

Science academies' Refresher course on
"Quantum mechanics"
- 11 to 23rd May 2015

Organized by

Department of Physics, Loyola College, Chennai – 600 034.

Course Director: Prof. H. S. Mani, Adjunct Professor,
Chennai Mathematical Institute (CMI), Chennai-103

Resource persons:

1. Dr. Govind Krishnaswami, Associate Professor, CMI.
2. Prof. H. S. Mani, Adjunct Professor, CMI.
3. Prof. G. Rajasekaran, Adjunct Professor, CMI.
4. Dr. SVM. Satya Narayana, Associate Professor, Pondicherry University.

Course Coordinator: Mr. C. Joseph Prabagar, Assistant Professor,
Dept. of Physics, Loyola College, Chennai-34

Program report

The Science academies' refresher course on Quantum mechanics was formally inaugurated by Prof. H. S. Mani, Course Director, from Chennai Mathematical Institute on 11th May 2015 by 9.00 am. Dr. S. Jerome Das, UG professor, Dept. of Physics, and Dr. Joe Jesudurai, Dean of Sciences from college offered their felicitations.



Dr. Jerome das, UG professor, Dept. of Physics, Loyola College, welcome address in the Inauguration function



Dr. Joe Jesu Durai, Dean of Science, Loyola College - Felicitation Address during the Inauguration function



Prof. H.S. Mani, Course Director, Adjunct Professor, CMI - Inaugural Address



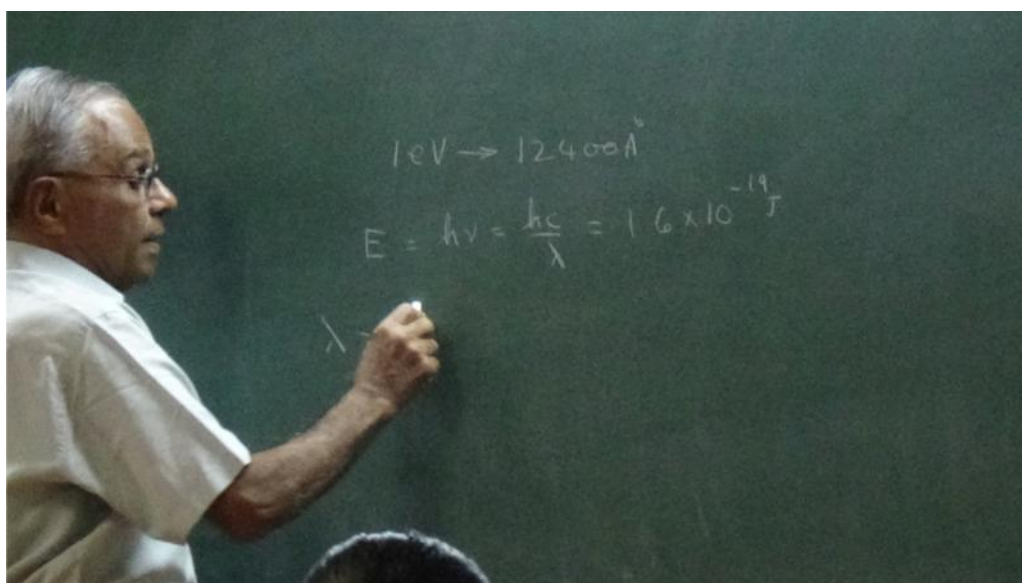
Mr. C. Joseph Prabagar, Course Coordinator, Assistant Professor, Dept. of Physics, Loyola College - Proposing Vote of Thanks

Total number of applications received 109 where in 49 were teachers and 60 were students. Out of the 109 applications 40 participants were selected 31 college teachers and 9 students. We provided Registration Kit to all the selected participants. The registration kit contains 200 page note book, pen and file with Two Quantum Mechanics Books authored by R. Shankar and J. J. Sakurai.



Registration Desk, Dr. S. Pauline, Associate Professor, Dept. of Physics, Loyola College

11th May to 16th May 2015, Prof .H.S. Mani and Dr. Govind Krishnaswami shared the sessions. Each resource persons gave two lectures per day and totally 12 lectures for each resource person. Prof. H.S. Mani highlighted the Schrodinger Formalism and applied to systems and solved quite a number of problems in his tutorial sessions to familiarize the concepts to the participants. In his every lecture he mentioned recent Journal Articles and its references which had relevance in fundamental aspects of Quantum mechanics.



Prof. H.S. Mani, Refresher Course Director, elaborating the methods



Dr. Govind Krishnaswami, Resource Person, Associate Professor, CMI

Dr. Govind Krishnaswami explained the fundamentals in terms of Dirac Notation/Matrix formalism. Invariably on all these days, the discussions prolonged till the dinner time with a few participants actively interacting with the speakers.



Prof. G. Rajasekaran, Resource Person, Adjunct Professor, CMI. During Lecture

From 18th May 2015 onwards Prof. G. Rajasekaran from CMI gave scintillating series of lectures on Quantum Theory of Radiation. He unveiled many physics concepts that are used in simplifying the mathematics at various levels.



Dr. SVM. Satyanarayana, Resource Person, Associate Professor, Pondicherry University

Dr. SVM. Satyanarayana from Pondicherry University explained about the quantum mechanics and various approximation techniques like Perturbation Theory and Scattering Theory. He elaborated on Dirac's Theory of Free Electrons, the covariant formalism and other interesting problems in all these concepts.

The participants from various parts of south India found the program useful. They can incorporate it in their teaching and for the research scholars it has paved the way for a thorough understanding of Quantum mechanics for their research work.

There were two special lectures one by Dr. Praba Mandayam from IIT Madras, on “Quantum Information theory” and the other by Dr. Sriramkumar from IIT Madras on “Various Astrophysical structure”. They were conducted outside the regular lecture sessions. Participants interacted with these speakers on recent advances in physics research.

The program ended on 23rd May at 5 pm with a formal Valedictory Address by Prof. H.S. Mani and Dr. SVM Satyanarayana who stressed the importance of continuing efforts of these types of programs by forming a group of like-minded people from various institutions to share and enrich the knowledge. During the Valedictory Program some of the participants reflected their experience in these 13 days and also mentioned that they were rejuvenated by the Refresher Course and also got insights in the subject of Quantum mechanics. Especially some of the teachers assured that In future they also would like to organize such a refresher course in their institutions.

On behalf of Loyola College Management we place sincere thanks to Science Academies’ for giving the opportunity to conduct the refresher course and also we deeply thank the four resource persons Dr. Govind Krishnaswami, Prof. H. S. Mani, Prof. G. Rajasekaran, Dr. SVM Satyanarayana for their enlightening lectures.



Participants listening to the lecture



Group Photo of the participants of the Course