

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE**  
(UGC - AUTONOMOUS)

**Report on**  
**Guest Lecture**  
**Visualizing Quantum Mechanics**  
**17.04.2021**



*Submitted by : Dr. S. Victor Vedanayakam, Assistant Professor, Department of Physics.*

The resource person **Dr. Sarmistha Sahu, Associate Professor, Physics (Retd.) Maharani Lakshmi Ammanni College for Women, Science Post, Bangalore, the Vice president of IPA (Indian Physics Academy) and IAPT (Indian Association of Physics Teachers)** addressed the students.

The Programme started at 10:20am with greetings and inviting the speaker to the online platform Microsoft Teams by Dr. S. Victor Vedanayakam, Assistant professor.

Dr. V. K. Verma, Head, Department of Physics, in his introductory words provided the glimpse of the talk saying, “Physics is the mother of all sciences and Technologies. Engineering is a form of applied science with Physics as an important part. It is important to study Quantum Mechanics to understand the microstructure of the material. He also added that those who have the ambition to be at the front position of enhancing technologies and theories should acquire problem solving, analytical, and quantitative abilities”.

The session was handed over to the resource person, Dr. Sarmistha Sahu.

In two sessions 10:30 am to 12:15 noon and 2:15 pm to 4:15 pm she addressed 4 sections in the morning and 4 sections in the afternoon at around 350-360 students.

She made the students to applaud by explaining the concepts of Quantum Tunnelling both in theoretical and simulation methods. She brought into notice of the children that this basic concept of Quantum Physics helped to explain the emission of alpha particles from radioactive nuclei, tunnelling of electrons from one metal to another through an oxide film. Also helped in the discovery of tunnel diodes, and Scanning Tunnelling Microscope, both the discoveries got the Nobel Prize in 1973 and 1986 respectively.

In the afternoon session she discussed about Random, Stochastic and n-probabilistic approach to learn the spin quantum states of the electrons in the atoms. It was shown in the method of learning by doing with the students involving in calculating the probability with coins and dies.

She also clarified the queries of young minds of enthusiasm with a great zeal during the interaction time. All the faculty of Physics were present on the programme in helping the students to accommodate themselves during the lecture hour.

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The programme was concluded by vote of thanks from Dr. S. Victor Vedanayakam and few students conveying their gratitude towards the guest speaker.

**The main objective of the lecture:**

The cardinal aim of this Guest lecture is to initiate the instinct and to impart to all of the Engineering Students, a point of view, an attitude of mind, and a capacity to deal with the basic principles of Quantum mechanics and methods of analysis of contemporary physics, for, without training and experience in these modes of thought, any engineer may not prove competent to deal with the emerging problems of science and technology.