

**SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE**  
**SESHADRI RAO KNOWLEDGE VILLAGE::GUDLAVALLERU**  
**DEPT. OF ELECTRONICS AND COMMUNICATION ENGINEERING**

20<sup>th</sup> February 2021.

**CIRCULAR**

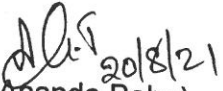
All the I B.Tech II semester ECE & IOT students are informed to attend a webinar on "Edge Node Design Issues for IOT Applications" organized by Department of ECE in association with IEEE Student branch, SRGEC, Gudlavalleru.

**Resource Person: Dr. Kota Solomon Raju, Senior Principal Scientist, CSIR-NAL)**

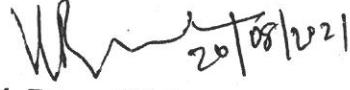
**Date(s): 24<sup>th</sup> August, 2021.**

**Time: 5:30 PM - 6:30 PM (IST)**

**Registration Link: <https://events.vtools.ieee.org/m/279849>**

  
(Dr. T Ananda Babu)

Faculty advisor (IEEE SB)

  
(Dr. Y. Rama Krishna)  
Head of the Department

# **GUDLAVALLERU ENGINEERING COLLEGE**

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru – 521356, Krishna Dist (A.P.)

## **Department of Electronics and Communication Engineering**

### **RESOURCE PERSON DETAILS**



<b>Name</b>	:	Dr. K Solomon Raju
<b>Designation</b>	:	Senior Principal Scientist
<b>Address</b>	:	CSIR-NAL, Bangalore, Karnataka, India
<b>Email – ID</b>	:	-
<b>Mobile Number</b>	:	09462271690, +919460842188
<b>Topics Delivered</b>	:	Edge node design issues for IoT applications
<b>Date</b>	:	24-08-2021
<b>Venue</b>	:	Online
<b>Target Audience</b>	:	I B. Tech ECE & IoT Students

**IEEE Guntur Sub-Section in Association with  
SRM University, AP and  
IEEE Student Branch Seshadri Rao Gudlavalleru Engineering College**

**Invites for**

**Free Live Webinar on**

**“Edge Node Design Issues for IOT Applications”**



**Resource Person**

**Dr. Kota Solomon Raju, Senior MIEEE**

**Senior Principal Scientist**

**CSIR-National Aerospace Laboratories (CSIR-NAL)**

**Bengaluru-560017, India**



**24/08/2021 (Tuesday)**



**5:30 PM – 6:30 PM (IST)**

**Link to Register**

**<https://events.vtools.ieee.org/m/279849>**

# Edge node design issues for IoT applications

<sup>1</sup>Solomon Raju Kota, SMIEEE, FIE

*1 Senior Principal Scientist, Aerospace Electronics & Systems Division, CSIR- National Aerospace Laboratories (CSIR-NAL),*

*Bengaluru (Karnataka)-560 017, India*

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**Keywords—** End node, Edge node; 5G and beyond; Fog Computing, IoT and CPS

## EXTENDED ABSTRACT

Remarkable advances in VLSI /ULSI, 5G and beyond wireless communication technologies will be leading to a possible implementation of Internet of Things /Cyber Physical Systems applications practically for real-time environment(s). Distributed IoT system contains, edge node to collect the data from sensors with small computing facility within the device sometimes, this device may be called as end-node, edge device /node with medium level computing facility, mobile edge computing node /device to provide fog computing etc., i.e., pre-processing of the data and communication optimisation as per the requirement etc. this type device is also called as fog node, Cloud computing infrastructure to provide high level computing facilities and user services. Edge computing plays a vital role to implement Internet of Things / Cyber Physical Systems technology. Edge computing is used to reduce the dependency on cloud computing and improves the performance in terms of decision-making, computations required for communication optimisation, bandwidth utilisation, dynamic behaviour depending upon the service and role i.e., mobile or static device, protection against the privacy, safety and security to accelerate real time IoT applications. In this lecture, we will discuss some the above issues while designing edge node primarily at end-node and edge node and mobile edge node.

