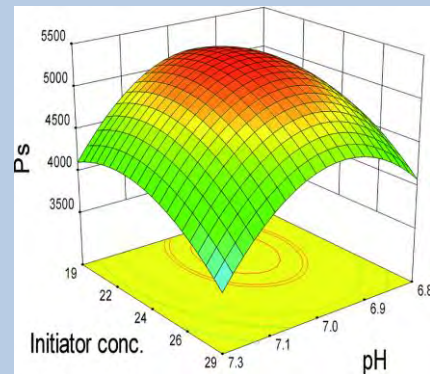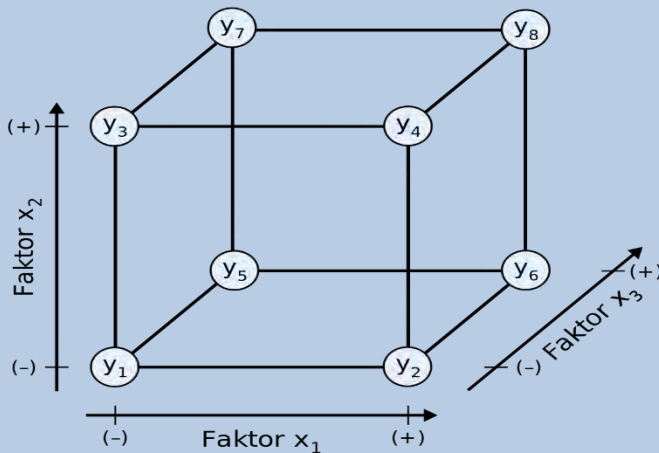# ONLINE
WORKSHOP ON DESIGN OF EXPERIMENT
WITH R

During 19-21 June 2023
Duration – 3 days

Last date of application: 15 June 2023

Conducted by:

SQC & OR Unit

Indian Statistical Institute, Mumbai

Room No 320, 3rd Floor Old C G O Building
101 Maharshi Karve Road, Mumbai 400020
email: sqcbombay@gmail.com
Mobile : 9869242240/9969928144
www.isimumbai.co.in

Workshop on Design of Experiment (DOE)

About Design of Experiment

Design of Experiment, or DOE is a tool to develop an experimentation strategy that maximizes the knowledge about products or processes using a minimum of resources. Sir Ronald A Fisher primarily laid the principles and foundation of statistics for DOE. The work of G. Taguchi on robust design for variation reduction had revolutionary impact on Japanese industry. Today, Design of Experiment (DoE) is widely used in all fields of Engineering, natural and social sciences. Engineers and Scientists worldwide use DOE for new product development, process improvement and variability reduction. It ensures that both planning, and execution of experiments are most efficiently managed thereby reducing development time and development cost. Today industries all over the world use design of experiments for problem solving and robust product development. The technique is also useful for establishing defect free processes through optimization of process parameters.

Why should I attend this Workshop?

From this workshop. participants will acquire knowledge on
- Problem-solving and product/process development using design of experiments
- Developing robust products and processes
- Minimizing the variation around the target for critical performance characteristics.
- Usage of several types of designs e.g., factorial, Plackett Burman, Taguchi's designs etc.
- Use of different multiple response optimization techniques

Target Participants:
- Manager, Engineers, Technologists, and Scientists from Research and Development/ Manufacturing / Process Engineering and Development departments.

Course Content:
- Quality, Types of data, and Probability Distribution.
- Introduction to Design of Experiments
- Test of Hypothesis (t-test / F-test / ANOVA)
- Factorial Experiments
- Fractional Factorial Experiments
- Placket Burman Designs
- Multiple Response Optimization
- Response Surface Methodology
- Mixture Design
- Case Studies

Venue:
The program will use either **Microsoft Teams or Zoom** for online classes.

Important Dates:
- Program dates: **19-21 June 2023**
- Timing: 9:30 hrs – 17:30 hrs

Faculty:
Experienced faculties of SQC & OR Division having in-depth experience in carrying out experiment at various organizations like L&T, Reliance, BHEL to name a few.

Course Prerequisite:

The program will be workshop type and will be covered using R/ R-studio. Pre course material will be send to all the participants covering installation of R, R-studio and exercises. It is expected that the participant will install and work on R-studio before attending the session.

Course fee:

Rs. 5000 + 18 % Tax as per Govt. Rules. Total fees: **Rs.5900/-** (Five thousand Nine hundred) per participant. Fees can be paid only through **internet banking**. The bank details for making on-line payment are given below:

Bank Name:	STATE BANK OF INDIA
Account Name:	Indian Statistical Institute,
Account Type:	**Current**
Bank Account No:	10996682279
Branch:	MUMBAI MAIN BRANCH
Bank Address:	Mumbai Samachar Marg, Horniman Circle, Fort. Mumbai 400023
IFSC code:	SBIN0000300

Note: Fees Will be fully refunded if ISI cancels the program only.

Registrations are purely on a '**first come, first allotted' basis**. Participants must enquire (mobile no. 9969928144 / 9869242240) for the seat availability before making the payments. Registration will be confirmed only on receipt of **filled-in nomination form** (attached at the last page) and **course fees**.

LAST DATE FOR REGISTRATION: 15 June 2023

Nomination form is on the last page

Workshop on Design of Experiment
June 19- 21, 2023 (3 days)

NOMINATION FORM

Name of the Participant (CAPITAL LETTERS): *Mr./ Ms./Dr.*

Communication Address (*Mandatory*):

E-mail* (*Mandatory*) for all future communications:

Mobile (with WhatsApp):

Organization Name (Optional):

Functional area (Optional):

Highest academic qualification:

<u>*Course Fees:*</u>

Rs.5000/- per participant +. tax @18% = **Rs. 5900 /- (*To be paid through internet banking*)**
<u>**Bank Details: For Online Payments**</u>
Bank Name: STATE BANK OF INDIA
Account Name: Indian Statistical Institute,
Account Type: **Current**
Bank Account No: 10996682279
Branch: MUMBAI MAIN BRANCH
Bank Address: Mumbai Samachar Marg, Horniman Circle, Fort. Mumbai 400023
IFSC code: SBIN0000300

Amount Paid: _____   Date: _____

Bank: _____   Payment Ref. No._____

Name: *Date:*

Please send the filled-in form to sqcbombay@gmail.com
All the communications should be throughout a single email id only.