



Science Academies' Refresher Course on 'Quantum Mechanics'

at

Division of Physics, School of Advanced Sciences
Vellore Institute of Technology, Chennai 600 127
12–26 May 2018

Sponsored by

Indian Academy of Sciences, Bengaluru
Indian National Science Academy, New Delhi
The National Academy of Sciences India, Allahabad

A Refresher Course in Quantum Mechanics for college/university teachers/research scholars will be held in Division of Physics, School of Advanced Sciences, Vellore Institute of Technology, Chennai during 12 to 26 May 2018. The course is primarily aimed at teachers involved in teaching Quantum Mechanics at the UG/PG level although a few seats will be available for research scholars/post-docs in Physics. The course will cover the basic and advanced topics of Quantum Mechanics, through lectures and tutorials. College/university teachers having at least a Master's degree in Physics are particularly encouraged to apply. Topics to be covered include physical basis of Quantum Mechanics, Schrodinger equation, Time dependent and independent perturbation, Lorentz transformations, Four vectors and transformation properties, Lorentz group; Klein–Gordon equation, plane wave solution, continuity equation, negative energy solutions and hole theory; covariant form of the Dirac equation, gamma matrices and their properties. Coupling to electromagnetic field – antiparticles; massless Dirac equation and neutrinos, helicity and chirality.

UGC has approved two-week Refresher Courses of good standing for promotion, vide notification F3-1/2009 dated 30 June 2010.

Resource Persons: H. S. Mani (Chennai), S. V. M. Satyanarayana (Pondicherry), V. V. Sreedhar (Chennai), M. V. N. Murthy (Chennai).

Applications are invited from teachers with experience in teaching undergraduate and postgraduate courses in Physics. Maximum 40 applications will be considered. Interested applicants must submit their application ONLINE by clicking on the following link:

<http://web-japps.ias.ac.in:8080/Refreshcourse/VITC.jsp>

A printed copy of the application approved by the Head of the institution (or competent authority) should be sent by speed post to the Coordinator: **Dr G. Vinitha**, Division of Physics, School of Advanced Sciences, Vellore Institute of Technology, Chennai 600 127.

Scanned copies may be sent by e-mail to saep.quantummechanics.vit@gmail.com.

Last date for receipt of applications: **2 April 2018**.

Outstation candidates will be provided local hospitality and round trip bus/train (three-tier AC) fare by the shortest route. Please note that participants must arrive on 12 May and must stay till 26 May evening.

Course Director: Prof. H. S. Mani, Chennai Mathematical Institute, Kelambakkam, Chennai.

Course Coordinator: Dr G. Vinitha, Division of Physics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, e-mail: vinitha.g@vit.ac.in; Contact number: +91-94456 01869.