

# IIPS PLACEMENT CELL



## DATA ANALYSIS USING R

DATE:

November 17 - 21,  
2022

VENUE:

ICT UNIT, LIBRARY BUILDING

12 sessions

ONLY FOR MA/MSC & MBD  
2ND YEAR STUDENTS



RESOURCE PERSON:

**DR.S. RAJARAM**  
Consultant, UNICEF

**REGISTER!!**



Alisha +91 9894683815  
Jayant +91 8379078212



placementcell@iipsindia.ac.in



Govandi Station Road, Opposite  
Sanjona Chamber, Deonar,  
Mumbai-400088, Maharashtra

THE INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES (IIPS)  
(An Autonomous Organization of Ministry of Health & Family Welfare, Government of India)

## About the Workshop:

Data Analytics is the scientific process of deriving insights from raw data to support decision-making. Through the Training on 'R and R-Studio' you will learn how to use analytics techniques and the R language to solve problems related to population. This comprehensive training on R will teach you the basics of R, data wrangling, data visualization, programming basics, creating your own functions, basic statistics with R and a few advanced statistical analysis using R language. Fundamentals of R, data types, data objects, and importing other types of data into R are included in the topic on the basics of R. Data exploration and data manipulation using various base R functions and 'dplyr' packages are covered in the topic of data wrangling. Data visualization covers the basic graphs and the use of 'ggplot2' package in generative charts in the data analysis. Programming basics include conditional expressions and defining loops using the R language. The topic of creating your own function covers how to define or create user-defined 'R' functions. Basic statistics with R take you through various ways of examining the data to create a hypothesis, test, and validate. In the course on advanced statistical analysis, you will learn the technique of regression, logistic regression, decision trees, and random forests which are some of the most popular predictive analytics techniques used in machine learning applications using R. The participants are required to carry out the practical or exercises provided to learn all the techniques during the training or at their own pace due to the time available for the training being short.

## About the Resource Person:

Rajaram S holds a Ph.D. and a M.Phil. degree in Population Studies from the International Institute for Population Sciences, Mumbai. He holds an M.Sc. degree in Demography Mathematics from the University of Kerala, Thiruvananthapuram. He worked in IIPS for one year as a Research Officer during 1991-1992 and has a total work experience of 27 years. He started his professional career at the Population Foundation of India, New Delhi, followed by the Population Research Center, Dharwad, Karnataka Health Promotion Trust, Bengaluru, and the UNICEF India Country Office and the UNICEF Regional Office for East Asia and the Pacific as a consultant. During his career, he was involved in more than 30 short- and long-term projects funded by various reputed government and non-governmental organizations. He has published numerous research papers in national and international journals. He has also written numerous survey reports related to monitoring and evaluating Population Health programmes of national relevance funded by various government organizations and other developmental agencies. He was involved in numerous large-scale household sample surveys such as NFHS-2, NFHS-3, RCH-DLHS, and MICS in various capacities. He has taught students of "International Diploma in Reproductive Health Management" course organized by the Karnatak University, Dharwad for four academic sessions. He has experience in using various statistical packages such as SPSS, Stata, and SAS. He has extensive experience in project management and skills in collaborative problem solving, establishing, and maintaining effective partners including governmental and non-governmental agencies.

# AGENDA FOR THE WORKSHOP

<b>Day 1 [17/11/2022]</b>	<b>SESSION 1</b>	<b>Introduction to R &amp; R Studio</b>
	<b>SESSION 2</b>	<b>-Examples of Creating Data Object -Importing data into R</b>
<b>Day 2 [18/11/2022]</b>	<b>SESSION 3</b>	<b>Data exploration with R</b>
	<b>SESSION 4</b>	<b>Data manipulation with R</b>
<b>Day 3 [19/11/2022]</b>	<b>SESSION 5</b>	<b>Examples of Programming</b>
	<b>SESSION 6</b>	<b>Examples of creating functions</b>
	<b>SESSION 7</b>	<b>Data Visualization with R</b>
<b>Day 4 [20/11/2022]</b>	<b>SESSION 8</b>	<b>Transposing data</b>
	<b>SESSION 9</b>	<b>Statistics with R</b>
	<b>SESSION 10</b>	<b>-Multiple regression with R -Logistic regression with R</b>
<b>Day 5 [21/11/2022]</b>	<b>SESSION 11</b>	<b>Classification and regression trees (Decision trees)</b>
	<b>SESSION 12</b>	<b>Random forest</b>