Sciences (Room: Library Hall)

- 1) **Patrick Albert Chikumba**, Geodata Maintenance and Collaboration in GIS Implementation in Health Sector in Developing Countries: The Case of DHIS2 GIS in Malawi
- 2) **Jean Pierre Bizimana and Gilbert Nduwayezu**, Spatio-Temporal Patterns of Malaria Transmission in Rwanda
- 3) **Brian Tomaszewski**, Mapping Refugee Camp Economies in Rwanda
- 4) **Irankunda Eugene**, Urban Trees Crown Measurement and Mapping: A Comparative Study Between NDVI and Image Segmentation Methods
- 5) **Bester Tawona Mudereri, Timothy Dube, Saliou Niassy, Emily Kimathia, Tobias Landmann, Zeyaur Khana and Elfatih Abdel-Rahmana**, Is it Possible to Discern Striga Weed Infestation Levels in Maize Agro-Ecological Systems Using in-Situ Spectroscopy?
- 6) **Seth Nyawacha**, Sustainable Agriculture and Food Security in Africa

8B Environment, Climate Change and Natural Resources Management (Room: Akagera Hall)

- 1) **Osunga Michael Otieno**, Using Historical Satellite Imagery for Generating Flood Damage Functions and Impact Curves in Tana River, Kenya
- 2) **Fabien Rizinjirabake**, Distributed hydroecological modelling of the Rukarara River Watershed, Rwanda
- 3) **Kakonkwe Christian, Rwabuhungu R. Digne, Michael Biryabarema, Douglas A. Wood, Martins A. Onimisi and Alabi A. Amos**, Landslide and Flooding Hazard Mapping in the Drainage Basin of Lake Kivu, Western Rift of East Africa Using GIS Tools
- 4) **Nghishiinawa Frieda Mudjanima**, Flood Risk Assessment Based on the Hydrological Geomorphological Assessment
- 5) **Richard Mzungu**, Flood Risk Map of Mombasa County

8C Smart Spatial Solutions for Sustainable Development (Room: Boardroom)

- 1) **Kenneth Mubea, Brian Killough**, Mapping Lake Turkana Extent and Quality using the African Regional Data Cube
- 2) **Robin Workman**, How to use GIS to Measure Rural Access for SDG 9.1.1
- 3) **Steven Hill**, WASCAL Data Cube Big Data Remote Sensing to Monitor the Environment in West Africa
- 4) **Rafiki Yves Ndayishimiye, Gasiza Grace Deborah, Emeline Nikuzwe and Louis Sibomana**, Design of CanSat_Rwa Prototype
- 5) **Gerard Rushingabigwi, Emmanuel Hitiyise, Philibert Nsengiyumva, Louis Sibomana, Damien Hanyurwimfura, Didacienne Mukanyirigira and Francois Zimulinda**, Effects of Selected Aerosols on Global Ecosystem: The Long-term Remote Sensing Data Analysis Based on Black Carbon and Sulfate with a Focus on Central African Region
- 6) **Hamudu Rukangantambara, Julienne GATESI and Drocella**, Assessment and Mapping of Status and Spatial Distribution of Soil MA and Micronutrients in Volcanic Soil in Highland Region, North-Western Rwanda.

8D. Spatial Planning for Urban and Rural Spaces (Room: Computer Lab 1)

- 1) **Adewara M. Babalola and Irivbogbe E. Hudson**, Modelling Suitable Location for Landfill Site Using GIS & Multicriteria Decision Analysis

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- 2) **David Mihigo**, Location and Accessibility of Solid Waste Transfer Stations in Rapidly Transforming Neighborhood the Case of Sinza Ward, Dar es Salaam City- Tanzania.
- 3) **Deborah B. Alaigba, Ayila E. Adzandeh and Dunya P. Chiwar**; An Assessment of Insecurity Impact on Settlements and Agricultural Landuse in Gwoza LGA, North-East, Nigeria
- 4) **Ernest Ntakobangize**, The Impact of GIS in the Process of Informal Settlements Upgrading in Kigali City
- 5) **Paul Nduhuura, Abdellatif Zerga and Matthias Garschagen**; Localization of Urban Electricity Reliability Challenges Using Spatial Tools: A Case of Accra, Ghana
- 6) **Christine Kavitesi , Gaspard Rwanyiziri and Maurice Mugabowindekwe**; Spatio-Temporal Analysis of Urban Growth and its Impacts on Rwampara Wetland in the City of Kigali, Rwanda

