



TWO WEEKS ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)

ON

Emerging Optimization Techniques for Engineering Applications

(19TH – 30TH APRIL 2021)

Organized by

Department of Mechanical Engineering

Indian Institute of Information Technology Design and Manufacturing, Kurnool – 518007, A.P., India

(An Institute of National Importance under Ministry of Education, Govt. of India)

in association with

E & ICT Academy, National Institute of Technology, Warangal.

Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI



Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

About FDP:

The objective of this Faculty Development Program is to explore various multi-objective optimization techniques and their recent applications in industries and academia for research, quality improvement and offline quality control of any product or process. The focus of the program will be on the Indian Infrastructure includes manufacturing, HVAC, transportation etc. This program will also discuss theoretical and practical aspects, which are of interest for practicing engineers, academic personnel, research scholars and PG level students. This FDP is intended to promote the application potential of recently developed optimization methods through hands-on practice sessions. The FDP has been premeditated in such a way that it can satisfy the needs of academicians, research scholars and industrial personnel in carrying out their research work within the scope of this domain.

Major Course Contents (40 Hours):

- **Module 1: Basic Method of DOE**
- **Module 2: Hands-on sessions on DOE**
- **Module 3: Modern Evolutionary Optimization Methods** (viz. Genetic algorithm, Neural network, Teaching Learning based Optimization, Particle Swarm Optimization, Simulated Annealing, Nature Inspired Algorithms, JAYA Algorithm, etc.)
- **Module 4: MCDM Methods** (viz. MOORA, TOPSIS, VIKOR, AHP, PROMETHEE etc.)
- **Module 5: Hybrid MCDM Methods** (viz. Fuzzy MOORA, Fuzzy TOPSIS, Fuzzy VIKOR etc.)

Faculty conducting this FDP:

The programme will be conducted in **online mode** by the faculty members from IIITDM Kurnool, Academicians in the concerned field from IITs/NITs/IIITs/CFTIs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

Eligibility:

The programme is open to faculty and PhD students of Engineering Colleges, Degree Colleges and other allied disciplines in India. Industry personnel working in the concerned /allied discipline can also attend.

Registration Fee:

Faculty and Research Scholars	Rs. 750/-
Industry Participants	Rs. 2250/-

The registration fee is to be collected in the form online transfer only using the following details:

Online Transfer Details

Account Name : Electronics & ICT Academy NITW
Account No : 62423775910
IFSC : SBIN0020149
Bank and Branch: State Bank of India, NIT(REC) Warangal

How to apply:

1. Pay the registration fee as mentioned in the above table.
2. Fill the online registration form using the link/QR code given below:

Registration Link:

<https://forms.gle/iJqN4RiV1jc9CrWMA>

QR Code:



3. Selection will be done based on first-come-first-serve basis to a maximum number of 150.
4. Candidates will be issued satisfactory certificates on successful completion of the course.

About NIT Warangal:

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited. The Institute is well known for its dedicated faculty, staff and the state-of-the art infrastructure conducive to a healthy academic environment. The Institute is constantly striving to achieve higher levels of technical excellence. Evolving a socially relevant and yet internationally acceptable curriculum, implementing innovative and effective teaching methodologies and focusing on the wholesome development of the students are our concerns.

About IIITDM Kurnool:

Indian Institute of Information Technology Design and Manufacturing, Kurnool (IIITDMK) was announced in 2014 after receiving the assent of President of India to the Institutes of Information Technology Act, 2014, and its subsequent publication in the Gazette of India, Extraordinary, Part- II, Section I, on December 08, 2014. The institute was announced by Government of India to give effect to its obligation under the Andhra Pradesh reorganization act 2014. The IIITDM Kurnool campus is located far away from the bustling life of the metropolis in the mineral-rich mountain trails of the Rayalaseema region of Andhra Pradesh. The campus is situated atop a hill that oversees Kurnool city. The place offers a perfect environment to nurture a peaceful state of mind required to carry out research and other student activities.



About Department:

Mechanical Engineering with specialization in Design and Manufacturing (MDM) offered by IIITDM Kurnool augments the existing Mechanical Engineering curricula offered by IITs by offering design courses on conceptualization, visualization, and engineering simulations. Equipped with well-structured instruction and learning resources and research facilities, the institute aims to disseminate education in the inter-disciplinary areas of design and manufacturing engineering.

Design visualization imparted through graphic art practice and product design practice enable students to conceptualize, design, simulate and develop tangible products. Students undergo interdisciplinary courses such as embedded systems, instrumentation, controls, automation and advanced manufacturing technology that will help them to design and develop innovative engineering products. Students can choose courses among electives and pursue their interests. The program offers a blend of courses that impart knowledge on design thinking and interdisciplinary engineering in addition to basic sciences.

Organizing committee:

Chief Patron:

Hon'ble Prof. DVLN Somayajulu
Director

Indian Institute of Information Technology
Design and Manufacturing, Kurnool
Jagannathagattu Hill, Dinnevarapadu Village,
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Convener:

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IIITDM Kurnool, A.P., India

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Assistant Professor
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Coordinator

Dr. Akhtar Khan

Assistant Professor

Department of Mechanical Engineering
Indian Institute of Information Technology
Design and Manufacturing, Kurnool
Jagannathagattu, Dinnevarapadu Village,
Kurnool – 518007, A.P., India

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And
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Important Dates

Start date of online registration	15 th February, 2021
Last date of online registration	12 th April, 2021
Selection list by email	15 th April, 2021
Duration of the FDP	19 th – 30 th April, 2021