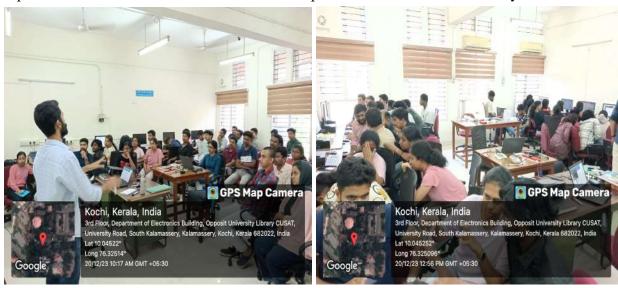
Workshop Report

Name of the Workshop: A Hands-on Workshop on SOFTWARE DEFINED RADIO, organized by the Department of Electronics, CUSAT, under the RUSA 2.0 major project T4H, during December 20-21, 2023.

On Day1, 20th December 2023, Dr. Deepti Das Krishna welcomed the speaker Mr. Jayasankar RV, CEO & Lead Architect, TRANSIOT, Cochin. The one day session conducted by Mr Jaynsankar and his team (Mr. Ajai & Ms. Surya, TRANSIOT), provided an overview of SDR fundamentals, exploring hardware & software architecture behind SDR, and modulation schemes, ranging from analog FM to digital with FSK and PSK. The participants explored the usage of USRP B210 hardware integrated with the GNU RADIO 3.10 software in UBUNTU 22.04 version. The students successfully demonstrated the setting up of an FM receiver. Other experiments like FM transmission and PSK reception were also demonstrated by the trainers.





Venue: VLSI Lab

The workshop concluded by presenting opportunities to further delve into applying this knowledge, such as extending learning to construct 4G/5G RAN or developing simple satellite ground stations. The HoD, Dr. Deepti DAs Krishna handed over a memento to Mr Jayasankar as a token of happiness from the Department of Electronics.

Day 2 started with an introduction into the basic operations possible in Labview by Mr. Jiyo Mathew, Technical Manager, Trident Tech Labs, providing the participants with a feel of usage of the software. Gradually, the participants were introduced to the possibilities of using USRP NI 2900 with Labview. Different modulation schemes like BPSK and QPSK were demonstrated. Setting up of FM receiver using Labview was also performed by all participants. Opportunities using Labview for student projects and lab using USRP was also discussed by the speaker.



Venue: Communications lab

The session concluded with a vote of thanks by Dr. Poornima S, who also presented a memento to Mr. Jiyo Mathew for his efforts in delivering an interesting session.

Co-ordinators,
Dr. Poornima S
Assistant Professor
Department of Electronics
Cochin University of Science and Technology

Dr. Deepti Das Krishna
Associate Professor & Head
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Cochin University of Science and Technology

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Brochure

About the Department

The Department of Electronics was established by the University of Cochin in 1975. The Department is a postgraduate department offering master's and doctoral degree programs in cutting-edge electronics areas, supported by DST-FIST and UGC-SAP. It has well equipped research laboratories that utilize state-of-the-art technology for carrying out cutting-edge research work.

About the Workshop

Software Defined Radio (SDR) offers a flexible approach to radio system design by allowing engineers to implement various communication protocols and standards by merely reconfiguring software parameters, eliminating the need for hardware modifications. In this two day workshop, the participants get a an overview on SDR and a hands-on training on setting up an end-to-end wireless communication system and explore its applications for future wireless systems.

This workshop is organised by DOE under the RUSA 2.0 major project T4H.

Resource Persons:

Mr. Jayasankar RV Lead Architect, Embedded Systems TRANSIOT

Mr. Jiyo Mathew Technical Manager Trident Technologies



Contact Us

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Dr. Deepti Das Krishna

Associate Professor & Head, DOE

Registration fee (External participants): Rs 500/-



Last date to register December 15, 2023

A Hands-on Workshop

on

SOFTWARE DEFINED RADIO

20-21 December 2023

Venue: Department of Electronics (DOE), CUSAT