



## Short Course in LoRa Technologies

Date: 24<sup>th</sup> to 28<sup>th</sup> July, 2019

Venue: EAIFR conference room

African Center of Excellence in Internet of Things (ACEIoT ) at University of Rwanda- College of Science and Technology in collaboration with EAIFR, ICTP and CMU-A is conducting the 2<sup>nd</sup> East African Workshop on Internet of Things which will focus on LoRa Technologies.

Date	Start Time	End Time	Title	Speaker, Affiliation
24-Jun-19	08.30	09.00	Registration of participants	
	09.00	09.15	Introduction of participants	
	09:15	09:30	Opening Remarks	Dr. Ignace Gatere, Principal-URCST
	09:30	09:45	About ACEIoT	Santhi Kumaran Director, ACEIoT
	09:45	10:00	About EAIFR	Omololu Akin-Ojo Director, EAIFR
	10:00	11:00	Introduction to IoT	Marco Zennaro, ICTP
	11:00	11:15	Coffee break	
	11:15	12:15	Labs	Marco Zennaro and Sebastian Buettrich
	12:15	13:00	Intro to micro python	
	13:00	14:30	Lunch break	
	14:30	15:30	Pycom intro	
	15:30	15:45	Coffee break	
	15:45	16:45	Atom and alternatives	
	16:45	17:45	Blink	
	17:45	18:45	Sensors (acceleration, light, temperature)	
25-Jun-19	09:00	10:00	Wireless standards for IoT	Sebastian Buettrich, ITU
	10:00	11:00	Introduction to Radio Planning	Tim Brown, CMU
	11:00	11:15	Coffee break	
	11:15	12:15	Labs	Marco Zennaro and Sebastian Buettrich
	12:15	13:00	Intro to MQTT	
	13:00	14:30	Lunch break	
	14:30	15:30	MQTT with mobile phone + laptop	
	15:30	15:45	Coffee break	



ICTP - East African Institute  
for Fundamental Research  
under the auspices of UNESCO



The Abdus Salam  
International Centre  
for Theoretical Physics



	15:45	16:45	WiFi: connect to WiFi network	
	16:45	17:45	Send MQTT via WiFi	
	17:45	18:45	Subscribe via MQTT	
26-Jun-19	09:00	10:00	TTN	Sebastian Buettrich, ITU
	10:00	11:00	Labs	Marco Zennaro and Sebastian Buettrich
	11:00	11:15	Coffee break	
	11:15	12:15	Installing a gateway	
	12:15	13:00	LoRaWAN example: sending temperature via TTN	
	13:00	14:30	Lunch break	
	14:30	15:30	Ubidots TTN	
	15:30	15:45	Coffee break	
27-Jun-19	09:00	10:00	RPiDC: a data center in a RPi	Marco Zennaro, ICTP
	10:00	11:00	Labs	Marco Zennaro and Sebastian Buettrich
	11:00	11:15	Coffee break	
	11:15	12:15	Installing RPiDC	
	12:15	13:00	Using InfluxDB with Python	
	13:00	14:30	Lunch break	
28-Jun-19	09:00	10:00	Coverage mapping	Sebastian Buettrich, ITU
	10:00	11:00	Optimal radio placement in LoRaWAN	Tim Brown, CMU
	11:00	11:15	Coffee break	
	11:15	12:15	Handing over certificates and Closing remarks	Dr. Ignace Gatere Principal-CST
			Lunch	