



REPORT

Recent Trends in Internet of Things

20-24 September 2021

Shri G.S. Institute of Technology & Science, Indore

AICTE Training And Learning (ATAL) Academy

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Recent Trends in Internet of Things Workshop

RTIoT 5-Days AICTE sponsored workshop was conducted in online mode from 20th to 24th September 2021 in which around 150 participants from different parts of the country participated.

The speakers for the 5-day workshop on “Recent Trends in Internet of Things” were:

Dr. Ribhu Chopra, IIT Guwahati



Dr. Ribhu Chopra, (PhD IIT Roorkee 2015)
Assistant Professor,
Department of Electronics & Electrical Engineering,
Indian Institute of Technology, Guwahati, Assam,
India

Experience at IIT Guwahati - 04 Years

Dr. Sudip Biswas, IIIT Guwahati



Dr. Sudip Biswas,
(PhD – Univ of Edinburgh, UK 2017)
Assistant Professor,
Department of Electronics & Communications
Engineering,
Indian Institute of Information Technology,
Guwahati, India.

Experience - 04 Years

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Dr. Prithwjit Guha, IIT Guwahati



Dr. Prithwjit Guha, (PhD – Kanpur, 2009)
Assistant Professor,
Department of Electronics & Electrical Engineering,
Indian Institute of Technology, Guwahati, Assam, India

Experience- 12 Years

Mr. Kaushlendra Singh Sisodia, UniConverge Tech. Pvt. Ltd., Noida



Mr. Kaushlendra Singh Sisodia,
Co-Founder, UniConverge Technologies Pvt. Ltd., Noida,
Work Experience:- 20 + years of Industry Experience
Some Previous Employers:- Ericsson AB (Sweden),
STMicroelectronics

Alma Matter:- IIT Kanpur

Dr. Santosh Kumar Vishvakarma, IIT Indore



Dr. Santosh Kumar Vishvakarma, (PhD – IIT Roorkee, 2010)
Associate Professor,
Department of Electrical Engineering,
Indian Institute of Technology, Indore, India

Experience- 15 + Years

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Dr. Rajesh M Bodade, MCTE, Mhow



Dr. Rajesh M. Bodade, (PhD- E&TC Engg)
Professor,
Military College of Telecommunication Engineering (MCTE),
(Technical Training Institute of Indian Army,
Ministry of Defence, Government of India)
Mhow, Dist:- Indore, (M.P), India

Experience- 30+ Years

Krishna Chaitanya T., EdGate Technologies, Bangalore



Mr. Krishna Chaithanya T. ,
Embedded System Engineer,
4+ Years of experience in training the students and faculty
in the field of IoT, DSP, Robotics
EdGate Technologies, Bangalore

Bharath R, EdGate Technologies, Bangalore



Mr. Bharath R. ,
Embedded System Engineer,
4+ Years of experience in training the students and faculty
in the field of IoT, DSP, Mixed Signal Processing
EdGate Technologies, Bangalore

Dr. Abhishek Srivastava, IIT Indore



Dr. Abhishek Srivastava,
(PhD- Univ. Of Alberta, Canada, 2011)
Associate Professor,
Computer Science & Engineering Department,
Indian Institute of Technology, Indore, M.P, India.

Experience- 14+ Years

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Dr. Kumar Appaiah, IIT Bombay



Dr. Kumar Appaiah,
(PhD- Univ of Texas at Austin, 2013)
Associate Professor,
Department of Electrical Engineering,
Indian Institute of Technology, Bombay, Maharashtra,
India.

Experience- 8+ Years

Dr. Mohit P. Tahiliani, NIT Suratkal



Dr. Mohit P. Tahiliani,
(PhD- NITK, Surathkal. 2013)
Assistant Professor,
Computer Science & Engineering Department,
National Institute of Technology, Surathkal,
Karnataka, India

Experience- 5+ Years

Dr. Vimal Bhatia, IIT Indore



Dr. Vimal Bhatia,
(PhD- Univ of Edinburgh, UK, 2005)
Professor,
Department of Electrical Engineering,
Indian Institute of Technology, Indore, M.P, India

Experience- 17 + Years

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Dr.Gaurav Trivedi, IIT Guwahati



Dr. Gaurav Trivedi,
(PhD- IIT Bombay, 2007)
Associate Professor,
Department of Electronics & Electrical Engineering,
Indian Institute of Technology, Guwahati, Assam, India
Experience- 13+ Years

Dr.Yamini Karmarkar, Heartfulness Institute India



Dr. Yamini Karmarkar,
(PhD- School of Economics, DAVV Indore)
Meditation Trainer , Heartfulness Institute, India
Associate Professor, International Institute of
Management Studies (IMS), DAVV Indore, India
Experience- 23+ Years

