



Jaramogi Oginga Odinga
University of Science and Technology



Belgium
partner in development

Project 4

Strengthening ICT infrastructure to Enhance Research, Teaching, Learning and Community Outreach

Team Leaders:

1. Prof. Silvance Abeka - JOOUST
2. Prof. Johan Loeckx- VUB



Partners



KU LEUVEN



Project Team Members



- ❖ **Prof. Silvance Abeka (Team Leader)**
- ❖ Prof. Solomon Ogara (Computer Science),
- ❖ Prof. Antony Rodrigues (ICT Directorate)
- ❖ Prof. Elisha Opiyo (Artificial Intelligence),
- ❖ Dr. Samuel Liyala (Information Systems),
- ❖ Dr. Joshua Agola (Information Systems),
- ❖ Dr. Festus Ngetich (Library Services),
- ❖ Dr. Paul Abuonji (ICT Directorate)
- ❖ Miss Dorothy Gwada (E Learning)
- ❖ Dr. Newton Masinde (Computer Science)
- ❖ Dr. Erick Okuto (Statistician)



- ❖ **Prof. Johan Loeckx- Team Leader**
- ❖ Prof. Benard Manderick- VUB
- ❖ Prof. Arno Libotton- VUB
- ❖ Dr. Rudy Gevaert- Ghent
- ❖ Mr. Dieter Roefs- Ghent
- ❖ Mr. Marc Goovaerts- University of Hasselt
- ❖ Prof. Frederick Questier- VUB
- ❖ Prof. Ann Nowe- VUB
- ❖ Prof. Wolfgang De Meuter- VUB
- ❖ Prof. Coen De Roover- VUB
- ❖ Peter Manderick (Close the Gap)



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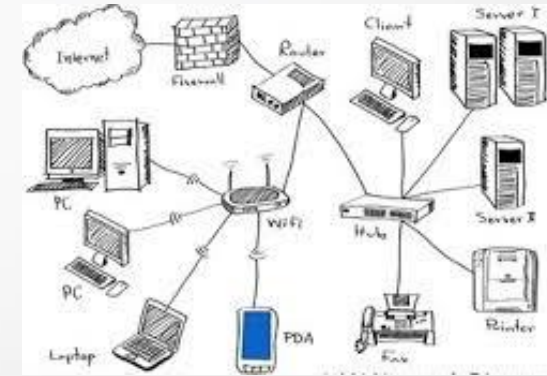


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Understanding the local context

There is huge inadequacy in JOOUST ICT infrastructure.

- Network;
 - Structured LANs with enhanced wireless footprint in JOOUST Campuses
 - Internet bandwidth to enable high speed information access and collaboration between campuses and other research partners



- Hardware;
 - Access to ICT Equipment by Staff and Students
 - full-fledged data center at JOOUST
 - High Performance Computing (HPC) platforms for research



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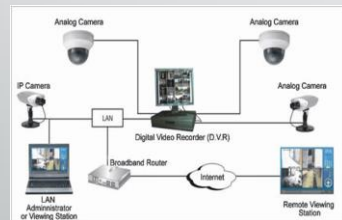
- Software; Inadequate Software for Teaching and Research



- Gender Digital Divide; Low ICT Adoption/ Digital literacy among girl child



- Security; physical security using CCTVs and automated access control systems;



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- Lack of comprehensive disaster recovery and business continuity program for the University



- E Waste Management



- Information Exchange for community engagement



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Project Objectives

- **Medium Term Project's objectives are:**

- ❖ To strengthen **ICT infrastructure** including security provisions supportive of integrated Information, Information Systems and Data architectures respectively and attendant community communication networks.
- ❖ To strengthen **service delivery in teaching and research** through: (a) improved center of e-learning, (b) improved library Services,
- ❖ To strengthen **capacity building** through: (a) PhD supervision, (b) Curriculum development, (c) Staff exchange, (d) Workshops and conferences, and (e) Training



- **Long Term Project's objectives**

- ❖ To establish **multidisciplinary laboratories** through: (a) open source resources e.g. Python, (b) Data analytics (c) Artificial Intelligence and IoT, (d) Cyber security and Forensic, (e) GIS, and (f) System dynamics.
- ❖ To strengthen **outreach through digital literacy** for gender empowerment and setting up a community radio and TV stations for disseminating project outputs to stakeholders within the LVB
- ❖ To establish a **Centre for e-waste and Green ICT**.



Link with the context analysis and the other projects

- **Project 1: Management of the Lake Victoria Basin Natural Resources**
 - ❖ Mapping out land cover changes, land uses and Climate within the LVB
 - ❖ Carry out mapping and classification of LVB biodiversity
 - ❖ Develop an inventory of LVB biodiversity
 - ❖ Establishing biodiversity monitoring and surveillance system
 - ❖ Application of Soil & Water Assessment Tool (SWAT) to simulate the quality and quantity of surface and ground water and predict the environmental impact of land use, land management practices, and climate change
 - ❖ Setting up of hydrologic based early warning system to mitigate water related disaster losses and
 - ❖ Setting up of institutional repository where they can share and disseminate their research findings;



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- **Project 2 (Technical support for a sustainable food security and resilience building in Lake Victoria Basin).**

ICT will be useful in setting up **smart agriculture**. It will also be applied in promoting **collaborative learning**, exchange programmes and outreach through e- learning;

- **Project 3 (Building Capacity for Research, Management and Control of Communicable and Non-Communicable Diseases).**

Mapping out the CD and NCD epidemics in the LVB to ensure they are not under reported or misunderstood. The **data centre** proposed in ICT project will help this project in analyzing biostatistical data; and

- **Project 5 (Strengthening Climate Change Resilience among Communities and Ecosystems in Lake Victoria Basin).**

Assist in developing ICT **driven early warning systems** in the basin, GIS and remote sensing. An institutional repository developed by ICT will also assist in disseminating reports and findings from this project.



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Expertise/ Stakeholders needed for the successful Implementation

Expertise already present in the project team

- Data analytics,
- ICT4D,
- E-Learning,
- Library Services,
- Cybersecurity,
- ICT Innovations

Expertise sought for at level of the Flemish HEIs

- Artificial Intelligence application in modelling,
- E Learning Training Expert
- Internet of Things,
- Data Management,
- Gender expert
- Community Mobilization
- Media Expert (TV and Radio Production)
- Communication Expert



Interested in this project?

Contact:-

Local Project Team
Leader:-

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Flemish Project Team
Leader:-

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**THANK
YOU**



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