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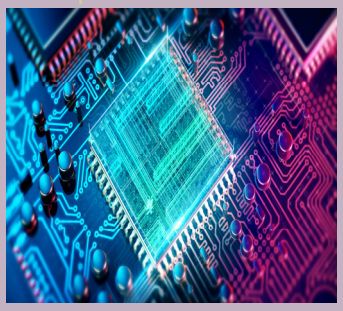
NEWS LETTER

Department of Electronics & Communication Engg.,

Electronics &

Communication

BUZZ…..



About The College

DNR College of Engineering & Technology (DNRCET) established in the year 2010, is one of the constituent colleges of DNR Association established in 1945, playing a significant role in imparting technical education and having excellent infrastructure and modern laboratories, internet with Wi-Fi facility, Central library and Digital library.

DNR College Association got approved from AICTE, New Delhi to run PG, UG, and Diploma courses in DNRCET. The college offers CE, EEE, ME, ECE and CSE at UG level, M.Tech specializations in STRUCTURES, MACHINE DESIGN, CSE and DECS. The college offers diploma courses in DECE, DEEE, DCE and DME. It has acquired good reputation in terms of infrastructure, placements and in providing quality technical education within a short span of time

About The Department

The Department of Electronics and Communication Engineering was established in the year 2010 to start a 4-year B.Tech. Degree program affiliated to Jawaharlal Nehru Technological University, Kakinada with an intake of 60. The intake was increased to 120 from the academic year 2012-13.The department offers PG course, M.Tech in Digital Electronics and Communication Systems with an intake of 18 seats and Diploma course, DECE with an intake of 60 seats.

The Department has contributed much through its committed academic legacy. The department of ECE has well qualified and rich experienced faculty with excellent infrastructural facilities. The department has all the laboratories with both hardware/ software and fully established with versatile equipments.

Vision

Producing innovative, creative and ethical Electronics and Communication Engineers with research focus to meet socio-economic needs of the society.

Mission

➢To provide the students with the state of art technologies to meet the growing challenges of the industry and society.

➢To promote research and consultancy through constant interaction with outside world.

➢To inculcate self learning abilities, team spirit and professional ethics among the students to serve the society.

One day Seminar on "Future Trends in Artificial Intelligence"

During 3rd October 2018

Resource Person: Dr E.Priya M.E, Ph.D, LISTE, AISTE
Assistant Professor, Department of ECE
Sri Sairam Engineering College, Chennai.

Convener: Dr.S.Koteswari Ph.D
Professor & HOD
Department of ECE

Artificial Intelligence, also known as AI, is the ability of machines like computers to perform functions that normally require human intelligence. These functions include the ability to learn, reason, analyse, take decisions, recognize speech and visual perception among others. In simple terms, AI is the ability of software to develop and apply intelligence like humans. It is the next step in human evolution and lies in the intersection of knowledge representation and knowledge manipulation that combines precision and computational power with pure logic to solve problems automatically. In this seminar, topics covered relate to simple analytics by providing the deep insights on artificial intelligence.

One day Seminar on Nanotechnology during 9th November 2018

Resource Person: Mr.K.Nitish Kumar, Layout Design Engineer,
EXIGER Pvt Ltd, Bangalore.

Convener: Dr.S.Koteswari Ph.D
Professor & HOD , Department of ECE

Nanotechnology is the manipulation of matter at a molecular or atomic level in order to produce novel materials and devices with new extraordinary properties. However, nanotechnology is not a new discipline. It is rather the merging of multiple scientific disciplines (biology, physics, chemistry, medicine and engineering) and the combination of knowledge to tailor materials at the nanoscale approximately in the range of 1-100 nanometers (10^{-9} m). the applications of nanotechnology are **Energy, Medicine, Industry,**

Communication and Electronics The advances in nanotechnology will reduce the weight and power consumption of electronic devices. Data processing speed will increase, and new portable devices will be available soon. This will revolutionize the world of communication and data transfer.

A Two day Workshop on **"Microwave Antennas" during** 14th & 15th December 2018

Resource Person: Dr.J.Srihari Rao, Professor
R&D Dean, SVEC, Tadepalligudem.

Convener: Dr.S.Koteswari Ph.D
Professor & HOD
Department of ECE

A system used for transferring the data from one point to another, The system usually consists of individual Communication networks, relay stations, transmission system, terminal equipment, interconnection cable and inter-operations performing as an integrated whole. Antenna plays a crucial role in this communication system, which is used to transmit and receive the data. The classification of the antenna is based on the specifications like frequency, polarization, radiation, etc. The antenna that is operated at microwave frequency is knows as microwave antenna. There are different types of microwave antennas over a wide range of applications including home- communication based applications. The microwave antennas are Micro strip patch antenna, Horn antenna, parabolic antenna, Plasma antenna, MIMO antenna

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Technical Article

Radio Frequency Energy Harvesting

The ever increasing use of wireless devices, such as mobile phones, wireless computing and remote sensing has resulted in an increased demand and reliance on the use of batteries. With semiconductor and other technologies continually striving towards lower operating powers, batteries could be replaced by alternative sources, such as DC power generators employing energy harvesting techniques

In the modern environment there are multiple wireless sources of different frequencies radiating power in all directions. Fig 1(a) shows some that potentially could be exploited for RF energy harvesting applications. These might be, but not limited to; TV and radio broadcasts, mobile phone base stations, mobile phones, wireless LAN and radar.