8E Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

18.30-

CONFERENCE DINNER

TIME	THURSDAY, 21 TH NOVEMBER 2019
08:00 – 09:00	REGISTRATION
09:00 – 10:30	<p>SESSION 9A: TECHNICAL PLENARY (Venue: Main Conference Hall – Akagera Hall)</p> <p>Earth Observation and Geospatial technologies for integrated built environment and natural resources management for Africa’s development</p> <ol style="list-style-type: none"> 1) Assoc. Prof. Alfred R. Bizoza, University of Rwanda 2) Professor Kristen Kurland, Carnegie Mellon University - Smart Cities and the Future of Urban Planning <p>Chairman: <i>Dr Gaspard Rwanyiziri</i></p> <p>9B PANEL SESSION ON University and Society: Are we communicating?</p> <p>The panel will discuss the role of the university in providing basic and applied knowledge in a rapidly evolving world where people are discovering knowledge from multiple online sources, some more reliable than others. Are universities keeping up with trends? Should universities pay attention to trends or continue to provide basic knowledge to equip young people to adapt to changing technology and practices?</p> <p>9C Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)</p>
10:30 – 11:00	REFRESHMENT BREAK
11:00 – 12:30	<p>SESSION 10: PARALLEL SESSIONS</p> <p>10A Natural Resource Management (Room: Akagera Hall)</p> <ol style="list-style-type: none"> 1) Kamga Marc Anselme, Evaluation of Land Use/Land Cover Changes Due to Gold Mining Activities From 1987 To 2017 Using Landsat Imagery, East Cameroon 2) Jacinta Nyala, GIS Applications in Mineral Resource Modelling - A Case Study of Base Titanium Kwale Mine 3) Gilbert Nduwayezu, Gilbert Nduwayezu and Celse Gabineza, Integrating Multispectral Satellite Imagery for Monitoring Land Cover and Use Changes in Gatumba Mining Landscape in Rwanda 4) Mukandirwa Salumu, Environment Impact of Refugees and Internally Displaced Persons. Case of North-Kivu Province 5) Jean Pierr Samedi Mucyo, W. Eckardt, M. Robbins and N. Seiler; Social factors are the main driver of space use in Virunga mountain gorillas in Rwanda <p>10B Environment, Climate Change and Natural Resources Management (Room: Library Hall)</p> <ol style="list-style-type: none"> 1) Elysée Ntiranyibagira, Analysis of Water Resources Dynamics and Vulnerability in Rusizi National Park (Burundi) from 1984 to 2015, in a changing Climate using Remote Sensing data and GIS techniques.

- 2) **Alex Kuhudzai**, GIS-Based Risk Mapping of Illegal Discharges into Stormwater Drainage Systems in Cape Town
- 3) **Adama Sarr Mamadou, Ba T, Diouf A.A and Ndione J.A.**, GMES & Africa: Connecting Space to West Africa Wetland for Enhancing Food Security and Ecosystem Resilience.
- 4) **Abdoul Aziz Diouf, Ousainou Touray, Mamadou Adama Sarr, Taibou Ba and Jacques André Ndione**, Surface Water Extraction Using Sentinel-2 Images in West African Wetlands.
- 5) **Rushingabigwi Gerard, Wilson Kalisa, Philibert Nsengiyumva, François Zimulinda, and Louis Sibomana**, The Remote Sensing Data Analysis for Effects of Two Selected Aerosol Particles to the Global Climate Change and Human Health: The Focus on Africa
- 6) **Oluwaseun Franklin Olabode, Daniel Adebawale Adebayo, Olapeju Ekundayo and Sunday Ayowole Ojo**, Tackling Water Scarcity in A Data-Scarce Drought-Prone Hydrological Basin: Geospatial Techniques Application Dynamics in the Sub-Prefecture of Korhogo

