



**Gokaraju Rangaraju Institute of Engineering and Technology
(Autonomous)**

Report of the Event

Title of the Event: **A TEQIP course on IC Engines Theory, Modelling & Diagnostics**

Organized Date: 20th -24th Mar 2017

Summary:

This short course is for all industry and research professionals involved in automotive sector. Engineers and designers in both private and public practice will benefit. This course will provide excellent exposure to the theory, modeling concepts and diagnostics tools use in internal combustion engine research along with hands on experience on example problems.

Internal combustion engine theory covering aspects of combustion kinetics into normal and abnormal combustion in IC engines, cyclic variability and exergy analysis. Recent strategies in multiple/split injection and its impact on the engine performance. Introduction to Diagnostics using schlieren, high speed imaging, PIV/PLIF techniques. Relevance of constant volume combustion studies to develop fundamental understanding in engine combustion. Lab session on optical access engine diagnostics/performance. Lab session on diagnostic tools (Viz. schlieren, PIV, PLIF) working principles. CFD theory covering spray, combustion modeling in cylinder. Lab sessions for hands on experience in numerical modeling. Pollutant and emissions aspect of the IC engines would also be covered.