

Registration for

AICTE Training and Learning (ATAL)

Faculty Development Programme on

“Computational Intelligence Enabled Sensors and Networks for 5G/6G Wireless Communication”

14th – 25th Nov 2022

Participants are requested to register through the link <https://www.aicte-india.org/atal> only. Participants are abiding by the rules and regulations governing the AICTE sponsored FDP on "Computational Intelligence Enabled Sensors and Networks for 5G/6G Wireless Communication " Program Attendance of 80% is compulsory and scoring of 60% and above marks in test conducted at the end of the FDP are only eligible for obtaining the Certificate.

Note:

- Registration is free of cost.
- The number of participants is limited to 50 on first come first serve basis.
- Last Date for Registrations: 1st Oct 2022.
- Limited Accommodation is available for participants with a nominal fee in the college hostel on first come first serve basis. No TA/DA will be provided for the participants.

Eligibility for Participation

Faculty members / research scholars / PG scholar from academic institutes approved by the AICTE / UGC / MHRD working in Private/ Public/ Government organizations can attend the FDP.

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Professor, Dept. of EEE, JNNCE

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All Teaching, Technical and Non-Teaching staff of
E & TE Department.

Resource Persons

From eminent institutions like IISc, IIT's, NIT's and industries, who are interested in research fields.



National Education Society®

J N N College of Engineering

Shivamogga – 577 204

(Approved by AICTE, New Delhi, Certified by UGC 2f & 12B, Accredited by NAAC –'B', UG programs: CE, ME, EEE,ECE,CSE,ISE,TCE accredited by NBA:1.7.2022 to 30.6.2025, Recognized by Govt. of Karnataka and Affiliated to VTU, Belagavi)



**AICTE Training and Learning (ATAL)
Online and Offline Faculty Development**

Programme on

**“Computational Intelligence Enabled
Sensors and Networks for 5G/6G
Wireless Communication”**

14th – 25th Nov 2022

Sponsored by



Organized by

**Department of Electronics and Telecommunication
Engineering,
J N N College of Engineering,
Shivamogga – 577 204 Karnataka, INDIA**

<http://jnnce.ac.in/>

About The JNNCE

JNNCE was established in the year 1980 by the National Education Society. The college is affiliated to Visvesvaraya Technological University (VTU), Belagavi and recognized by AICTE, New Delhi, it offers 7 UG, 2 M.Tech. and MBA and MCA programmes as well as M.Sc. (Engg. by Research) and Ph.D. programmes. It has 9 research centres recognized by VTU. JNNCE has emerged as one of the most sought- after education destinations for technical and management education by students and parents from all over India. JNNCE is accredited with NAAC – B grade also All 7 UG programmes are Accredited by NBA and is now declared fit to receive central assistance in terms of rules framed under section 2(f) and 12(B) of the UGC act, 1956 under the head 'Non-Government Self- Financed colleges up to Master's degree. JNNCE has emerged as one of the institutions espoused to the cause of professional education, training and research. A New Initiative "Transformation for Excellence 2.0" has been launched for making JNNCE as one of the top engineering, research, innovation and enterprising institutes in next few years.

About the Department

The Department of Electronics and Telecommunication Engineering was started in the year 2000. The Department is accredited by National Board of Accreditation (NBA) for the period 2019 to 2022. The department has well

qualified, experienced and dedicated faculty to provide quality industry tuned education to the students. The Department infrastructure fulfils the requirements of academics, supports research and learning skills on the latest technology in the industry. Many research related activities such as conferences, workshops and training programs are organized by the department for both faculty and students.

Department Vision

To emerge as a center of academic excellence in the field of Electronics and Telecommunication engineering to impart quality education by keeping pace with rapidly changing technologies and industry requirements to create technical manpower of global standard for the betterment of industry and society.

Department Mission

M1: Impart knowledge and skills required for the latest and advanced engineering & technological processes in the field of Electronics and Telecommunication.

M2: Instill creative thinking through innovative and team-based methods to develop employability, entrepreneurial traits and research capability among the students.