10C. Spatial Planning for Urban and Rural Spaces (Room: Boardroom)

- 1) **Xaven Pillay**, Innovatively Planning for the Future – A South African Study of Geospatial Statistics and Natural Capital Accounting.
- 2) **Carl Deroanne, Tharcille Dukuzemariya and Fabrice Ngenzi**, Mobile Mapping as the Ultimate Up-To-Date Data Source to Support Smart Cities applications
- 3) **Philippe Dufatanye Bizimana**, Spatial Planning Towards Sustainability and Resilience in Urban Settlement
- 4) **Rahman Tafahomi**, Mapping Process of Recognition the Core Historical Areas through Architectural Heritage
- 5) **Hategekimana Sylvere, Nvandwi Emmanuel, Twarabamenye Emmanuel, Habimana Jean Damascene and Musabyimana Yvonne**, Improving Housing Conditions of Historically Marginalised Peoples (HMPs) in Rwanda: Mapping Regional Performance for Directed Intervention.

10D. Innovative Technologies in Earth Observation and GeoInformation Sciences (Room: Computer Lab1)

- 1) **Sydney McDowell and Suresh Sithiranathan**, Integrate ArcGIS and E-Business Suite Enterprise Asset Management (EBS - eAM) for Maintain Electric Network Asset Information
- 2) **Yusuf Murangwa, Bolaji Taiwo, Florent Bigirimana**, Integrated Solutions for Censuses and/or Surveys: NISR Perspective
- 3) **Graham Deane, Tim Pattison, Fabio Vescovi and Andrea Minchella and Moustapha Ndiaye**, Satellite Imagery as a Cost-Effective Source of Urban and Rural Information
- 4) **Kaspar Kundert and Ms. Audrey Royston**, High resolution Population and Poverty Maps to Assess Purchasing-Power in Rwanda and Uganda
- 5) **Sophie Uwizera, Jean Pierre Gatera and Omar El Kharki**, Towards an Improved Monitoring of Kigali City Master Plan (KCMP) Implementation Using High Spatial Resolution Satellites Images
- 6) **Stephen Sande, Josphat Makanga, Leonard Sweta, Julius Buyengo and Vincent Mtaroni**, Topographical Map Updating Using Sentinel 2a