## Short Profile of Solomon Raju Kota



Dr. Solomon Raju Kota at present working as a Senior Principal Scientist in Aerospace Electronics & Systems Division (ALD), CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru and Professor, AcSIR, Ghaziabad. Formerly he worked about 23.5 years in CSIR -Central Electronics Engineering Research Institute (CSIR - CEERI), Pilani, Rajasthan as a R&D Scientist, Group Leader, Head, Skill Development and Project Leader. He received the B.E. from Andhra University in 1997, M.E. from BITS Pilani in 2003 and Ph.D. from IIT Roorkee in 2008. His research work mainly focused on advanced electronic systems Engineering for various applications. R&D areas include Aerospace Electronics & Systems, Reconfigurable Computing; CPS-Industry4.0 & 5G and Beyond; IoT Analytics & Security; Edge Intelligence; and SHM & Securing Critical Infrastructure using  $\mu P$  &  $\mu C$  (ARM), MSP, and FPGAs, RASIP including hardware/software co-design, compressing sensing and data acquisition techniques with and without real time operating systems (RTOS).

Currently he is working on R&D project entitled "SARAS Mk-II indigenous flight technology development programme" at CSIR-NAL as one of the principal investigators. He has completed successfully, Twelve R&D projects worth of more than Rs. 1500.00 Lakhs (15 Corers) as a principal Investigator. He is an Author or co-author of more than 130 scientific papers published in peer-reviewed international journals and conferences. Delivered 115 invited talks in international / national conferences /seminars/workshops, and guided 78 M.Tech. dissertations, and 08 Ph.D. students and presently guiding 06 Ph.D. students at present.

He was and or has been working as visiting Professor in Hiroshima University, Hiroshima, Japan and BITS, Pilani, IIIT Kota etc. He is a senior member, IEEE, Fellow of THE INSTITUTION OF ENGINEERS (INDIA), and life member IETE, New Delhi. Selected member for the "foreign science and technology exposure tour" programme by DST, Government of India. Played key role in materializing the MOU between CSIR-CEERI, Pilani and Hiroshima University, Japan.



**GUDLAVALLERU ENGINEERING COLLEGE**

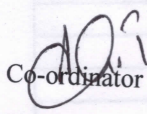
Department of ECE

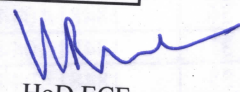
**List of Participants****EDGE NODE DESIGN ISSUES FOR IOT APPLICATIONS****II & III ECE 24.12.2021 (AY - 2021 - 22)**

