Africa IoT for Energy

Summer School on Smart Local Energy Systems (SSES RWANDA 2022)

Monday 27th June – Wednesday 29th June 2022, University of Rwanda, Kigali, Rwanda.

SSES Rwanda 22 offers postgraduate Masters and PhD students, and early career researchers the opportunity to learn from leading researchers in IoT and Energy. The Summer School is being organized in partnership with the University of Rwanda, Coventry University, and EnergyREV. It will provide participants with the necessary understanding of the development of sensing systems from concept to deployment, with a particular focus on Contiki, that can aid the design of Smart energy systems.

During the course, participants will:

- Understand the latest results, trends, activities and applications in IoT and WSN
- Gain insights on designing wireless intelligent systems in the energy setting
- Become familiar with Contiki basics, key features and compile a simple application
- Understand the different parts that make up a typical IoT application, ethical issues that may arise and key constraints on what IoT can do

PROGRAMME

The three-day Summer School will feature a number of workshops, keynotes, and hands-on development work. It will be in dual mode, allowing online participation allowing applicants from outside Rwanda to participate.

Day 1- Introduction to IoT applications and design for deployment.

Keynotes by Professor Elena Gaura 'What does a sustainable energy system look like? and Dr Jonathan Nixon 'Design principles and processes for renewable micro grids: Rwanda Case Studies'. Workshops on Introduction to IoT and Contiki.

Day 2- Understanding the development, benefits and challenges of sensing systems. Insights and practical hands-on tutorials on debugging and relevant applications for IoT, including the process and challenges of going from system concept through to real-life IoT deployment. Lecture: 'Principal protocols for energy systems and data collection'.

Day 3- Demonstrations Lecture: 'Living Labs – How and Why'**.** In groups, participants put into practice the skills and techniques learned during the course to build their own demos.

VENUE

SSES Rwanda 22 take place at the University of Rwanda Campus of the College of Science and Technology in Kigali, Rwanda.

PRE-REQUISITES

It is aimed at participants with knowledge in computer science electronic and electrical engineering, who have an understanding of and are open to learning how the Internet of Things can be applied in the design of Smart energy systems.

Participants will need to bring their own laptop. If accepted, participants will receive instructions for installing all needed software for the course, which must be installed prior to the start of the course.

REGISTRATION AND COSTS

Participation is open to interested MSC and PhD students and industry professionals wanting to enhance their knowledge in the field. It is expected that the school will host 20 participants in person and 20 online. The course is free and includes participation in all school activities, materials, and lunch during the course. Accommodation and travel costs will be the responsibility of the participants.

Each participant will receive a mote that they can keep after the course.

APPLICATION PROCESS

To apply for a place at the summer school please register here.
For further information or queries please contact Dr Alison Halford ad4480@coventry.ac.uk

IMPORTANT DATES

Registration deadline: **MAY 16TH 2022**
Notification of admittance**: MAY 22ND 2022**

ACKNOWLEDGMENTS

We would like to acknowledge the support of the Principal of the College of Science and Technology and the following University of Rwanda Research Centres for providing meals, laboratory facilities and lecture venues: African Centre of Excellence in Energy for Sustainable Development (ACEESD), African Centre of Excellence in Internet of Things (ACEIoT) and East African Institute for Fundamental Research(EAIFR).