



## Faculty Development Program



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

### Event Outcome

**Title :** Navigating Trade-Offs with Multi-Objective Optimization and Decision-Making

**Date :** 2025-10-07 - 2025-10-08

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

**Venue :** SMV 110

- Participants will be able to
1. Apply mathematical principles to formulate and solve optimization problems
  2. Use MS Excel effectively as tool for solving and analyzing optimization problems
  3. Evaluate and compare optimization methods to choose appropriate approach for a given application



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

**Name :** G P Rangaiah

**Designation :** Emeritus Professor, Chemical and Biomolecular Engineering Department

**University/ Company :** NUS Singapore, Singapore

**Address :** Singapore, 117585.



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

**Name :** Bandaru Kiran

**Designation :** Associate Professor Grade 1, School of Chemical Engineering

**University/ Company :** VIT, Vellore

**Address :** India, 632014.

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

#### **1. Profile of G P Rangaiah**

Name: Prof. G P Rangaiah

Emeritus Professor

Chemical and Biomolecular engineering department

NUS Singapore

Singapore, 119618

Education:

Ph.D. (Chemical Engineering), Monash University

M.Tech (Chemical Engineering) IIT Kanpur

B.Tech (Chemical Engineering), Andhra Univeristy

#### **2. Profile of Bandaru Kiran**

Post doctorate: NUS Singapore

Ph.D.: (Chemical Engineering), IIT Kharagpur

M.Tech (Chemical Engineering), Kharagpur

B.Tech (Chemical Engineering), Gayatri Vidhyaparishad College of Engineering, Visakhapatnam

Optimization has applications across almost every field of life. In fact, each of us optimizes daily, whether it's planning our schedules, making career choices, managing investments, or even deciding travel routes, business, organizations, and industry rely on quantitative models and optimization techniques to make informed, data-driven decisions.

One of the most accessible tools for this purpose is Microsoft Excel, which includes powerful built-in features for solving a wide range of optimization problems.

This comprehensive course introduces participants to the fundamentals of optimization. It begins with the definition of a optimization problem, then explores applications and techniques for single objective optimization and later expands to the principles, methods, and applications of multi-objective optimization. Practical demonstrations using Excel are integrated throughout to reinforce learning.

The FDP is designed for faculty, engineering researchers, and professionals seeking to strengthen their problem-solving skills through optimization. A background in engineering mathematics will help participants gain the maximum benefit

MS Excel

**Coordinator's: Prof. BANDARU KIRAN 15949 - Associate Professor Grade 1 -  
SCHEME  
Prof. NIRMALA G S 10193 - Professor Grade 2 - SCHEME**