S.No	Roll No	Name of the Student
1	18481A0401	ABDUL JAVEED
2	18481A0402	ADDANKI KEERTHI VARDHAN
3	18481A0403	AKASAPU DURGA PRASAD
4	18481A0404	ALLURI CHANDU
5	18481A0406	APPANA DURGA PRANEETHA
6	18481A0407	AREPALLI GANGADHAR
7	18481A0408	AVANIGADDA CHARANI
8	18481A0409	BANDARU RAJYA LAKSHMI
9	18481A0413	BEJAVADA LAKSHMI YESWANTH
10	18481A0414	BETHAPUDI LIKITH SAI
11	18481A0415	BEVARA PAVAN KUMAR
12	18481A0416	BHATRAJU MUKUNDAPRIYA
13	18481A0417	BILLAKURTHI RAVINDRA
14	18481A0419	BODDU RAVINDRA BABU
15	18481A0420	BOPPUDI BHAVYA
16	18481A0421	BORRA JAHNAVI
17	18481A0422	BOTLA YOGI
18	18481A0423	BRUNDAVANAM PAVAN KUMAR
19	18481A0425	CHALAMALASETTI BALASAI SUBBA RAO
20	18481A0426	CHALLA BHAVITHA
21	18481A0427	CHALLAGUNDLA VAMSI KRISHNA
22	18481A0428	CHANDU KAVYASREE
23	18481A0429	CHEBATTINA MANASA
24	18481A0430	CHEBOINA BINDU SAI PRASANNA
25	18481A0431	CHEBOYINA MERCY RANI
26	18481A0432	CHENNAMSETTI VENNELA SAI HARSHINI
27	18481A0433	CHENNUPATI YASWANTH KRISHNA
28	18481A0434	CHILLANKI SIRAJUDDIN
29	18481A0435	CHILUVOLLANKA SRAVAN KUMAR
30	18481A0436	CHIMMILI JAYASANKAR
31	18481A0437	CHINTA MOULIKA
32	18481A0438	CHINTAPALLI PREMASHAINY KUMAR
33	18481A0439	CHINTHA VOSHAL JAYASURYA
34	18481A0440	CHIRAKALA SAIMALAVIKA
35	18481A0441	CHORAGUDI MAMATHA
36	18481A0442	CHORI NIRMALA
37	18481A0443	CHOUTAPALLI VISWA BHARATHI
38	18481A0444	DARA KRISHNAVAMSI
39	18481A0446	DASI MOHAN VENKAT
40	18481A0447	DEEKULLA VENNELA
41	18481A0448	DEVANABOYINA YUVARAJU
42	18481A0449	DEVISETTI GURU RAJESH
43	18481A0450	DIMMITI SASIDHAR
44	18481A0451	DODDAKA VEDAHARSHINI
45	18481A0454	EDE RAJA SRI
46	18481A0455	EDUPUGANTI NISSI
47	18481A0456	ELAPROLU LOKESH
48	18481A0457	ELURI VENKATA NAGARJUNA
49	18481A0458	GAJJALA RAMMOHAN REDDY
50	18481A0459	GANDHAM SAI SIVAKRISHNAKUMAR
51	18481A0460	GANGIREDDY VENKATA SAI CHAITANYA REDDY
52	18481A0461	GARIKAPATI SEETHARAM CHOWDARI
53	18481A0462	GAROJU PRATHIBHA
54	18481A0471	GUNDU BADRINATH
55	18481A0472	GUNJI VENKATA NARESH
56	18481A0473	GUNTAKA SEERSHVEDA
57	18481A0474	GUTTA JAYADEEP SAI



S.No	Roll No	Name of the Student
58	18481A0475	IJJARATI MANIKANTA
59	18481A0476	JADDU VEERENDRA NADH
60	18481A0477	JALASUTRAM HYNAR
61	18481A0478	JAMMALAMADAKA VENKATA SRIKANTH
62	18481A0479	JAMPA GANESH
63	18481A0480	JANJANAM BHAVANA
64	18481A0497	KASARAPU MANOJ KUMAR
65	18481A0498	KATARI VAMSI KRISHNA
66	18481A0499	KATTA NAVEEN
67	18481A04A0	KATURI MANOJ
68	18481A04A1	KESANA PAVANSAI
69	18481A04A2	KODALI NAGA SUNITHA
70	19481A0402	AHALYA DEVARAPALLI
104	19481A0403	AKURI UDAY RAVI SUHASH
105	19481A0404	ALLADA SAI KIRAN
106	19481A0405	AMBATI NAGA SAI
107	19481A0406	AMINIGADDA NANDINI
108	19481A0407	ANDRAJU ROHITH
109	19481A0408	ANISETTI KRANTI RAMYA
110	19481A0409	ANNAPUREDDY KOTINAGI REDDY
111	19481A0457	EMANI BHARGAVI
112	19481A0458	EMANI SAI SUPRIYA
113	19481A0459	GADIPUDI VENKATA SAI
114	19481A0460	GALI RAVI KIRAN
115	19481A0461	GALLA NAGA MANIKANTA
116	19481A0462	GALLA YASWANTH
117	19481A0463	GANJALA GNAN VENKATA SAI VARDHAN KUMAR
118	19481A0464	GANJI SIVA PRASAD
119	19481A0465	GANTA YUVA PHANI BALAJI
120	19481A0466	GARIKAPATI POOJITHA
121	19481A0467	GIRADA VINAY KUMAR
122	19481A0483	JAMES JUDSON TANTEPUDI
123	19481A0484	JAMPANA VARSHINI
124	19481A0485	JETTI SMILY
125	19481A0495	KAMMILI UJWALA
126	19481A0496	KANCHARLA KAVYA
127	19481A0497	KATHIKA SRI LAKSHMI
128	19481A04M9	TATA SAI MADHURI
129	19481A04N0	THAMMISETTI YASWANTH KUMAR
130	19481A04O0	VALLETI SAI SWAROOPA

