

# Webinar on “Einstein Noble Prize Centenary Year – 2021, The Genesis of Quantum”

Date: 15-09-2021 and 16-09-2021

Participants:135

Dr. Pruthul R Desai, Department of Physics, Sir P. T. Sarvajani College of Science, Surat

**INVITATION**

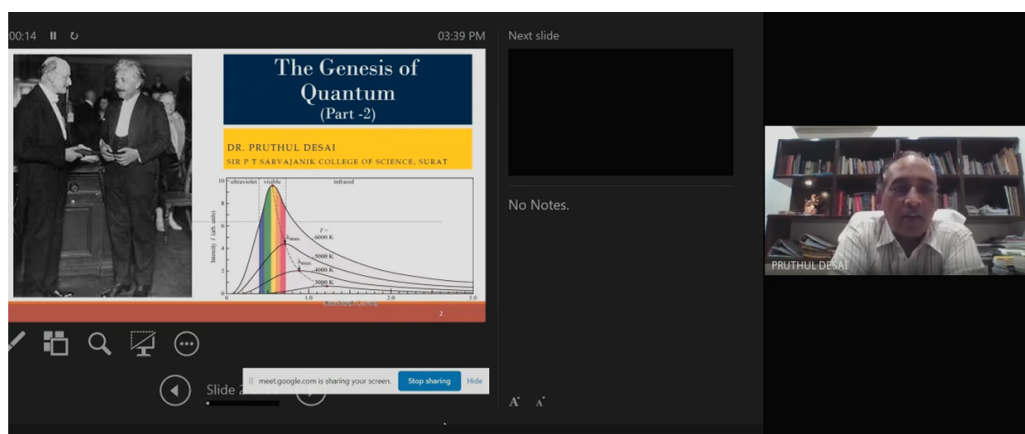
**Physics Club**  
**Sir P T Sarvajani College of Science**  
Celebrates  
**Einstein Noble Prize Centenary Year - 2021**  
by organizing a Public Lecture  
**“The Genesis of Quantum”**  
by  
**Dr. Pruthul Desai**

**Abstract**

The concept of quantum owes its origin to Gustav Kirchoff’s exhortation to find spectral energy distribution function for blackbody in 1859. What ensued was an arduous struggle for next four decades. In 1900, in an “act of desperation,” Planck introduced the quantum of action to arrive at the correct spectral distribution function which led to the eventual abandoning of the concepts of classical physics at the quantum scale. Planck was oblivious of the far reaching consequences of what he had ingeniously introduced – the quantum of action. Einstein’s introduction of quanta or photon in 1905 is considered to be one of the most profound intellectual advances in our understanding of the laws of nature. In this two-part talk, I shall highlight some of the most important discoveries that sowed the seeds for Planck to contrive his inspirational work. I shall also discuss the line of thought which led to Einstein’s epiphany about photon. The explanation of the Photoelectric effect using the revolutionary idea of photon for which Einstein was awarded the Nobel Prize in Physics in 1921 will also be discussed.

**15<sup>th</sup> Sep., 2021 (Part-I)** | **3:30 PM**  
**16<sup>th</sup> Sep., 2021 (Part-II)**

**Link for Registration:**  
<https://forms.gle/nbLLqeZqcR7wWtoB8>



## Brief Report:

Albert Einstein received the Nobel Prize in Physics for the year 2021 “for his services to theoretical physics and especially for his discovery of the law of the photoelectric effect”. Various institutes worldwide are organizing centenary celebration for completing 100 years of Einstein’s Nobel Prize. The Physics Department of Sir P T Sarvajanic College of Science could not be left without becoming a part of this celebration and organizing a programme for the “Centenary Year of Nobel Prize to Albert Einstein”.

The Physics club celebrated the special occasion by organizing a public lecture on “The Genesis of Quantum” by the Principal Dr. Pruthul Desai on 6<sup>th</sup> and 8<sup>th</sup> August.

In this talk which was splitted in two parts, Dr. Desai discussed the whole story of the origin of the Quantum Mechanics.

In 1859, Gustav Kirchoff’s exhortation to find spectral energy distribution function for blackbody triggered unprecedented research and it took four decades to find a conclusive answer to it. In order to arrive at the correct distribution function, Planck introduced quantum of action in 1900 as an “act of desperation” which led to the eventual abandoning of the concepts of classical physics at the quantum scale. Planck was oblivious of the far-reaching consequences of what he had inadvertently proposed – the idea of quantization of energy. Einstein’s introduction of quanta or photon in 1905 is considered to be one of the most profound intellectual advances in our understanding of the laws of nature.

He also highlighted some of the most important discoveries that sowed the seeds for Planck to come up with his inspirational work. The explanation of the Photoelectric effect using the revolutionary idea of photon for which Einstein was awarded the Nobel Prize in Physics in 1921 was discussed.

Participants from other than P T Science college also attended both the sessions enthusiastically. Each session was followed by QA session in which participants asked interesting questions and Dr. Desai answered all the questions patiently and satisfactorily. All the participants fully enjoyed the event.