

2-6 May, 2022

**FDP**  
**on**  
**Graphical Data Analysis using**  
**Advanced Statistical Tools**

Department of Management & Computer Science  
**International School of Informatics & Management**  
**Technical Campus**  
**Jaipur**

Accredited 'A' by NAAC

Ranked 1st in category 'A' by Rajasthan Technical University, Kota

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## About FDP

In today's world it is most difficult to avoid the term 'research'. It is because of the continuous efforts of the researcher that we are experiencing a giant leap in this century. A research is initiated to have some practical consequences. This programme has been designed to provide clear guidelines on how to undertake research as well as highlights the realities of undertaking research, including more common pitfalls. Looking at these requirements of research, the Centre for Governance Systems, Gujarat Technological University, Ahmedabad, has planned to organize this Faculty Development Program on Open Source Statistical Package R.

With the developments in technology and methods, it has become essential for the teaching fraternity to update themselves on the same and adopt the learnings in teaching as well as journal publication. We note two such developments in the context of journal publication. The first one is, introduction of the data analysis tool 'R', which is non-commercial and a good replacement for many commercial data analysis tools, used for analysing the research data. Another development is, reporting the results of the data analysis in the journal publications. Journal editors and reviewers expect that the results are reported as per the standards and other supporting measures are reported along with them. For example, reporting Cohen's D in hypothesis testing.

These two aspects seem to be different but not so. One can use R for data analysis and the results obtained can be reported in the journal publications as per the required standards. Hence, there is a need to integrate the two and taking this into consideration, ISIM is organizing a six-day faculty development programme (FDP) that integrates both the aspects.

### What is R?

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. R provides a wide variety of statistical (linear and nonlinear modelling, classical statistical tests, time-series analysis, classification, clustering, ...) and graphical techniques, and is highly extensible. One of R's strengths is the ease with which well-designed publication-quality plots can be produced, including mathematical symbols and formulae where needed.

### Why R?

It is free, multiplatform (this enables easy collaboration) and open source (it ensures the reproducibility of the analysis). In R new packages are available as quickly as the theory is published. Also there is a lot of documentation available over the internet.

### Objectives of the FDP

1. To provide the participants exposure to open source statistical package "R" for their research and data analysis work.
2. To provide hands-on experience in using R for research data analysis.
3. To make participants interpret and report the results of data analysis suitable for a journal requirement.

## Coverage

Taking into consideration the objectives of the FDP, we have planned to cover the following during the two-day programme.

1. Data import to R and basic data analysis.
2. Introduce the built-in functions in R and use the same for analysing the research data.
3. Construction of hypothesis and testing the same using the built-in functions in R for t-test, ANOVA, Chi-square test etc.
4. Making participants understand the importance of reporting measures such as Cohen's D etc., along with the results of the hypothesis testing in a journal paper.
5. Linear regression analysis using R.
6. Open sessions for discussions on specific issues related to application of Statistical methods.

## Material

Participants will be receiving reading material on R prior to the programme (only for registered participants) and the same can be used to prepare for the FDP. This will help the participants to have a basic understanding of R, be aware of the topics covered and come prepared to the programme.

Software and systems during the programme

The software 'R' will be installed to the systems available at the computer centre and participants will be using the same during the programme. In case few participants need the software to be installed in their personal laptops, help will be provided

## Resource Person

Prof. Nishtha Keswani, Associate Professor, Central University of Rajasthan

Dr. Madhulika Bhati, Principal Scientist & Deputy Head Project Monitoring and Evaluation Division, Assistant professor, NISTAD, New Delhi

## Who can attend?

Graduates in any discipline, Post Graduates, Diploma Holders, Research Scholars in any discipline and Faculty Members.

## Schedule

Date: 2-6 May, 2022

## Patron:

Dr. Ashok Gupta, Director

## Advisory Committee:

Dr. Manju Nair, Principal

Dr. Kavaldeep Dixit, Vice Principal

Dr. Swati V. Chande, HOD-Computer Science

## FDP Coordinator:

Dr. Gargi Sharma, Associate Professor

## About Institute

International School of Informatics & Management (popularly known as IIIM) is among the top three B-Schools of Rajasthan. IIIM, Technical Campus offers MBA & MCA programmes duly approved by the AICTE & affiliated to the Rajasthan Technical University, Kota. The institution is accredited with grade 'A' (the highest in 2016) by NAAC and is state's first institute to have 'A' Grade amongst the MBA and MCA institutions.

The institute has bagged first prize in the institutional category in Rajasthan Energy Conservation Award for the year 2018 by Department of Energy, Government of Rajasthan. The institute has acquired 4.5 stars out of 5 for its Institution Innovation Council, established as per the norms of Innovation Cell, Ministry of HRD, Govt. of India to promote Innovation and Startup in campus during the calendar year 2019-20. Furthermore, the institute has been consecutively ranked first in the category 'A' for the academic sessions 2017-2018, 2018-19 and 2019-2020 by Rajasthan Technical University, Kota, for its MBA and MCA programs on the basis of Quality Index Value (QIV) score. It has also been ranked First in category 'A' for its MBA program in 2020-21 & is placed in category 'A' in 2020-21 for its MCA Programme. The institute has also been able to achieve distinguished ranks among all the institutions in India, in the surveys conducted by agencies such as CSR-GHRDC, Indian Management and Business world.



### Address for Correspondence

**International School of Informatics & Management** Technical Campus  
(Formerly India International Institute of Management)

Sector-12, Mahaveer Marg,  
Mansarovar,

Jaipur - 302020, Rajasthan, India

Tel.:+91-141-2781154/55

Telefax: +91-141-2781158

Email: [iiim@icfia.org](mailto:iiim@icfia.org)

Web :[www.icfia.org](http://www.icfia.org)

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