  
Co-ordinator

  
HoD, ECE

1. Event Name: **“Edge Node Design Issues for IOT Applications”**

2. Description:

As a part of IEEE Student Branch, Seshadri Rao Gudlavalluru Engineering College activities, a webinar on **“Edge Node Design Issues for IOT Applications”** is organized for B.Tech ECE & IOT students and Faculty on 24<sup>th</sup> August, 2021. Dr. Kota Solomon Raju acted as the Resource person and delivered the lecture. In this webinar, current researches in IOT were explained and motivated the students and faculty to do research in IOT Applications.

- i) No. of participants: 135
- ii) Faculty behind the event: Dr. M. Kamaraju, Dr. T Ananda Babu
- iii) Organizers: IEEE Student Branch SRGEC, Dept. of ECE SRM University AP, IEEE Guntur Subsection

Flyer for the webinar

The image is a screenshot of a Zoom Webinar interface. The main content area displays a flyer for a webinar. The flyer text reads: "IEEE Guntur Sub-Section in Association with Dept. of ECE, SRM University, AP and IEEE Student Branch Seshadri Rao Gudlavalluru Engineering College Invites for Free Live Webinar on 'Edge Node Design Issues for IOT Applications'". Below this, it lists the Resource Person as "Dr. Kota Solomon Raju, Senior MIEEE, Senior Principal Scientist, CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru-560017, India". The date and time are "24/08/2021 (Tuesday)" and "5:30 PM – 6:30 PM (IST)". A registration link is provided: "https://events.xtools.ieee.org/m/279849". The Zoom interface includes a "Recording" indicator at the top left, a "Chat" window on the right with a message from "ravindra babu potluri" saying "make me panelist", and a system tray at the bottom showing the time as 05:27 PM on 24-08-2021.



## PROGRAM REPORT

**Name of the Program** : A webinar on “Edge node design issue for IoT applications”  
**Dates** : 24<sup>th</sup> December 2021  
**Details of the Resource Person** : Dr.K.SolomonRaju,  
Senior Principal Scientist,  
CSIR-NAL,Bangalore

**Objective of the Program** : Students will get basic knowledge on edge node design concepts for IoT applications.

**Outcomes of the Program** : The course makes students industry-ready for implementing various edge node concepts in IoT.

