



## Faculty Development Program



**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

### Discussion Points

**Title :** Monte Carlo methods in Statistics for Researchers

**Date :** 29-Feb-2024 - 29-Feb-2024

**Time :** 10:00 - 17:30

**Venue :** TT513

- Random number generation and simulation of data from various probability distributions
- Simulation and data generation under regression models
- Monte Carlo Integration and its Applications
- Permutation tests
- Bootstrap methods



#### **Resource Person 1 - Details**

**Name :** Dr Thalamuthu

**Designation :** Professor, Healthy Brain Ageing

**University/ Company :** New South Wales, Sydney

**Address :** Australia, 2052.



#### **Resource Person 2 - Details**

**Name :** Sujatha V

**Designation :** Assistant Professor Grade 1, School of Advanced Sciences

**University/ Company :** VIT, Vellore

**Address :** India, 632014.

### **Resource Person's Profile :**

#### **1. Profile of Dr Thalamuthu**

Dr Thalamuthu (South wales ) has written several methodological articles on genetic association studies. He has also analysed several GWAS on age-related phenotypes and contributed to the meta-analysis of GWAS studies. he is a lead statistician at CHeBA, responsible for design, analysis and interpretation of results on multiple projects in genetic epidemiology, neuro epidemiology, neuro imaging and proteomics.

#### **2. Profile of Sujatha V**

Sujatha.V is an Assistant Professor in the Teaching Stream at the Faculty of Mathematics, University of VIT. Prior to that, she held several professorial positions in Mathematics in various higher education institutes. She earned her M.Sc. MPhil in Mathematics ,M.E in computer science (Anna University) and Ph.D. in Statistics .

Her research interests include Survival Analysis and Order Statistics

Monte Carlo methods are based on random numbers generated from probability distributions. These methods are very useful to understand the properties of functions of random variables when the closed form solutions or approximations are not very useful. The Random number generation and simulation of data from various probability distributions, Simulation and data generation under regression models, Monte Carlo integration and its applications

Permutation tests, Bootstrap methods are used in Monte Carlo methods in Statistics.

R software

**Coordinator's: Prof. SUJATHA V 13403 - Assistant Professor Grade 1 - SAS**  
**Prof. UMA K 14808 - Assistant Professor Sr. Grade 2 - SCORE**