10E Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

--	LUNCH & POSTER PRESENTATIONS
14:00 – 15:30	SESSION 11: PARALLEL SESSIONS 11A EIS-AFRICA AGM (<u>Room</u>: Boardroom) 11B Environment, Climate Change and Natural Resources Management (<u>Room</u>: Library Hall) <ol style="list-style-type: none"> 1) <u>Abdullahi A. Kuta</u>, Stephen Grebby and Doreen S. Boyd, Determining the Impact of Oil Spills on Vegetation in The Niger Delta Using Satellite Imagery 2) <u>Avila E. Adzandeh</u>, Ayibapreye John, Gildas Jr. Boko and Deborah B. Alaigba, Quantifying Industrial Pollution on Residential Neighborhood in Trans-Amadi Industrial Layout, Port Harcourt, Nigeria 3) <u>Consolee Sibosiko</u> and I.A. Sabine, Household Hazardous Waste Effects and Green Chemistry 4) <u>Jean de Dieu Nshimiyimana</u>, Innocent Nkurikiyimfura, Uwanyirigira Donat and Christophe Geuzaine, Air Pollutants Concentration Temperature Dependences in Kigali City/Rwanda 5) <u>Edward Ouko</u>, Steve Omondi, Robinson Mugo, Anastasia Wahome, Kenneth Kasera, Emmanuel Nkurunziza, John Kiema, Africa Flores, Emily Adams, Samson Kuraru and Margaret Wambua, A Model for Invasive Plant Species in Kenya's Northern Rangelands 6) <u>Fulgence Kouame Kouame</u>, Rainfall Variability and Anthropogenic Activities Influencing Land Use 11C Digital Earth Africa Workshop (<u>Room</u>: Akagera Hall) 11D Closed Meeting UNGGIM (<u>Room</u>: EAIFR–ICTP Conference Room)
15:30 – 16:00	REFRESHMENT BREAK
16:00 – 17:30	SESSION 12: PARALLEL SESSIONS 12A Innovative Technologies in Earth Observation and GeoInformation Sciences (<u>Room</u>: Library Hall) <ol style="list-style-type: none"> 1) <u>Kaspar Kundert</u> Friend or Foe: Open Data Initiatives and National Spatial Data Infrastructure (NSDI) 2) <u>Beatrice Winnie Nyemera</u> and Peng Jia, To Share or Not to Share: Deciding Factors For (Not) Sharing Geospatial Data in Ugandan Health Sector Organizations 3) <u>Alex Mudabeti</u> and Esther Simasiku, Towards a Spatially-Enabled Society-Building the Namibia Spatial Data Infrastructure 4) <u>Asnake Mekuriaw</u>, Abebe Mengaw, Aragaw Alemayehu, Atkilt Girma, Daniel Teka, Berihu Alemayehu and Eyasu Lemma, Assessment of Geospatial Science, Technology and Application at the Academic Sector in Ethiopia 5) <u>Maroale Chauke</u> and Bulelwa Semoli, Developing a Land Cover standard through Collaborative Custodianship – Opportunities and Challenges: A South African case study 6) <u>Nasiru Sani</u>, Distribution of Primary Health Care Facilities in Dutse, Jigawa. Nigeria Using GIS

12 B Geo-ICT Technology for Land Administration and Management (Room: Boardroom)

- 1) **Zinabu Getahun**, Optimum Sample Size Determination Scenarios for Spatial Data Positional Accuracy Test for Urban land registration in Varied Topography: Case Bahir Dar, Debre Markos, Harar City, Ethiopia
- 2) **Namnso Bassey Udoekanem and Antoine Muhirwa**, Human Capacity Development for the Application of Geospatial Technologies in Land Administration and Management in Rwanda
- 3) **Dr. Félix Ngana**, Modes of Access to Land in Rural and Peri-Urban Areas in the Central African Republic: What Tools for Securing Land?
- 4) **Seth Nyawacha**, Geo-ICT Technology for Land Administration and Management
- 5) **Eng. Hitimana Jean Pierre**, The role of ICT to promote Land Administration: case study Rwanda
- 6) **Athanase Akumuntu**, Impactful Contribution of GIS on Rwanda's Land Tenure Regularization Program

12C Digital Earth Africa Workshop (Room: Akagera Hall)

12D Closed Meeting UNGGIM (Room: EAIFR–ICTP Conference Room)

TIME	FRIDAY, 22 ND NOVEMBER 2019
08:00-09:00	REGISTRATION
09:00 - 10.30	SESSION 13A: PLENARY SESSION (Main Conference Hall – Akagera Hall) Panel Session on Space Technologies in Africa: Current Status and Perspectives <p>The panel will discuss on the current status of Africa’s Space programmes and the use of nano-satellites “CubeSats”.</p> <p>Chair: Alex Ntale, the Chief Executive Officer of the Rwanda ICT Chamber</p>
10.30 – 11:00	REFRESHMENT BREAK
11:00 – 12.30	SESSION 14: PLENARY SESSION (Main Conference Hall – Akagera Hall) <ol style="list-style-type: none"> 1) Official Closing Ceremony by the Guest of Honour 2) Closing Note – IOC/LOC/EIS-AFRICA 3) Announcements: AfricaGIS 2019 Resolutions & AfricaGIS 2021 announcement
12.30 – 14:00	13B Closed Meeting UNGGIM (<u>Room</u>: EAIFR–ICTP Conference Room) LUNCH