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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year 2021-22(Even Sem)

**IEEE STUDENTS BRANCH STB 16621- September, 2021**

**INTERNAL STAFF TECHNICAL SEMINAR**

22.04.2022

### **Summary of the seminar:**

Department of Electronics and Communication Engineering in association with IEEE student branch (16621) organized an Internal Seminar on 22.04.2022 at 01:00PM for the teaching staffs of Department of ECE to provide a platform to get exposure in the field of recent trends in Electronics and Communication Engineering by accessing online journals facility available at our campus. Mrs.N.Mangaiyarkarasi, HOD/ECE welcomed the faculties. Mr.R.Thandayuthapani, Assistant Professor/ECE delivered a talk on “**Healthcare Applications using Wireless Sensor Networks**”. 08 faculties of ECE were attended the seminar.

**Online Journal Paper Referred:** Naila Nawaz Malik, Wael Alosaimi, M. Irfan Uddin, Bader Alouffi, Hashem Alyami, "**Wireless Sensor Network Applications in Healthcare and Precision Agriculture**", Journal of Healthcare Engineering, vol. 2020, Article ID 8836613, 9 pages, 2020. <https://doi.org/10.1155/2020/8836613>

### **Aim and the themes discussed:**

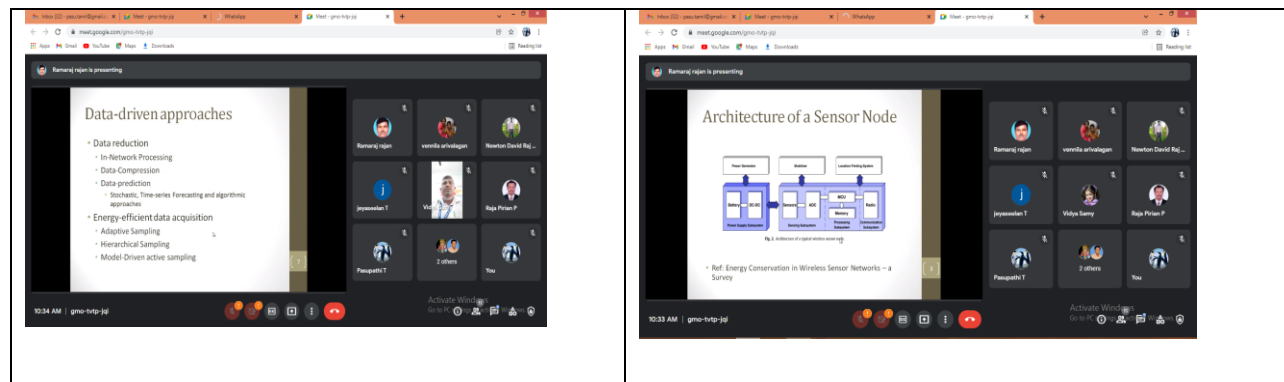
Nowadays, wireless sensor networks are becoming increasingly important in several sectors including industry, transportation, environment and medicine. Autonomous energy supply is thereby an essential aspect as it decides the flexible positioning and easy maintenance, which are decisive for the acceptance of this technology, its wide use and sustainability.

Significant improvements made in the last years have shown interesting possibilities for realizing energy-aware wireless sensor nodes (WSNs) by designing manifold and highly efficient energy converters and reducing energy consumption of hardware, software and communication protocols.

Using only a few of these techniques or focusing on only one aspect is not sufficient to realize practicable and market relevant solutions. This seminar therefore provides a comprehensive review on system design for battery-free and energy-aware WSN, making use of ambient energy or wireless energy transmission. Also addresses energy supply strategies and gives a deep insight in energy management methods as well as possibilities for energy saving on node and network level.

## **Outcomes**

- The seminar provides deep insight into system design and increase awareness of suitable techniques for realizing battery-free and energy-aware wireless sensor nodes and to introduce the basics of Wireless Sensor Networks (WSN), Classification, Topologies and Applications.
- The seminar briefed the following,
  - (1) Telemedicine applications,
  - (2) monitoring patients both in the clinical setting and at home,
  - (3) Sensors used to capture the data from hospital environment named heart beat sensor, body temperature sensor, room temperature sensor, CO sensor, and CO<sub>2</sub> sensor



Mr.R.Thandayuthapani Presenting the topic.

**Staff In charge**

**HOD**

**Principal**