Madhav Institute of Technology & Science, Gwalior, M.P. (INDIA)

(A Govt. Aided UGC Autonomous Institute Affiliated to R.G.P.V., Bhopal, M.P.)

Under the Aegis of

Ministry of Human Resource & Development, Govt. of India

Announces

SOLAR ENERGY TECHNOLOGIES

Date: 25th Feb – 1st March 2019

Venue: Faculty Resource Center MITS, Gwalior

Global Initiative of Academic Networks (GIAN) is convened under the aegis of MHRD, Govt. of India. It ensures to garner best international experiences into our systems of education. The objective of GIAN is to provide opportunity to our faculty to learn and share knowledge and teaching skills in cutting edge areas. It provides the opportunity to students of different Institutes/Universities to seek knowledge and experience from reputed International faculty. It provides opportunity for the technical persons from Indian Industry to improve understandings and update their knowledge in relevant areas. The course aims to improve professional skills for the fundamentals and design principles of solar energy technologies.

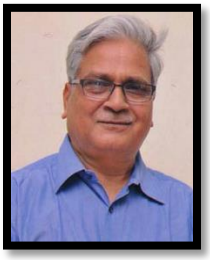
The workshop is open to all stakeholders in the field of Solar Technology

Overview	Solar energy is a form of energy harnessed from the power and heat of the sun's rays. It is renewable, and therefore a "green" source of energy. The course consists of fundamentals and advanced knowledge includes problem solving techniques in the solar energy technologies both thermal and photovoltaic. Significant focus will be on potential technological interventions that can be applied to green buildings technologies. This course will also focuses on thermal modeling and simulation of simple and hybrid FPC, EC, Green house and solar distillation. This course will help faculty to share and enrich knowledge at international level in the area of solar energy technologies. The primary objectives of the course are to deliver knowledge at fundamental and advanced levels in the following topics: ➢ Solar energy technologies, their fundamentals and design principles ➢ Solar thermal modeling and photovoltaic (PV) technologies for various applications ➢ Principles and design criteria for advanced green house and solar Distillation
Module	***Day 1*** *Basics of solar geometry, sun- earth angles, Basics of solar radiation heat transfer* — ***25th Feb'19*** ***Day 2*** *Non-concentrating solar thermal systems: basics and design principles, Thermal modeling of flat plate collector and evacuated collector Problems on Non-concentrating solar thermal systems* — ***26th Feb'19*** ***Day 3*** *Solar Dryer fundamentals and thermal modeling and analysis Fundamentals of solar distillation, thermal modeling of various configurations of solar still* — ***27th Feb'19*** ***Day 4*** *Fundamentals of energy and exergy analysis of solar systems, Problems of exergy analysis* — ***28th Feb'19*** ***Day 5*** *Solar photovoltaic system fundamentals, hybrid system, Concentrating solar thermal systems and solar PV Examination, Problem solving session with examples* — ***1st March'19***
You Should attend if…	➢ *Faculty from academic institutions, technical institutions, executives, engineers and researchers from manufacturing service and government organizations including R&D laboratories.* ➢ *Students at all levels (B Tech/MSc/M Tech/PhD)*
Registration	*Register through the GIAN portal: http://www.gian.iitkgp.ac.in/GREGN* ***Contact**: Prof. M.K. Gaur, mkgaur@mitsgwalior.in* *Seats are limited to 50 participants only* *Register by **30th Jan 2019***

Fees	*The participation fees for taking the course is as follows:* ***Participants from abroad:*** ***US $300*** ***Industry/ Research Organizations:*** ***INR 15,000/-*** ***Faculty:*** ***INR 4,000/-*** ***Students/Self Employed:*** ***INR 2,000/-*** *The above fee includes all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hour free internet facility.*
Accommodation	*MITS Gwalior may provide accommodation to a limited number of participants on a first come first serve basis and depending upon availability on single/twin sharing on payment basis. Gwalior is also endowed with suitable and economical hotels in the vicinity of the campus.*
MITS Gwalior	*Madhav Institute of Technology & Science (MITS), Gwalior, was established in 1957 by* ***His Highness Sir Jiwaji Rao Scindia****, Maharaja, of the erstwhile state of Gwalior under open door policy of Govt. of India. The institute is affiliated to RGPV, Bhopal but has academic autonomy since 2002 to run courses of its choice. Recently the institute has been granted autonomy by UGC, New Delhi for 6 years from July 2017. The institute is also accredited by the National Assessment and Accreditation Council (NAAC).* *Gwalior is well connected to Delhi by rail, road and air. It is the northern-most city of the State of Madhya Pradesh in India and is known for its historic sites of Gwalior fort, Gujari Mahal, Sarod Ghar, Man Singh Palace and Tansen Memorial. Gwalior has been selected as one of the hundred Indian cities to be developed as a smart city under the PM's flagship Smart Cities Mission.*

The Faculty

Professor Brian Norton is a President of Dublin Institute of Technology Grangegorman, Dublin. He is Member of the Royal Irish Academy, Ireland's highest academic distinction, a Fellow of the Irish Academy of Engineering, Honorary Professor at University of Ulster, Harbin Institute of Technology and Beijing Wusi University, both in China and Adjunct Professor at University of Houston, USA. He is the sole author of two books and co-author of another nine books, over 450 research papers, including over 180 in major international learned journals with over 5000 citations. He has supervised over forty doctorates. He is Editor-in-Chief of Foundations and Trends in Renewable Energy, serves as Associate Editor of "Solar Energy" - the premier international journal in the field - and serves on eight other editorial boards.



Professor G. N. Tiwari is a renowned professor at Centre for Energy Studies, IIT Delhi. He has guided about 70 Ph.D. students and published over 500 research papers in journals of repute. He has authored twenty books associated with reputed publishers namely Pergaman Press UK, CRC Press USA, Royal Society of Chemistry (RSC), UK, Pira International, UK, Alpha Science, UK, Narosa Publishing House, Anamaya Publisher, New Delhi etc. He is a co-recipient of 'Hariom Ashram Prerit S.S. Bhatnagar' Award in 1982. Professor Tiwari has also been conferred "Vigyan Ratna" award by Government of Uttar Pradesh in the year 2007 on his work in the area of SOLAR ENERGY APPLICATIONS. Currently he is President of Bag Energy Research Society (BERS-2007).

Professor M. K. Gaur has been working as professor in Mechanical Engineering at Madhav Institute of Technology and Science Gwalior (MITS). He possesses seventeen years teaching experience of Post Graduate and Under Graduate classes. He has authored one book titled 'Problems Solutions and Experiments'. Forty of his papers have been published in various international and national journals and conferences. He has delivered numbers of expert lectures in the field of heat transfer and solar energy. He attended one week summer school 'UKERC' at University of Sussex, Brighton, U.K. in July, 2009. He is a life member of the Indian Society for Technical Education (India) and Faculty Advisor of Society of Automotive Engineers INDIA MITS chapter.

Course Coordinator

Prof. M. K. Gaur

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