Joint ICTP-IAEA School on LoRa Enabled Radiation and Environmental Monitoring Sensors

23 April 2018 - 11 May 2018
Trieste, Italy

LoRa is a long range, low power networking solution recently developed for the Internet of Things (IoT). In the workshop we will learn about the underlying technology and protocols and we will develop scientific instrumentation with LoRa chips.

Directors:

I. DARBY, IAEA-NSIL
M.L. CRESPO, ICTP MLab
M. ZENNARO, ICTP T/ICT4D

Description:

A LoRa network can connect a plethora of tiny battery powered LoRa sensors and devices within a few kilometers and even up to 150 km with line of sight. With complete LoRa modules available from $5 USD the cost of instrumenting huge areas and cities with real-time environmental sensor networks has diminished substantially.

In this school the participants will develop and construct instrumentation and sensors equipped or embedded with LoRa chip and they will deploy and analyse the data from a LoRa enabled sensor network across the ICTP campus and in Trieste.

The power of the technology to rely on long distance, low power (battery or rechargeable/renewable) technologies is of considerable interest to the environmental monitoring of cities and agricultural environments.

Topics:

- LoRa and LoRaWAN protocols;
- Prototyping of sensor boards;
- Coding of LoRa sensors;
- Planning and deployment of a LoRa network;
- Collection, analysis and the visualization of the data.

Local Organizer:

M. ZENNARO, ICTP T/ICT4D

How to apply:

Online application:
http://indico.ictp.it/event/8298/

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries.
There is no registration fee.

Deadline:

26 February 2018

Supporting Organizations