M3: Provide value-based technical education empowering the students with ethical and humane values addressing the needs of industries and the society.

About the FDP

6G Internet of Vehicles (IoV) is a new revolution of the Internet. It is a network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators and network connectivity which are linked to create smart environments. It allows objects to be sensed and controlled remotely across existing network infrastructure. Also, it is creating opportunities for more direct integration of the physical world into computer-based systems, which results in improved efficiency and accuracy. One of the key learning platforms for IoV is the Raspberry Pi. The RasPi and other processors is a popular platform because it offers a complete Linux server in a tiny platform for a very low cost. In fact, one of the most difficult parts of using Raspberry Pi for learning about IoV is picking the right projects with which to begin. The workshop will give the platform to understand and use Raspberry Pi for IoV applications.

Tentative Topics to be Covered (but not limited):

- Introduction to 5G/6G Standard.
- Applications of Machine Learning in Wireless Communication.
- Energy Harvesting: Application in 5G/6G Wireless Communication.
- Multiple Access Techniques: Future Radio Access for 5G/6G Wireless Communication
- To Understand the rudiments, Architecture Technologies, Security, applications and services of 5G/6G- IoV.

Programme Details:

Week 1 – Online (7:00 pm – 9:30 pm)

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
7:00 – 7:50 Session 1 (I) Introduction to 5G/6G	7:00 – 7:50 Session 2 (I) Security Challenges in 5G/6G	7:00 – 7:50 Session 3 (I) IoV Systems - Industry perspective	7:00 – 7:50 Session 4 (I) Multiple Access Techniques: Future Radio Access for 5G/6G Wireless	7:00 – 7:50 Session 5 (I) IoV Sensors and Networks Analytics	7:00 – 7:50 Session 6 (I) Security Aspects in IoV
8:00 – 8:50 Session 1 (II) IoV Architecture and Protocols	8:00 – 8:50 Session 2 (II) Security Challenges in IoV	8:00 – 8:50 Session 3 (II) IoV Systems - Industry perspective	8:00 – 8:50 Session 4 (II) Role of Machine Learning and Block Chain in Wireless Communications	8:00 – 8:50 Session 5 (II) IoV Sensors and Networks Analytics	8:00 – 8:50 Session 6 (II) Security Aspects in IoV
9:00 – 9:30 Session 1 Interactions	9:00 – 9:30 Session 2 Interactions	9:00 – 9:30 Session 3 Interactions	9:00 – 9:30 Session 4 Interactions	9:00 – 9:30 Session 5 Interactions	9:00 – 9:30 Week 1 MCQs

Week 2 – Offline (9:30 am – 4:30 pm)

(Adjust timing to suit your local needs and ensure minimum 33 hours actual coverage)

*Day 1	Day 2	Day 3	Day 4	Day 5
9:00 – 9:30 Inauguration	9:30 – 12:00 Session 8 Circuit Simulations	9:30 – 12:00 Session 10 Linuxification – A hands on session on Linux Environment	9:30 – 12:00 Session 12 Artificial Intelligence and IoV	9:30 – 12:00 Session 14 Stress Management (Dr. Ushadevi M B)
9:30 – 12:00 Session 7 Raspberry Pi based Design	12:00 – 1:00 Article 1 Discussion	12:00 – 1:00 Article 2 Discussion	12:00 – 1:00 MCQs	12:00 – 1:00 Visit Report (Team)
12:00 – 1:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch
1:00 – 2:00 Travel for Visit	2:00 – 4:00 Session 9 Blynk and Thingspeak	2:00 – 4:00 Session 11 Linuxification	2:00 – 4:00 Session 13 Intelligent IoV System Design	2:00 – 3:00 Reflection Journal
2:00 – 4:00 Visit	4:00 – 5:15 Teaching Practice	4:00 – 5:15 Teaching Practice	4:00 – 5:15 Teaching Practice	3:00 – 4:00 Feedback
4:00 – 5:00 Travel back				4:00 – 5:00 Valedictory

*Coordinator may adjust timing of industrial visit as per mutual convenience and industrial arrangements.