**DEPARTMENT OF INSTRUMENTATION**

**COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**Report of the ERUDITE programme conducted in 2015**

The ERUDITE programme for the academic year 2014-15 was conducted by Department of Instrumentation during the period 3rd March - 7th March 2015.

**Prof (Dr) G.Mohan Rao, Department of Instrumentation and Applied Physics, Indian Institute of Science, Bangalore was the scholar in residence.**

  On 3rd afternoon at 2.00pm the first talk was delivered in the Department of Instrumentation. There were about seventy students comprising Ph.D, MSc and BTech students. The title of the talk was **“Plasma in Surface Engineering (From low pressure plasma to atmospheric pressure plasma)”**

The second lecture was conducted in the Department of Physics auditorium (CUSAT). Most of the research scholars of Physics, Photonics and Instrumentation departments and MSc students and faculty members of CUSAT were present for this talk. A few MSc students from nearby colleges were also present. The title of the talk was **“Thin film micro batteries”**. This is a field which is actively pursued in the Physics department of CUSAT also and hence the subject was very much relevant and appreciated by the research scholars and faculty members working in this field.

The third lecture was delivered in the Department of Physics, Maharajah’s College, Ernakulam. The talk was attended by a large audience including the faculty members of Physics and chemistry departments, Ph.D students and MSc students from Maharajah’s and nearby colleges. The title of the talk was **“Graphene and its applications in batteries”.**

In the afternoon Pro.Rao interacted with the faculty, research and postgraduate students.

The fourth talk was in the Department of Instrumentation and was attended by the research students, post graduate students and faculty members of Instrumentation, Physics, Chemistry and Photonics departments. The title of the talk was **“Dye-sensitized Solar Cells”**. It is a technology for the future development of high efficiency solar cells. The talk focused on several aspects of this technology and recent trends in this field.

The last day was completely devoted for interaction with the research students of Instrumentation and Physics departments. Main areas covered were (i) high dielectric constant (high-k) materials (ii) Graphene deposition and characterization and (iii) Thin film batteries. These students and the faculty concerned interacted with Prof. Rao who could clear several of the doubts about the plasma parameter measurements, problems faced in the measurement techniques etc. Also Prof.Rao interacted with the students working on the development of Sensor materials. On 7th and proceeding days research students of Physics department who are working on the thin film batteries had several discussions with Prof. Mohan Rao and gained better insights in the field.