



Soft Computing Research  
Society, New Delhi

&  
Electronics & ICT Academy  
IIT Roorkee



presents

International  
Winter Training Course  
on

Nature Inspired Optimization  
Techniques and their Applications  
using MATLAB

[December 01-December 10, 2020]

At par with QIP for  
recognitions/credits

Experts from Academia

Prof. Seyedali Mirjalili, Torrens University, Australia  
Prof. Xin She Yang, Middlesex University, London  
Prof. J. C. Bansal, South Asian University, New Delhi  
Prof. Kusum Deep, IIT Roorkee, India

Supported by

Ministry of Electronics & Information Technology  
Government of India

Certificates to participants by  
E&ICT Academy IIT Roorkee



Classes will be delivered through  
online platform

## Why Optimization Techniques?

Optimization is the art of selecting "the best" alternative among a given set of options. Optimization problems arise in almost all areas like science, engineering, finance and Industry – in fact, in all walks of human activity in where the problem may be mathematically modeled. The traditional optimization techniques are unable to tackle the complexities of real world optimization problems. Recently, a number of nature inspired optimization techniques (NIOT) are being developed. They are gaining popularity and are considered efficient due to their ability to find a reasonably acceptable solution within a fair amount of computational time. Some of the methods in this category are: Genetic Algorithms, Particle Swarm Optimization, Ant Colony Optimization, Differential Evolution, Spider Monkey Optimization, Fire Fly Algorithm, etc. These techniques are finding applications in numerous real life applications in Science, Engineering, Finance and Business.

## Course Objectives

- State-of-the-art Nature Inspired Optimization Techniques will be explained by Internationally renowned experts.
- Live hands-on experience using MATLAB.
- The participants will be provided with lectures starting from the basic implementations.

## Course Features

- The course will consist of lectures and labs/hands-on sessions.
- Hands-on will be carried using MATLAB Tool box.
- Certificates to participants by E&ICT Academy IIT Roorkee.

## Registration Link

<http://tiny.cc/qzzxsz>

Last date of registration – 26 Nov, 2020

## Focus Areas

- Genetic Algorithms
- Particle Swarm Optimization
- Ant Colony Optimization
- Differential Evolution
- Spider Monkey Optimization
- Fire Fly Algorithm
- Constrained and Multi-objective Optimization
- Examples and Implementations
- Case studies

## How to make payment ?

<https://eict.iitr.ac.in/Paymentdetails.html>

Conference Code: EICTIITR-Online-29

## Course Fees

SCRS or IITR- Rs. 4,000/-

SCRS and IITR- Rs. 3,000/-

Others- Rs. 8,000/-

International participants- \$100 USD

## Who Can Attend ?

Course is open to faculty members/ PhD research scholars and students from academic and research institutions.

## Principal Investigator

Prof. Sanjeev Manhas  
CSE Deptt., IIT Roorkee

## Course Coordinator

Prof. Kusum Deep

Department of Mathematics  
Indian Institute of Technology Roorkee

## Contact Details

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