E&ICT Academy, PDPM IIITDM Jabalpur

Online Winter Faculty Development Programme
Advanced Optimization Techniques using MATLAB

February 17 - 28, 2025 : Online live streaming

Jointly Organized by

MNIT Jaipur	IIITDM Jabalpur	IIT Roorkee	NIT Patna	IIT Guwahati

Course Contents and Schedule

[February 17 - 28, 2025, 4:00 PM to 8:00 PM]

- Fundamental of Optimization- Unconstrained and Constrained Optimization, Linear Programming, Graphical Method, Symmetric Dual Problems, Simplex Method, Derivative based Optimization, Newton's Method, Least Mean Square Method.
- Nature Inspired Optimization- Multi-modal function Optimization, Evolutionary Computation (Genetic algorithm, Genetic Programming, Differential Evolution, Social Spider Optimization), Swarm Intelligence (Particle Swarm Optimization, Ant Colony Optimization, Cat Swarm Optimization, Cuckoo-search, Grey Wolf Optimization, Whale Optimization), Bio-Inspired Optimization (Artificial Immune System, Bacterial Foraging Optimization), Physical Algorithms (Simulated Annealing, Colliding Bodies Optimization, Gravitational Search Optimization).
- Multi-objective Optimization, Non-dominated Solutions, Non-dominated Sorted Genetic Algorithm (NSGA-II), Multi objective Particle Swarm Optimization, Many-objective Optimization, NSGA-III.
- Applications- Benchmark mathematical function optimization, Linear and Nonlinear System Identification, Dynamic System Identification, Communication Channel Equalization, Device Modeling, Forecasting/Prediction of time series, Data Classification and Clustering, Hybridization of optimization techniques with Neural Networks and Deep Neural Networks, genomic signal processing.

Coordinators

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RESOURCE PERSONS

- Prof. N. P. Padhy, Director MNIT Jaipur, Fellow INAE
- Prof. Ganapati Panda, Fellow INAE, Fellow NASI, Former Dy. Director
- Prof. Emeritus, IIT Bhubaneswar
- Dr. Nithin V. George, IIT Gandhinagar
- Dr. Pyari M. Pradhan, IIT Roorkee
- Dr. Sitanshu Sekhar Sahu, Birla Institute of Technology Mesra
- Dr. Jagdish Chand Bansal, South Asian University, New Delhi
- Dr. Sriparna Saha, IIT Patna
- Dr. Prashant K. Jain, IIITDM Jabalpur
- Dr. Satyasai Jagannath Nanda, MNIT Jaipur

Registration Details

Registration link – Please fill in the registration form using the following link:
https://forms.gle/PJyXgwKAJSLxDA2M9

Registration fee: INR 500/-
Last Date for Registration: February 13, 2025

Contact Details

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Online payment details:
- Internet banking
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