Fig 1(b) shows a block diagram of a basic energy harvesting system, where a transducer – typically an antenna or antenna array – harvests ambient electromagnetic energy. This harvested energy is rectified and filtered. The recovered DC then, either powers a low powered device directly, or stored in a super capacitor for higher power low duty-cycle operation.

Frequency selection is an important consideration in RF Energy Harvesting (RFEH) systems and at the same time might be environment specific. As an example for an indoor application wavelengths up into the low GHz would be a better choice, due to their ability to propagate well in these environments, rather than lower VHF/UHF transmissions. These might be more useful to outdoor or remote location harvesting applications.

Generally in the modern built environment GSM mobile phone signals are prevalent, and propagate well both into and out of buildings, offering harvesting potential from both the GSM base stations as well as the user's handsets. With the general growth of mobile phone usage additional bands have been brought into service to cope with the demand. Three bands are used in t he UK and are shown below.

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Technical Article

Radio Frequency Energy Harvesting (Cont…)

UK CELLULAR FREQUENCY RANGES

GSM 900 Frequency Range:

Mobile transmit (BTx) 880 - 915 MHz

Base transmit (MTx) 925 - 960 MHz

GSM 1800 Frequency Range:

Mobile transmit (BTx) 1710 - 1785 MHz

Base transmit (MTx) 1805 - 1880 MHz

Third-Generation (3G) Frequency Range:

Base transmit (BTx) 2110 - 2170 MHz

Mobile transmit (MTx) 1920 - 1980 MHz

BTx / MTx In TDD (Time Division Duplex) 1900 - 1920 MHz

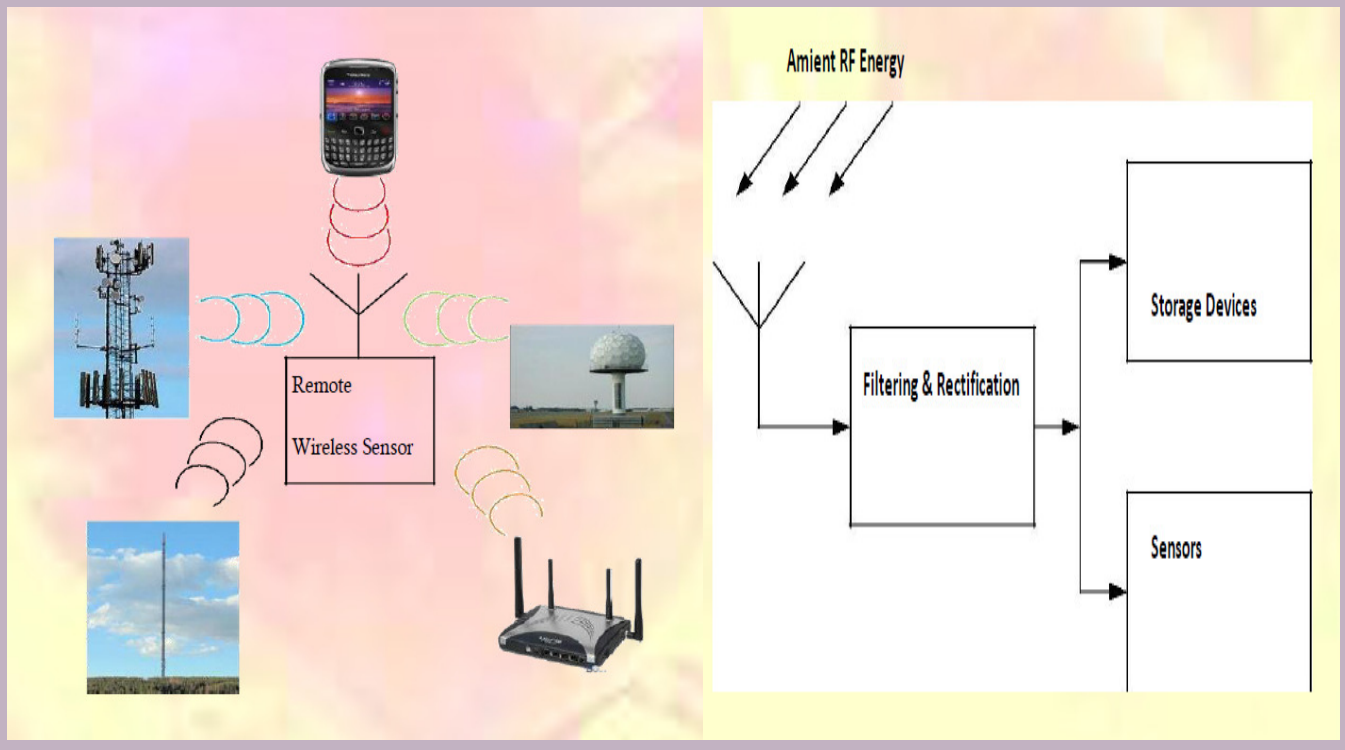

Figure 1. (a) Potential RF harvesting sources. (b) Basic RF energy harvesting block diagram.

Department of ECE

Dr. S. Koteswari

Professor & HOD

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https://www.dnrcet.org/departments_ece.php