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)

Schedule of the Workshop was as below:-

Date Day	Time	10:00 to 11:30 AM	11:30 AM to 12:00 PM	12:00 to 1:30 PM	1:30 to 2:30 PM	2:30PM to 4:00 PM
20-09-2021 Monday	Security Threats for IoT Devices & Networks. (Prof. Ribhu Chopra-IIT Guwahati)	TEA BREAK	Full Duplex Radio for Next Generation IoT (Prof. Sudip Biswas-IIT Guwahati)	LUNCH	Applications of computer vision in IoT using AI. (Prof. P Guha-IIT Guwahati)	
21-09-2021 Tuesday	Hands-On with EDGE Computing (ML with IoT) (Mr. Kaushlendra-UniConverge Tech. Pvt. Ltd.)		Innovations in IoT Device fabrication (Prof. S Vishvakarma-IIT Indore)		Interoperability issues of IoT Devices. (Prof. Rajesh Bodade-MCTE Mhow)	
22-09-2021 Wednesday	LAB-I (Edgate Tech. PVT. LTD.)		LAB-II (Edgate Tech. PVT. LTD.)		Web of Things (Prof. A Srivastava-IIT Indore)	
23-09-2021 Thursday	Convergence of Radio over Fiber (IoT-RoF) (Prof. Kumar Appaiah-IIT Bombay)		Leveraging Remote Test-beds for IoT Experiments (Prof. Mohit Tahiliani-NIT Surathkal)		Next Generation Networks (5G/6G) for IoT (Prof. V Bhatia-IIT Indore)	
24-09-2021 Friday	Meditation Session (Dr. Yamini Karmakar-Heartfulness)		Ultra Low Power Devices in IoT (Prof. Gaurav Trivedi-IIT Guwahati)		Quiz/ Feedback & Valedictory Session	

The inauguration session was held on 20th September 2021 online at 09:30 am on Google Meet Platform. Chief Guest of the program was Prof. Rakesh Saxena (Director, SGSITS), Guest of Honour of the function was Prof. Vandana Tare (Dean R&D, SGSITS) . Prof Shekhar Sharma (HOD, E&TC Dept, SGSITS) and Coordinator chaired the function. Keynote Speaker Dr. Ribhu Chopra (Assistant Prof.,IIT Guwahati), faculty members of E&TC and other academic departments of SGSITS were also present with the participants.

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Director SGSITS, Prof. Rakesh Saxena addressed the participants about online FDP and various initiatives taken by the institute in the field on technical education. Prof Vandana Tare talked about various funding schemes of AICTE including the schemes available exclusively for female faculties. Head of Electronics & Telecommunication engg. Dept, SGSITS Prof. Shekhar Sharma sir, discussed about various R&D activities of the department.. Coordinator Prof. Manish Panchal spoke about the content of FDP. Mr. Ashwin Shrivastava, Co-Coordinator proposed the Vote of Thanks. The program was anchored by Mrs. Ritika Nair.

Some screenshots of the inaugural function are as below.



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Few Screen Shot of the FDP are shown below:-



Inauguration Session



Keynote speech

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The slide titled "TERMINOLOGIES AND APPLICATIONS" features a central green triangle representing 5G use cases. At the top is "Enhanced Mobile Broadband (eMBB)" with "Streaming 4K". To the left is "Massive Machine Type Communications (mMTC)" with "Smart home". To the right is "Ultra Reliable Low Latency Communications (URLLC)" with "Autonomous driving". Other use cases include "5G cellular", "Cloud gaming", "Industry 4.0", "Voice", "LWM", "Augmented reality", "Tactile internet", and "Artificial intelligence".