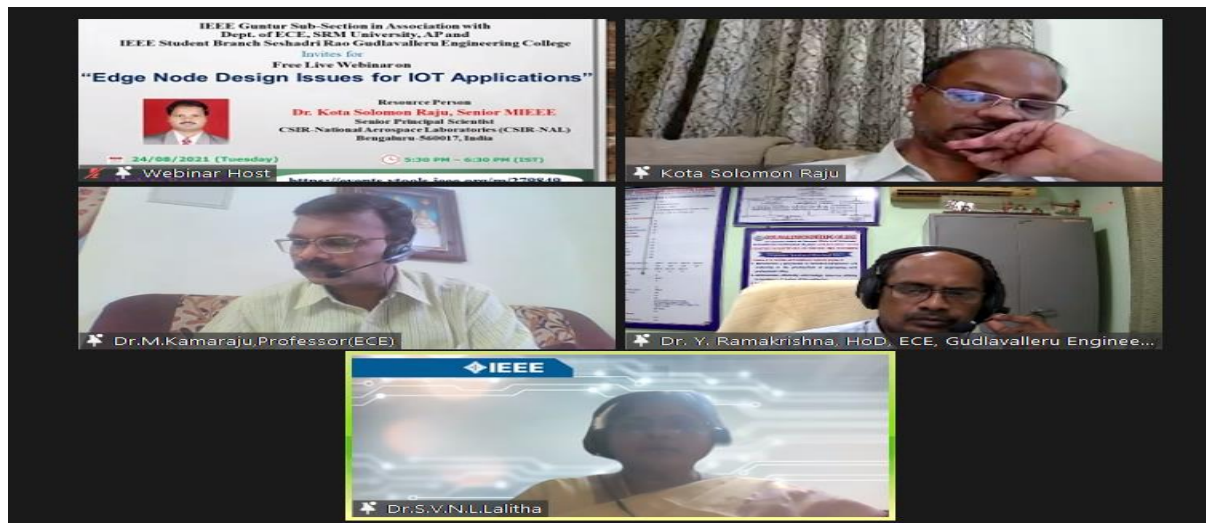
**No. of Participants** : 130

**Concluding Remarks** : This course was conducted successfully, and the students will be able to know physical or virtual machine located at edge of a network.

  
Coordinator

  
HoD, ECE

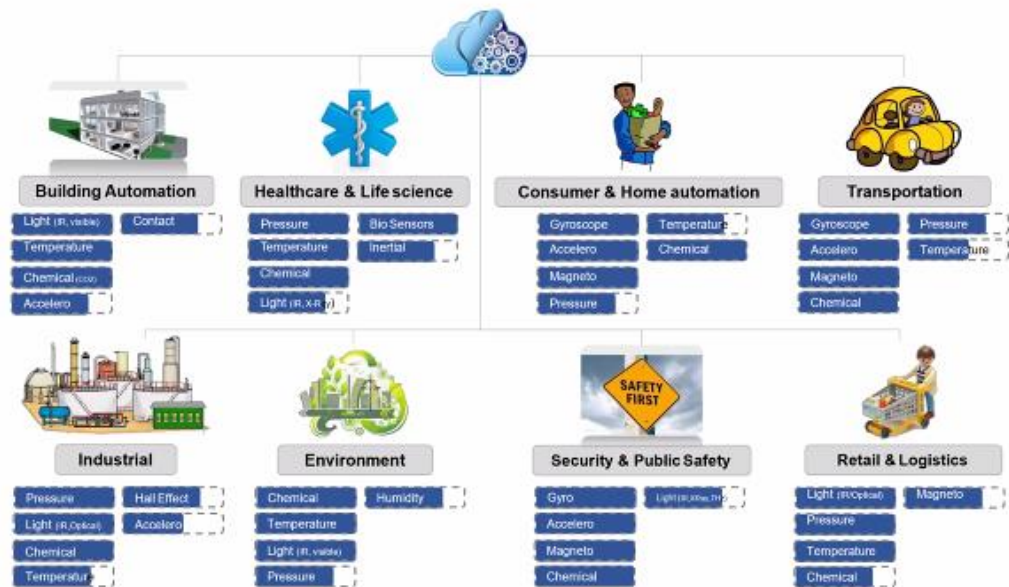
Dr. SVN L Lalitha, IEEE Guntur Subsection Chair giving her speech about IEEE student membership



Dr. GVSNRV Prasad, Principal, SRGEC giving speech during Inaugural session



## Typical Applications and Sensors used in IoT





Dr. Y Ramakrishna, Head, SRGEC addressing the participants and guests during Inaugural session



Dr M Kamaraju, IEEE SB SRGEC Counsellor giving Closing remarks

