**Course Name:**

**Workshop on Industrial Experimentation for Engineers & Scientists**

**Course Content:**

**Introduction to Design of Experiments:** Half day

* Why Designed Experimentation?
* Concept of Experimental Error
* Fundamental Principles of Experimentation
* Quiz

**Statistical Preliminaries: 3 days**

* Concepts of Statistical distributions
* Hypothesis Testing One day
* One-Way Analysis of Variance
* Two-Way Analysis of Variance
* Regression Analysis
* Hands on
* Quiz

**Classical Design and Analysis of Experiments: One and half day**

* Factorial Experiments
* Fractional Factorial Experiments
* Hands on
* Quiz

**Taguchi Methods: 3 days**

* Designing Experiments using Orthogonal Arrays (OA)
* Multi-Level and Dummy-Level Designs
* Analysis of OA experiments and validation of results
* Signal to Noise Ratio Analysis
* Dynamic Signal to Noise Ratio Analysis
* Hands on
* Quiz

**Live experimentation with Catapult and analysis of the experimental data One day**

**Case Studies/ Valedictory / quiz / examination. One day**