Expert Talk

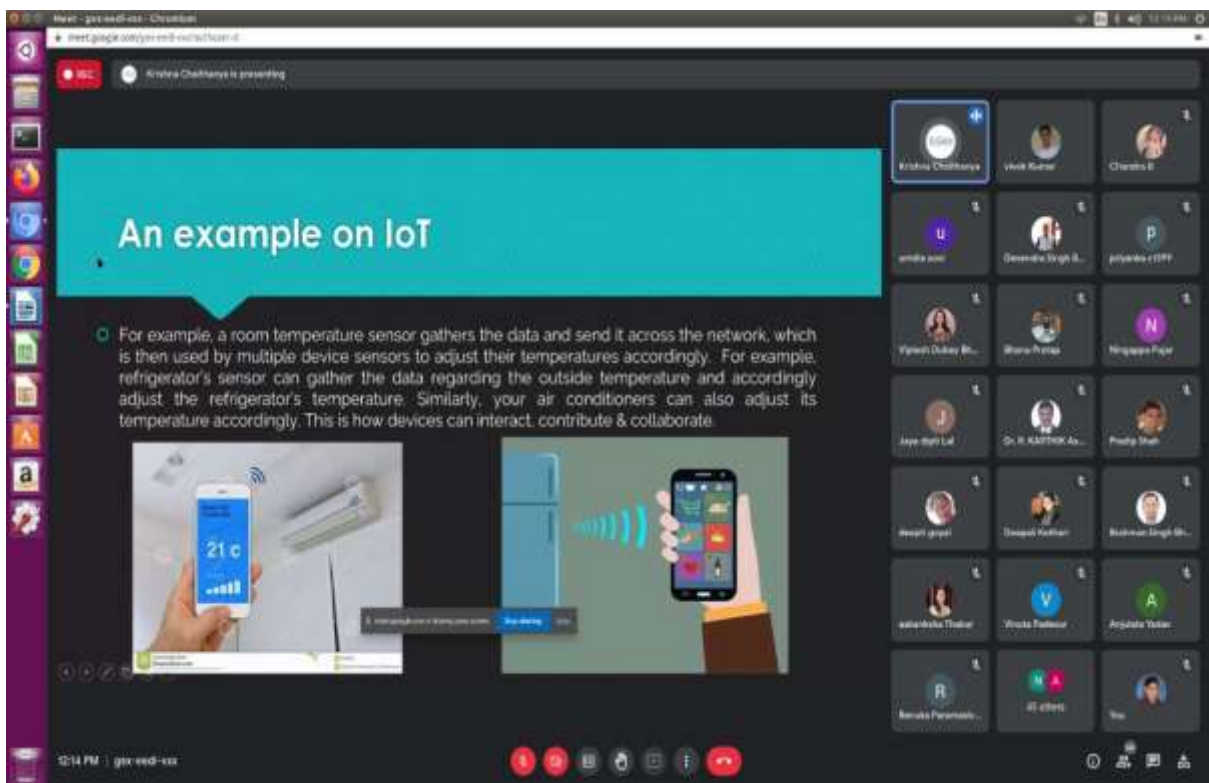
The slide titled "AI Industrial Structure and Technology Stack" shows a circular diagram. The outer ring lists applications: "Smart City", "Smart Finance", "Intelligent Security", "Intelligent Hardware", "Self-service Store", "Intelligent Education", "Autonomous Vehicles", "Intelligent Robots", "Smart Healthcare", and "Smart Home". The inner ring lists technologies: "Autonomous Systems", "Man-machine Interaction", "Cross-modal Analytical Reasoning", "Hybrid Enhanced Intelligence", "Virtual Reality Intelligent Modeling", "Application Technology", "Semantic Analysis", "Speech Recognition", and "Computer Vision". The center is labeled "Foundation: AI Chips".

Expert Talk

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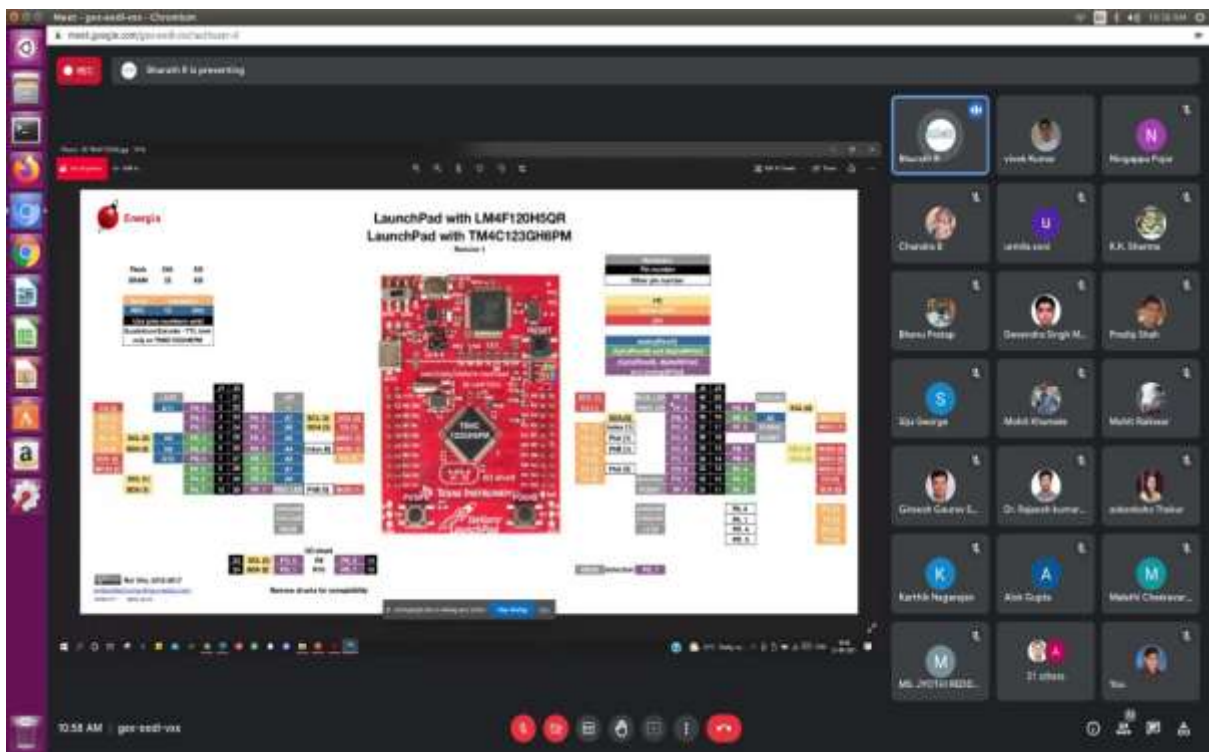


