

One Day Seminar on ‘Nano Technology & Data Communication’

**by Dr.D.Pamu.
Associate Professor,
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On 13th July 2018 One day seminar on “Nano Technology & Data Communications” has been conducted by University College of Engineering (Dept. of CSE & Dept. of ECE,EIE,H&S) in Collaboration with CSI for Engineering College students.

Dr.D.Pamu, Associate Professor, IIT Guwahati has been invited by the University College of Engineering. Seminar is inaugurated by Honourable Vice Chancellor Prof. M. Mutyalu Naidu, Academic Dean Dr.S.Teki, Principal UCE Dr.V.Persis, Convenor&HOD-CSE Dr.P.Venkateswara Rao, Convenor & CSI Co-ordinator Dr.B.Kezia Rani, , Course Co-ordinator EIE,ECE,S&H Mr.B.Mohan Chaitanya, Co-convenor Dr.G.Keerti Marita. Conducted four sessions as given below which followed by valedictory.

Seminar 1st session – 10:00 to 11:30am- Nano Technology Introduction with new impact

Nano Technology is Science,Engineering and Technology conducted at the Nano scale(about 1 to 100 nanometers). The Nano materials can occur naturally, be produced by human activities either as a product by another activity. Engineered Human Origin are Metals, Quantum Dots, Buckyballs/Nanotubes Sunscreen Pigments, NanoCapsules.

Seminar 2nd session- 11:40-12:50pm Nano Technology & its Wide Range of Applications.

At the Nano Scale, shortage things happen to materials, their properties can change. As particles get smaller they tend to react differently with their Environment than larger particles. Smaller particles have different optical properties-colour changes. These have Magnetic properties than larger.

Seminar 3rdsession:- 2:00 to 3.15 pm – Nano Sensors preparation s with Experimental Proofs.

Nano Particles exhibit unique properties due to their high surface area to Volume ratio, due to this surface forces become more dominant.

radius 1 cm= 8 particles radius=0.5cm (same total volume)

Surface plasmons are the Coherent Excitation of free electrons in a metal. Their resonance frequency(f) depends on particle size, shape and material type. It is related by plasmon energy(E) by Planck's constant. $E=(h.f)$.

Seminar 4th session – 3-25 to 4:30pm- Nano Sensors & Communications

Nano engineered materials in automotive products include high power Rechargeable battery system, thermoelectric materials for temp.cont, tires with lower rolling resistance, high efficiency, low cost sensors and Electronics, thin films, smart solar panels, and fuel additives for cleaner exhaust and extended range. Nano Technology is also improving efficiency of fuel production from raw petroleum through better catalyst. Researchers are investigating carbon nanotubes ‘Scrubbers’ and membranes to separate CO₂ from Power Plants exhaust. Also harvesting thin films Solar electric panels fitted to Computer cases and flexible piezoelectric nanowired woven into power electronic devices.

