

Who was Dr. C. V. Raman? What were his Discovery, Awards, and Achievements?

Who was Dr. C.V. Raman?

The full name of Dr. C. V. Raman is Dr. Chandrasekhara Venkata Raman. He was born on 7th November, 1888 and died on 21st November, 1970. He was an Indian physicist well known for his work in the field of light scattering. With K. S. Krishnan, who was his student, he invented that when light traverses a transparent material, wavelength and amplitude gets changed for some of the deflected light. This was a new phenomenon of scattering of light and was successively termed as the Raman Effect, also known as Raman scattering. In 1930, Raman won Nobel Prize in Physics. He was the first person from Asia to get a Nobel Prize in any branch of science.

Where and when was C.V.Raman born?

Born to Hindu Tamil Brahmin, Raman was a precocious child for his parents. Since his early childhood, he was an intelligent and brilliant student. He completed his secondary education at the age of 11 and higher secondary education at the age 13 from St Aloysius' Anglo-Indian High School. With honors in physics from Presidency College at age 16, he topped bachelor's degree examination at the University of Madras. He published his first research paper on diffraction of light in the year 1906 while pursuing graduation. The next year, in 1907, he obtained an M.A. degree in Physics.

His father's name was Chandrasekhara Ramanathan Iyer was his father's name who was a lecturer in Physics and Mathematics in a college in Vishakhapatnam. His mother's name was Parvathi Ammal. He married Lokasundari Ammal in the year 1907 and had two sons namely Radhakrishnan and Chandrasekhar.

Dr. C. V. Raman: Career

Because of his father's interest, he appeared for the Financial Civil Services (FCS) examination and topped it. In 1907, he went to Kolkata and joined as Assistant Accountant General. He went to the research laboratory of Indian Association for Cultivation of Sciences during his spare time. His job was very hectic; even then also, with his core interest in science, he continued his research work at night.

Even though, with limited facilities available in the laboratory, he continued his research and published his findings in one of the leading international journals including 'The Philosophical Magazine', 'Nature', 'Physics Review', etc. At that time, he focused his researches on the areas of acoustics and vibrations.

He got an opportunity to join the University of Calcutta in 1917, as the first Pilot Professor of Physics. After spending 15 years at Kolkata, he became the Professor at the Indian Institute of Science (IISc.), Bangalore from 1933-1948. Since 1948, he became the Director of the Raman Institute of Research at Bangalore that was established and endowed only by him.

What was C.V. Raman's Discovery?

He established the Indian Journal of Physics in 1926 where he was the Editor. He also sponsored the establishment of the Indian Academy of Sciences and served as the President since its inception. He was the President of the Current Science Association in Bangalore, which publishes Current Science (India).

In 1928, he wrote an article on the theory of musical instruments to the 8th Volume of the Handbuch der Physik. In 1922, he published his work on the "Molecular Diffraction of Light" which led to his ultimate discovery of the radiation effect on the 28th February 1928 and gained him to receive Nobel Prize in Physics in 1930. He became the first Indian to receive a Nobel Prize.

Other researches carried out by Dr. C.V. Raman were: Diffraction of light by acoustic waves of ultrasonic and hypersonic frequencies and effects produced by X-rays on infrared vibrations in crystals exposed to ordinary light.

He studied the fundamental problems of crystal dynamics in the year 1948. His laboratory has been dealing with the structure and properties of diamond, and the structure and optical behavior of numerous iridescent substances like pearls, agate, opal, etc.

He also had interest in the physiology of human vision, optics of colloids, electrical and magnetic anisotropy.

Moreover, he was honored with a large number of doctorates and memberships of scientific societies. In 1924, early in his career, he was also elected as a Fellow of the Royal Society and was knighted in the year 1929.

As briefly described that he is best known for discovering the 'Raman Effect' or the theory related to the scattering of light. He showed that some of the deflected light changes its wavelength, when light traverses a transparent material.

Awards and Honors

- In 1924, he was elected as a Fellow of the Royal Society early in his career and was knighted in 1929.
- He won the Nobel Prize in Physics in 1930.
- He was awarded the Franklin Medal in 1941.
- He was awarded the Bharat Ratna in 1954, the highest civilian award in India.
- In 1957, he was awarded the Lenin Peace Prize.
- The American Chemical Society and the Indian Association for the Cultivation of Science in 1998 recognized Raman's discovery as an International Historic Chemical Landmark.
- On 28 February every year, India celebrates National Science Day to commemorate the discovery of the Raman Effect in 1928 in his honor.

- In 1970, he received a major heart attack while working in the laboratory. He took his last breath in the Raman Research Institute on 21st November, 1970.

Dr. C.V. Raman was one of the great legends from India. His hard work and determination made his nation proud and he became the 1st Indian to receive a Nobel Prize in Physics. He proved that nobody can stop a person, if he/she really wants to pursue his/her desires nobody. His dedication and hard work, and his interest in science made him discovered the Raman Effect. Nation will always remember him as a great Scientist, Physicist, and Nobel laureate.

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