Lab Session



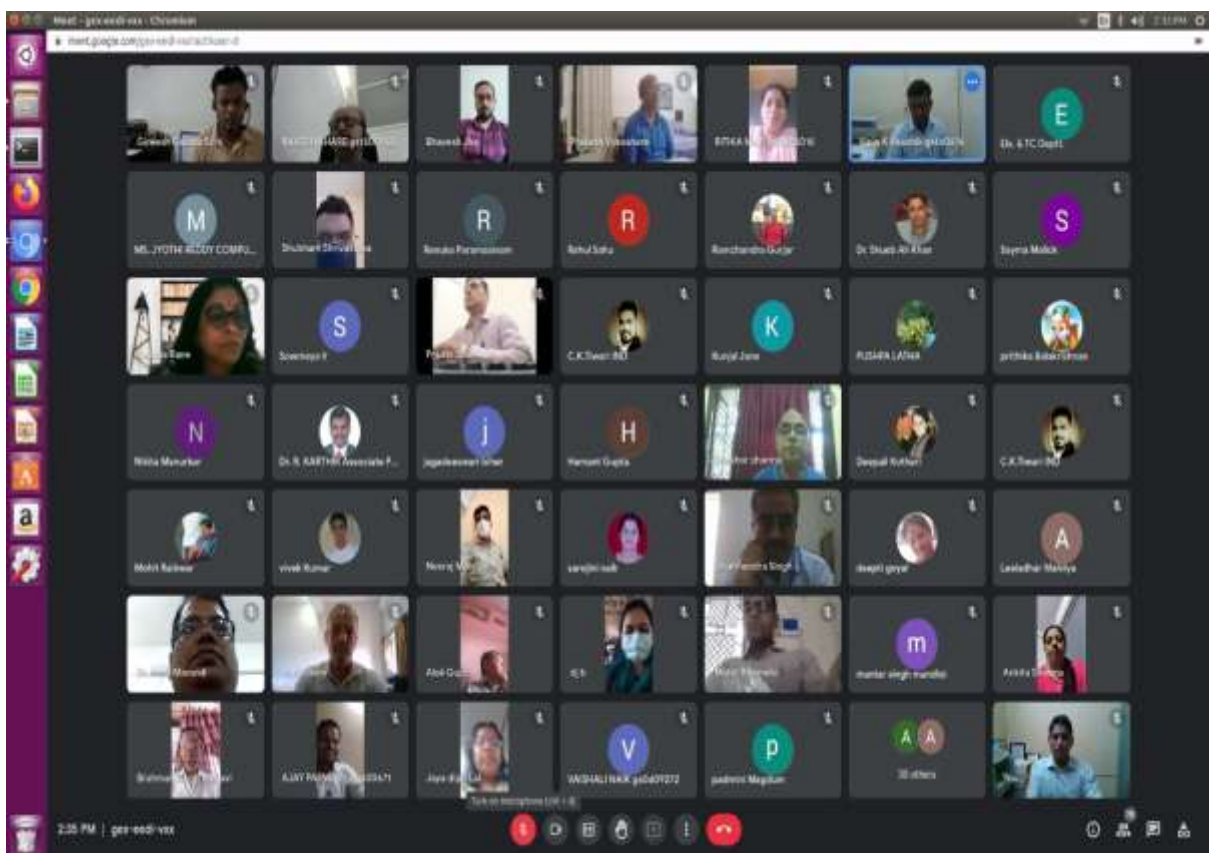
Lab Session

ATAL Workshop on Recent Trends in Internet of Things (RTIoT)



Lab Session

Screen shot of participants during the closing session (Valedictory) is shown below



Dean Academics (SGSITS) Prof. Rakesh Khare was chief guest in the valedictory function.