

# Faculty Development Programme

Multivariate  
Statistics  
Using R



Prof. Sirish Kumar Gouda  
and Prof. Vinu C T



5<sup>th</sup> July -9<sup>th</sup> July'21 (5 Days)



Online – Direct to Device mode



Indian Institute of Management Tiruchirappalli

## Program Introduction

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There is a huge amount of data being generated by consumers, firms and government agencies which is of interest to management researchers. With the explosion of data, researchers in various fields of management are becoming involved in data-driven research. Taking this into consideration, this course is designed to provide an exposure to various empirical methods that will enable them to conduct quality research. This course should enable participants to answer questions such as “What is the right data to answer my research question?”, “Is my data in a right form to perform my analysis?”, “What is the most suitable quantitative method to answer my research question?” etc.

## Program Objectives

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- Understand and apply multivariate data analysis methods
- Learn to work with R software for statistical analysis
- Identify and transform interesting issues in management research into researchable problems
- Learn to report research findings and publish in peer-reviewed journals

## Pedagogy

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This Faculty Development Programme is primarily designed to equip the participants with the statistical software ‘R’ and make them aware of the several multivariate statistical analyses that can be done using this software. The pedagogy will primarily be hands-on and will involve few lectures. Participants will be made to work on interesting datasets using R and will be taught to report the results in a systematic manner for publishing in peer-reviewed journals. We would primarily use open source software R for this course. R is a very powerful statistical tool with great community support.

The programme will be handled over 20 sessions and each session would be of 90 minutes.

## Profile of Expected Participants

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This programme is designed for faculty who are interested in working with interesting datasets. While the discussion will be around datasets from business and management disciplines, faculty from Engineering, Basic Sciences, Humanities and Social Sciences would also be benefitted by this course.



## Program Content

Session Number	Content Covered
1 and 2	<i>Introduction to Multivariate Statistics</i>
3 and 4	<i>Introduction to R software and Basic Programming</i>
5 and 6	<i>Data Management – Subsetting, Missing Values and Outliers</i>
7 and 8	<i>Data Visualization – Basic plots and working with ggplot2 package</i>
9 and 10	<i>ANOVA and Linear Regression</i>
11 and 12	<i>Logistic Regression</i>
13 and 14	<i>Principal Component Analysis and Factor Analysis</i>
15	<i>Cluster Analysis</i>
16	<i>Discriminant Analysis</i>
17, 18 and 19	<i>Structural Equation Modeling in R</i>
20	<i>Course Wrap-up</i>



## About the instructor(s)

**Sirish Kumar Gouda** is a faculty in the Operations Management and Decision Sciences Area at IIM Tiruchirappalli. His research interests include Sustainable operations and Behavioral operations. He holds a bachelor's degree in Civil Engineering from NIT Warangal. He worked as a software consultant for Manhattan Associates, a supply chain management solution provider. He then joined the FPM in Production and Operations Management Department at IIM Bangalore. Before joining IIM Trichy, he also had a short stint with Center for Digital Financial Inclusion as an Associate Research Manager. He has publications in various outlets such as European Journal of Operational Research, International Journal of Production Economics, International Journal of Production Research, Supply Chain Management Review, Information and Management, International Journal of Manpower and The TQM Journal. He has also presented his research work in several National and International Conferences.

**Vinu CT** is a faculty in the Operations Management and Decision Sciences Area at Indian Institute of Management Tiruchirappalli. He has completed his Fellow Program in Management (FPM) from Indian Institute of Management Bangalore. His doctoral research is focused in the area of financial time series. His current areas of research interests are financial econometrics, applied statistics, and business analytics. He has publications in journals such as International Journal of Production Economics and Competition and Regulation in Network Industries.

## About IIM Tiruchirappalli (IIMT)

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Indian Institute of Management Tiruchirappalli (IIMT) is the eleventh IIM and was instituted on 4<sup>th</sup> January 2011. IIM as a name has steadily become synonymous with excellence in management education and has established a benchmark for unwavering quality in India. IIM Trichy aims to find its own footing in developing competent professionals for the industry and doing quality research in India.

IIMT is functioning from its sprawling state-of-the-art campus spread over 175 acres of land on Trichy-Pudukottai highway, about 11 km from Tiruchirappalli International Airport.

IIMT offers the following academic programmes

- PGPM: Two-year full-time Post Graduate Programme in Management
- DPM: Full-time doctoral programme in Management
- E-DPM: Executive doctoral programme in Management
- PGPBM: Two-year part-time Post Graduate Programme in Business Management

Apart from regular academic programmes and Executive Education programmes, IIMT also provides consulting services to Corporates and other organizations in different areas of management.

## Programme Venue

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This programme will be delivered through online - Direct to Device mode.

## Course Duration

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The programme will start from 5<sup>th</sup> July 2021.

**Duration: 5<sup>th</sup> July - 9<sup>th</sup> July'21 (5 Days)**

## Programme Fee

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The programme fee for each participant will be **Rs. 25,000/-** plus applicable GST. This programme fees cover expenses towards academic material fee including a certificate with folder, souvenir and platform charges.



The programme fees can be paid in any one of the following ways:

1. Demand Draft has drawn in favour of Indian Institute of Management Tiruchirappalli payable at Trichy.
2. Electronic Fund Transfer through NEFT/RTGS for which Account details of our Institute are given below.  
Bank A/C No: 32170820601  
Name of the Bank: SBI  
Name of the Branch: IIMT Campus, Chinna Sooriyur Village, Pudukkottai Main Road, Tiruchirappalli-620024  
IFSC No: SBIN0071187 MICR No: 620002063

Please Note:

- The confirmation of participation will be provided only on receipt of programme fees by the EEC office. All enrolments are subject to review and approval by the Programme Director.
- Joining Instructions will be sent to the selected participants one week before the programme commences.
- If a participant fail to attend the programme, no refund of fees will be made. However, the same can be adjusted during the current or next financial year. In case the programme is being cancelled by IIM Tiruchirappalli, then the programme fees will be refunded in full to the person/organization concerned.

## How to apply

Nominations (online / scanned copy / hard copy) should preferably reach Executive Education & Consulting Office (EEC) on or before two weeks of the programme start date. The nomination form can be downloaded from our website. Kindly fill in the form mentioning full details of the participant(s), sponsoring organization and the payment details.

Both companies sponsored as well as self-sponsored nominations are invited.

FDP Nomination form link: <https://bit.ly/36lp0dF>

**Our correspondence the address is as follows:**

Executive Education & Consulting (EEC)  
Indian Institute of Management Tiruchirappalli  
Pudukkotti Main Road, Chinna Sooriyur Village,  
Tiruchirappalli - 620 024, Tamil Nadu  
Phone: 0431- 250 5025 / 5125 | e-mail: [eec@iimtrichy.ac.in](mailto:eec@iimtrichy.ac.in) | [eecmanager@iimtrichy.ac.in](mailto:eecmanager@iimtrichy.ac.in)

