

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
Department of Electronics
Cochin University of Science and Technology

Participant List

No	Name	Email ID	Contact Number	Designation	Institution Name
1	Poomima S	poomimasab@gmail.com	8281448795	Faculty	CUSAT
2	Jayasankar c	jayasankarc1501@gmail.com	8848983973	UG/PG student	DOE CUSAT
3	Vignesh c r	vignesh2000@pg.cusat.ac.in	8943173430	UG/PG student	DOE CUSAT
4	Ajsar Maraickar K J	ajsar7@gmail.com	9539674762	UG/PG student	DOE, CUSAT
5	Soorya R	sooryars59@gmail.com	6282873065	UG/PG student	DOE CUSAT
6	K Athul Prem	athulkodamana@outlook.com	9544115521	UG/PG student	Department of Electronics, CUSAT
7	Vysakh k s	vysakhsbykyd@gmail.com	9946721731	UG/PG student	Doe cusat
8	JOEL RAJU	joelraju999@gmail.com	7902819564	UG/PG student	DOE CUSAT
9	Vishnu M	vishnumsatheeshmm@gmail.com	7293834923	UG/PG student	DOE, CUSAT
10	Gloriya Dsilva	gloriyadsilva22@gmail.com	6282039092	UG/PG student	Cusat
11	Nasia M	nasiamaruthayil@gmail.com	9497333069	UG/PG student	Cochin University of Science and Technology
12	Shriraja S	shrirajaselvakumar@gmail.com	9809926992	UG/PG student	DoE,Cusat
13	Jintamol Kochumon	jintamolkochumon@gmail.com	9961971998	UG/PG student	DOE CUSAT
14	Asna Aslam	asnaaslam26@gmail.com	7994658141	UG/PG student	CUSAT
15	ADHYA P S	adhyps66@gmail.com	9847537352	UG/PG student	DOE, CUSAT
16	Beevilefila.m.p	lefilabeevi@gmail.com	9995934997	UG/PG student	Cochin University of science and technology
17	Athira Suresh	athirasureshkpt@gmail.com	9747391029	UG/PG student	Department of Electronics ,CUSAT
18	Arya. KR	aryakramesh2001@gmail.com	7034315718	UG/PG student	Cochin university of science and technology
19	Maneesh kumar singh	maneesh.kumar.edayar@gmail.com	7012201024	UG/PG student	Cochin university of science and technology
20	Arjun K	arjunalakanandha@gmail.com	8943940048	UG/PG student	DOE
21	SREENATH c	sreenathc555@gmail.com	7902268711	UG/PG student	Doe
22	Aswathy KP	aswathyradhakrishnankp99@gmail	7994039049	UG/PG student	Cochin University of Science and Technology
23	Revathi R	revathipanikkath@gmail.com	9947339255	UG/PG student	Department Of Electronics, CUSAT
24	Alan peter	alanpeter7293@gmail.com	8590775098	UG/PG student	CUSAT
25	MIDHUN K S	midhunks2020@gmail.com	+917510219981	UG/PG student	CUSAT
26	Unnimaya E S	unnimayaes2000@gmail.com	9496591097	UG/PG student	Department of electronics Cusat
27	Thampuran S Valavi	thampuranvalavi@gmail.com	7306548923	UG/PG student	Department of electronics, CUSAT
28	Anzil Antony	anzilantony@gmail.com	8086718372	UG/PG student	Cochin University of Science and Technology
29	Joyal c j	joyalcj6666@gmail.com	9846536973	UG/PG student	Cochin University of science and technology
30	Manoj T G	manojthayyath999d@pg.cusat.ac.i	6238663843	UG/PG student	Cochin University science and technology, Kalamassery
31	Ludhi Stanly Chirayath	ludhistanly@pg.cusat.ac.in	7994255653	UG/PG student	Cochin University of Science And Technology
32	Athulraj p m	athulrajpm744@gmail.com	9544211905	UG/PG student	Department of Electronics,Cusat
33	Alet Treevan	7alettreevan@pg.cusat.ac.in	9567540115	UG/PG student	Cochin University of science and technology
34	Amal S Narayanan	amalsnarayanan33@gmail.com	6282529795	UG/PG student	CUSAT
35	Sayooj M J	sayoojmj2020@gmail.com	6238086041	UG/PG student	CUSAT
36	Ajith k r	krajith68@gmail.com	8086578973	UG/PG student	Doe cusat
37	Namitha K	knamithak13@gmail.com	9446449674	UG/PG student	CUSAT
38	Sarathkrishna	sarath.acarr@cusat.ac.in	9344136242	Engineer	ACARR
39	DIYA R B	diyarb2907@gmail.com	9207066104	UG/PG student	CUSAT
40	Rejoy Rebello	rejoy.acarr@cusat.ac.in	8848047498	Research Scholar	ACARR ST RADAR FACILITY CUSAT
41	Aswathi p	aswathip@cusat.ac.in	9447667799	Research Scholar	Cusat
42	Sreeraj K Warriar	sreerajkwarrior@gmail.com	9497142829	UG/PG student	Cochin University of Science and Technology

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 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

Coordinators:

Dr. Poornima S

Assistant Professor, DOE

Ph: 8281448795

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