

Workshop on

Statistical Techniques for High-Quality Research: Probability, Hypotheses Testing and Regression (February 1-10, 2022)



Conducted by
Prof. Apratim Guha
XLRI (Xavier School of Management), Jamshedpur

About the Workshop:

The workshop will be held on **February 1-3 and 8-10, 2022 (10am - 1.30pm)** via online medium (through Zoom). In addition, optional sessions on R programming will be held on **January 31, 2022 (10am – 1.30pm)** for those who may require a basic introduction to R.

Focus of the Workshop:

The focus of this workshop is to introduce the basic concepts of statistics to doctoral students and early career academics who require to use statistical techniques in their research.

The workshop will start with basic concepts of probability and distributions, and will introduce to the concepts of various statistical testing and modeling tools. The theoretical components will be complemented by hands on data analysis using R.

Learning Objectives:

Upon the completion of this workshop, the participants would have learned:

- Basic descriptive analysis of data
- The concept of sampling distributions
- Statistical estimation and hypothesis testing
- Linear and logistic regression

Who should attend and prerequisites?

This workshop is designed primarily for early career researchers in management or data science, who ideally are doctoral students or faculty members looking to use statistical techniques in their research.

Participants will need to have a functional computer/laptop with R, R-Studio and Excel installed.

Registration Fees and Details:

Regular Full-time doctoral students:

INDIA and SAARC countries: INR 4000/participant for the main workshop + Rs. 750 (for the optional R workshop) [including GST]

Other countries: USD 75 + USD 25 (for the optional R workshop)

Regular Part-time doctoral students and faculty:

INDIA and SAARC countries: INR 5000/participant (including GST) + Rs. 750 (for the optional R workshop) [including GST]

Other countries: USD 100 + USD 25 (for the optional R workshop)

EARLY-BIRD DISCOUNT

Participants who register by **January 25th** will get a **20% discount**.

Discounted Registration Fees:

Early-bird Full-time doctoral students:

INDIA and SAARC countries: INR 3200/- (4000/-) (including GST) + Rs. 600 (Rs. 750) (for the optional R workshop) [including GST]

Other countries: USD 60 + USD 20 (for the optional R workshop)

Regular Part-time doctoral students and faculty:

INDIA and SAARC countries: INR 4000/- (INR 5000/-) (including GST) + Rs. 600 (Rs. 750) (for the optional R workshop) [including GST]

Other countries: USD 80 + USD 20 (for the optional R workshop)

Last Date of Registration: January 28 or till seats fill.

Workshop seats: 80

Registration Payment:

1. NEFT (online transfer):

Account Name: Skills Edge
Account No.: 657005602092
Bank: ICICI Bank
IFS Code: ICIC0006570

2. Razorpay:

INDIA and SAARC countries

Full-time students, Part-time students and faculty: <https://rzp.io/l/U8A3WFoxr>

Other countries

Full-time students, Part-time students and faculty: <https://rzp.io/l/Awk9HGZ6G8>

After making the payment, please fill the registration form at:

<https://forms.gle/5VMos99yivKJmhJ59>

Workshop Agenda:

The workshop will **start on February 1st at 10am** and will **end on February 10th at around 2pm**.

Contact Details:

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About the Workshop Faculty (Prof. Apratim Guha):

Prof. Apratim Guha obtained his PhD from the Department of Statistics, **University of California, Berkeley** in 2005. Before joining **XLRI as a professor** in 2019, he has worked, reverse chronologically, at **IIM Ahmedabad** as an associate professor (2012-2019), the School of Mathematics, **University of Birmingham, UK** as a lecturer (2008-2012), and at the **Department of Statistics and Applied Probability, National University of Singapore** as an assistant professor (2005-2008).

Prof. Guha has published in many reputed international journals, such as *Health Services and Outcomes Research Methodology*, *Computers & Industrial Engineering*, *Journal of Complex Networks*, *IEEE Transactions on Computers*, *Test*, *Statistica Neerlandica* and *Journal of Statistical Planning and Inference*.

Prof. Guha can be contacted at apratim@xlri.ac.in. His full profile can be accessed at <https://acad.xlri.ac.in/facprofile/index.php?682>.

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WORKSHOP AGENDA

DAY 0: January 31, 2022 (MONDAY)

Session I-II (10am – 1.30pm): Introduction to R: installing, basic operations, importing and exporting data, performing statistical operations

DAY 1: February 1, 2022 (TUESDAY)

Session 1 (10am – 11.30am): Data summarization and visualisation

Session 2 (12noon – 1.30pm): Basic concepts of probability

DAY 2: February 2, 2022 (WEDNESDAY)

Session 3 (10am – 11.30am): Probability Distributions

Session 4 (12noon – 1.30pm): Sampling Distributions and the central limit theorem

DAY 3: February 3, 2022 (THURSDAY)

Session 5 (10am – 11.30am): Statistical estimation techniques

Session 6 (12noon – 1.30pm): Introduction to testing of hypotheses

DAY 4: February 8, 2022 (TUESDAY)

Session 7 (10am – 11.30am): More on testing of hypothesis

Session 8 (12noon – 1.30pm): Analysis of variance

DAY 5: February 9, 2022 (WEDNESDAY)

Session 9 (10am – 11.30am): Introduction to linear regression

Session 10 (12noon – 1.30pm): Concepts in linear regression

DAY 6: February 10, 2022 (THURSDAY)

Session 11 (10am – 11.30am): More on linear regression

Session 12 (12noon – 1.30pm): Logistic regression

1.30pm - 2pm: Feedback and Valediction