APPLICATION FORM

SHORT TERM COURSE (STC)

Optimization Techniques Using Nature Inspired Algorithms for Engineering Applications

13th – 17th February, 2019

Name (in capital letters):.....

Designation: .....

Department:.....

Organization: .....

Address:.....

.....

Tel/ Fax: .....

Email: .....

Accommodation: Required / Not required

Signature with Date: .....

SPONSORSHIP CERTIFICATE

It is certified that our institute is recognized by AICTE. The applicant is hereby sponsored and will be permitted to attend the above short term course, if selected.

Date: ..... Signature and Seal of the Sponsoring authority

(Photocopy additional copies of this form, if needed)
(scanned copy of registration form can also be sent by E-mail)

ABOUT M.I.T.S. GWALIOR

Madhav Institute of Technology and Science (MITS), Gwalior was established by His Highness Sir Jiwaji Rao Scindia, Maharaja of Erstwhile State of Gwalior, with an aim to create world class quality engineers and technocrats capable of providing leadership in all spheres of life and society. Founded as Madhav Engineering College in 1957 with three UG programmes, this temple of learning is now over 60 years old. Since its inception, the institute has constantly strived for excellence and quality. Today the institute offers admission in eleven UG programmes along with research programmes leading to Masters degree in eighteen specializations and Ph.D. in various technical streams. Various departments of the institute have well equipped laboratories and experienced faculty. The institute is minor QIP centre for Ph.D. programme in five disciplines. The institute is also funded by World Bank under TEQIP phase III to strengthen the quality of technical education.

LOCATION

Gwalior city has major road and rail connection. The Institute is located on Agra - Bombay Road (NH – 3) and is approximately 320 km from Delhi. Gwalior Railway station is halt for most of south bound trains from Delhi. The institute is located in the heart of city and is at a distance of about 3 km from Gwalior Bus Stand/ Gwalior Railway Station.

ABOUT THE DEPARTMENT

The department of Electrical Engineering is one of the oldest departments in the institute with a glorious history of fifty six years of excellence in teaching and research. The department offers one UG and two PG programmes. Since 2012, the department is a minor QIP centre for research programme. The faculty is actively engaged in research, and has published numerous papers in National and International journals. The alumni of the department have secured their places in the higher echelons of the society and technical world.

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal, MP)

QUALITY IMPROVEMENT PROGRAMME CENTRE

OFFERS

AICTE-QIP SPONSORED

ONE WEEK
SHORT TERM COURSE

On

Optimization Techniques Using Nature Inspired Algorithms for Engineering Applications

13th – 17th February, 2019

Organized by

Department of Electrical Engineering

website: www.mitsgwalior.in

PREAMBLE

The conventional optimization methods greatly depend on the nature of objective functions and often show their limitations for solving complex real world problems. On the other hand, Nature Inspired (NI) Algorithms have non-dependency on nature of the optimization problem and have random parallel search capability. Due to these properties, NI Algorithms are becoming more and more popular for handling various complex optimization problems. The ease of formulating the equality and inequality constraints and stable convergence behaviour also add to their merits. In recent years, several Nature Inspired Algorithms, their modified versions and hybrid Nature Inspired Algorithms have been developed and proposed for various real-world optimization problems. Over the last few decades, there has been remarkable growth in Nature Inspired Algorithms.

Presently, these algorithms and their hybrid models are being applied to a variety of problems in all the branches of engineering, science, and management etc. Nature Inspired Algorithms are the latest techniques applied for solving optimization problems.

This course will include the development, implementation, and assessment of various Single and Multi-Objective Nature-Inspired Algorithms and their enhanced variants.

The idea behind this course is to motivate Nature-Inspired computational algorithms for technical and professional competency of the faculty members. The Short Term Course is designed to understand and implement Nature Inspired computational techniques for solving numerical and engineering optimization problems using MATLAB etc. The STC is well structured and technical presentations are meant to be delivered by renowned academician/engineers from reputed institutes and industries.

COURSE CONTENTS

The idea behind this course is to enhance technical and professional competency of the faculty members and to promote interactions among the professionals working in diverse areas of Engineering and Technology.

The main aim of this programme is to expose the faculty members of various institutes to these latest optimization techniques, so that they may be able to train their students and apply these techniques to their respective research areas.

The course will include Single and Multi-Objective Nature Inspired Algorithms like:

- Genetic Algorithms
- Differential Evolution
- Gravitational Search Algorithm
- Particle Swarm Optimization
- Artificial Bee Colony
- Cuckoo Search
- Spider Monkey Optimization
- Moth Flame Optimization
- Dragonfly Algorithm
- Teaching Learning Based Optimization
- Jaya Algorithm etc.
- Preface to Hybrid NI algorithms and their Engineering Applications
- Application of MATLAB and its Toolboxes (Optimization, Genetic Algorithm etc.)

Laboratory demos will supplement the material presented in the lectures. This course would be of great help to the faculty members of various institutes, who want to learn these NI based optimization techniques.

FACULTY

The faculty for the short term course will be mostly from reputed education and research organizations. Also the department has qualified faculty who are working in these field.

REGISTRATION

Teachers of AICTE recognized engineering institutions are eligible to apply for the course. Participants will be given course material. Accommodation will be arranged on request on 'first come first serve basis to the outstation participants. The number of participants is limited to 30 for the course. Since funds are limited, it may not be possible to admit many outstation candidates. Merit and availability of funds will be taken into consideration while selecting candidates. The interested candidates need to apply on the prescribed Performa by due date at the following address.

ADDRESS FOR COMMUNICATION

Dr. Laxmi Srivastava, *Coordinator*
Dr. Hari Mohan Dubey, *Co-coordinator*
Prof. Vishal Chaudhary, *Co-coordinator*
Electrical Engineering Department
M.I.T.S., Gwalior – 474005 (M.P.)
Phone: 0751-2409311, 9926245805
E-mail: harimohandubey@mitsgwalior.in,
vishal.chaudhary30@mitsgwalior.in

Last date of receiving completed application forms is 25th January, 2019. The candidates will be informed for their selection in advance via email.

FINANCIAL ASSISTANCE

There will be no registration fee for the participants. Free boarding and lodging will be arranged in the Institute Hostels/ Hotels/ Guest house. Reimbursement towards TA/DA will be made to participants attending the course in full. TA is limited to III AC for to and fro railway fare via shortest route.