Science Academies’ Lecture Workshop on “Recent Trends in Physics”
23rd & 24th January 2015

Science Academies’ Lecture Workshop on “Recent Trends in Physics” organized by the Department of Physics, NGM College, Pollachi was a momentous event for the UG and PG students, Research scholars and Faculty members from colleges in and around Pollachi and from other cities. Eminent Professors from various Universities made their discussions on the latest trends in Physics. Over 300 participants (16 Faculty and 287 Students & Scholars) were benefitted out of this two day Lecture workshop.

Dr. R. Kanakaraju, Head of the Department of Physics and the coordinator of the Workshop, welcomed the gathering. He brought out the importance of Physics through his enlightened talk. The delegates Dr. M. Lakshmanan, Professor of Eminence & DST Ramanna fellow, DAE Raja Ramanna fellow, Center for Non-Linear Dynamics, Bharathidasan University, Tiruchirapalli and Prof Dr. K. Porsezian, Professor of Physics, Pondicherry University, Puducherry and the Convener of the Workshop are honoured by the President of the College Dr. B. K. Krishnaraj Vanavarayar. The President narrated the importance and significance of conducting such workshops for the benefit of the students.

The Workshop was inaugurated by Dr. M. Lakshmanan who gave an elaborate detail of the three Science Academies, IASc, INSA and NASI and the various funding schemes available for the students, scholars and teachers. An insight into Academic activities was recited by Prof Dr. K. Porsezian. He added additional information regarding the fellowships offered by the academies. He also thanked the institution for hosting the event as it offers a forum to exchange views and ideas among the spirituals.

The Principal of the college Dr. P. Badri Sriman Narayanan felicitated the workshop and wished for the success of the event. Selvi. C. Kannika Parameshwari, II M.Sc Physics, Student President of the Physics Association proposed the vote of thanks.

The first session on day 1 was chaired by Prof. Dr. M. Lakshmanan. He evoked the listeners with his beautiful explanation on the ‘Basics of Classical Mechanics’ stating from space, time, Velocity etc. He introduced the basic concepts in an simple way and enchanted the forum with his
scientific knowledge to the young minds. He solved the problems of harmonic oscillator and discussed the significance of Mathews – Lakshmanan Oscillator. Furthermore he continued his talk for the second session and had a talk on how chaos occurs in nonlinear systems.

Dr. P. Kolandaivel, Professor of Physics, Bharathiar University, Coimbatore had a discussion on Chemical Bonding for two sessions in the afternoon. He began his lecture with the basic ideas of quantum theory like Bohr model and slowly moved on to the bonding in molecular systems. He emphasized the importance of weak interaction that occur naturally in biological systems like DNA. He also highlighted the significance of bonding in the design of drugs for ailment like cancer.

In the second day, the discussion was on the Optical fibre communications by Prof. Dr. K. Porsezian for the two sessions in the forenoon. He enlightened the gathering narrating the innovations in the past, technical progress in the present and future developments in the realm of communication technology. A clear explanation on the growth of communication technology was brought out to the limelight.

In the afternoon session on day-2, Dr. S. V. M. Sathyanarayana, Assistant Professor of Physics, Pondicherry University, Puducherry provided an insight into the basics of Quantum Mechanics. He sketched out the development of quantum theory through blackbody radiation and photoelectric effect. The duality of matter was further discussed and also brought out the postulates of Quantum mechanics. He also threw more light on the basics of statistical mechanics in the next session.

In the Valedictory, the participants gave their feedback about the Workshop. They thanked the Academy and the department for conducting the event and further suggested to conduct for three days in future. The participants are overwhelmed by the lectures delivered by the eminent Professors and scientists. The hospitality provided during the workshop was also appreciated by them. The Coordinator thanked the Academy and the participants for having made the workshop a purposeful one. The convener of the workshop and the Principal of the college addressed the gathering. Selvi Aamina Amrin, I M.Sc Physics, Student Secretary of the Physics Association – Reverberation proposed the Vote of thanks.
Cavity volume is changed from $V_0$ to $V$ by fixing $U$.

$$\Delta S = \int \frac{S}{\partial V} dV$$

where $S = \frac{1}{2} U^2 V$. 

$$\ln \left( \frac{V}{\partial V} \right)$$