

Center Title and Acronym: African Center of Excellence in Internet of Things (ACEIoT)

Host University and Country: University of Rwanda

Center Website Address: www.aceiot.ur.ac.rw

Center Director and email address: Prof.Santhi Kumaran, santhikr@yahoo.com

Primary Thematic Discipline of Center: Internet of Things, Embedded Computing Systems, Wireless Intelligent Sensor Networking

Brief Description of Center

African Center of Excellence in Internet of Things (ACEIoT) aims to educate and train African researchers in the field of IoT who will develop and deploy innovative IoT-enabled services to address development challenges across all ESA high-priority domains. For example, (i) remote monitoring and diagnosis technology to provide rural populations with access to quality healthcare; (ii) wide-area networked sensors could be used for precision agriculture to improve yield; (iii) smart metering in African households could regulate the power usage and increase energy efficiency.

Key Objectives and Expected Outcomes:

Main Objectives of ACEIoT are to,

- Build a critical mass of African Scientists and Engineers in IoT through Higher Education and Research;
- Set up an IoT living lab in Rwanda for open innovation and co-creation of IoT4D.

More specifically, ACEIoT's aims to:

- Develop curricula and the infrastructure to promote cutting-edge research in the field of IoT;
- Train high-level professionals and academics in the field of IoT through Master's and PhD programmes in Wireless Intelligent Sensor Networks and Embedded Computing Systems;
- Increase IoT applied research output with relevance to ESA priority domains through a focus on low-cost, innovative, open and sustainable solutions, and
- Excel as a focal point for enhancing regional and international research collaboration by providing a forum for researchers to share ideas and results on IoT applications.

Major Accomplishments to Date:

1. PhD programmes= 2

2. Masters Programmes =2

Masters of Science in Internet of Things- Embedded Computing Systems (ECS)

Masters of Science in Internet of Things- Wireless Intelligent Sensor Networks (WISeNet)

3. 18 PhD Students enrolled

4. MoU's and Partnership Agreements

Academia Key Partners

UR- SUZA MoU and Partnership Agreement with ACEIoT approved

UR- UNIMA MoU and Partnership Agreement with ACEIoT approved

UR-EAIFR MoU for affiliation signed, but Partnership Agreement is in process

UR- ICTP, Italy MoU approved

UR- IIT, Kharagpur, India MoU approved

Industry Partner

MoU signed between Inmarsat and the Ministry of Youth and ICT (MyICT) of Rwanda, but

Collaboration Agreement between Inmarsat and ACEIoT approved to be signed.

5. Publications

From center staff =5

From Partners =5

6. Technical workshops organized

- Co-organized with University of Kibungo (UNIK a two day ce Workshop (10th-11th July) at the College of Science and Technology main campus in Nyarugenge, Kigali on “Data Matters: Introduction to Data Science and R Programming for Data Analytics” - 40 participants
- Organized the “Cisco IoT Workshop” on Tuesday 18th July 2017 – 40 participants

7. Staff development training

- Two center staff trained on PhD supervision
- One staff attended one week workshop on Research grant Management organized by SARIMA, South Africa

Primary Regional and Global Partners:



Senior Faculty	Research Area
Prof. Santhi Kumaran	Communications/IoT4D
Dr. Gaurav Bajpai	Software for Embedded Systems
Dr. Richard Musabe	Systems and Security
Dr. Philbert Nsengiyumwa	Embedded Systems
Dr. Rutabayiro Ngoga Said	Cognitive Radio Technologies
Dr. Luc Einstein Ngend	System level Programming
Dr. Celestine Twizere	Telecommunication systems
Dr. Damien	Software Engineering
Dr. Donart Ngarambe	Distributed Computing Systems
Dr. Kabiri Charles	Cognitive Radio Communications
Dr. Sibamona Louis	Cognitive Radio Communications