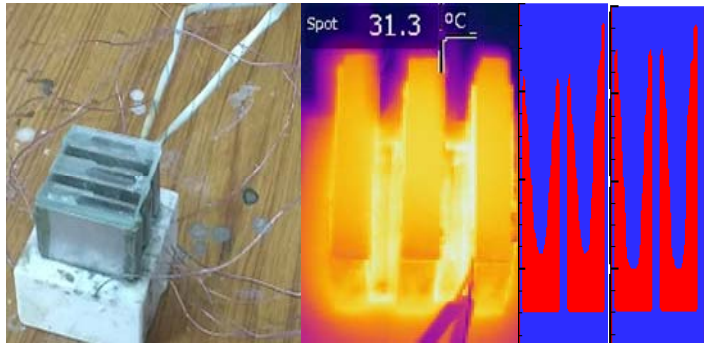
RECENT ADVANCES IN PCM BASED COOLING TECHNOLOGY
December 11 - 15, 2017

Course as approved under the MHRD Scheme on Global Initiative on Academic Network (GIAN)

School of Mechanical Sciences

IIT Bhubaneswar



Course Objectives

The proposed course sponsored by MHRD under GIAN Scheme is aimed at educating researchers, scientists, faculties and students working in the field of Mechanical/Chemical Engineering with special emphasis on Thermal Science and Energy Storage**.**

Course Contents

(1) Introduction: Introduction to PCM based cooling system. Heat, Mass and Momentum Transfer associated with phase change involving PCM based cooling system.

(2) Advances in PCM based electronic cooling system: Part 1 & 2

(3) PCM as a cooling solution for Space Applications:

(4) PCM based solar PV cooling system

(5) CFD Modelling of PCM based thermal energy system: Enthalpy model for phase change in PCM, System level modelling, development of a transport model for PCM based heat sink involving Multiphysics phenomena.

(6) Experiments on PCM based cooling systems: Experimental design principle, experiments on PCM based heat sink for cooling of electronics.

Registration Fees

Participants from abroad: US $250/-
Industry/ Research Organizations: Rs. 8,000/-
Academic Institutions:
Students: Rs. 1,000/- and Faculty: Rs. 4,000/-

The above fee includes working lunch, all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 Hr free internet facility. Participants will be provided with single bedded accommodation in the Institute hostel on payment basis.

N.B: Participants must register for the course on the following link before **October 30, 2017**.

http://www.gian.iitkgp.ac.in/GREGN

Application Procedure

A one time fee of ₹500/- (excluding the registration fee as mentioned above) may required to be paid while registering in the above GIAN web portal. Participants should further submit the **Registration Fee** (as mentioned above) as Demand Draft in favor of "**CEP IIT Bhubaneswar**" latest by **November 30, 2017** to the course coordinators.

Course Coordinators:

Dr. Prasenjit Rath and Dr. Mihir K. Das

Faculty Members Conducting the Present Course:

Professor Yogendra K. Joshi is a Professor in George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA, USA. He is also JOHN M. MCKENNEY AND WARREN D. SHIVER DISTINGUISHED CHAIR in building Mechanical systems. Prior to joining the Georgia Tech faculty in 2001 as a Professor, Dr. Joshi held academic positions at the University of Maryland, College Park, and the Naval Postgraduate School, Monterey, California. He also worked in the semiconductor assembly industry on process thermal model development. He is a fellow of IEEE since 2012. His major research area is thermofluid issues in emerging technologies and microthermal energy system. Professor Joshi is the author or co-author of approximately 350 archival journal articles and conference publications.

Professor Pradip Dutta is a Professor and Chair of Mechanical Engineering at Indian Institute of Science, Bangalore. He is a fellow of ASME and fellow of all four national academies of India. He is the Associate Editor of IEEE Transactions on Components and Packaging Technology, and ASME Journal of Electronic Packaging. Most recently he received the J. C. Bose National Fellowship for his outstanding contribution in energy research. His major research areas include Heat transfer issues in complex electronic packaging, materials processing, solar energy storage, etc.

Dr. Mihir K. Das is currently working as Assistant Professor in School of Mechanical Sciences, IIT Bhubaneswar. He received both M. Tech and Ph.D. degree from Indian Institute of Technology Roorkee, Roorkee, India in 1999 and 2006 respectively. His research interest include two phase heat transfer, energy storage technology and thermal management of electronics. He has published several research papers in reputed international journals. In addition, he is heading various projects funded by DST and CPRI.

Dr. Prasenjit Rath is Assistant Professor of Mechanical Engineering in the School of Mechanical Sciences, IIT Bhubaneswar. He holds a Ph.D. in Mechanical Engineering from Nanyang Technological University, Singapore and M.Tech in Mechanical Engineering with specialization in Thermal and Fluids Engineering from IIT Guwahati. His key research areas are CFD as applied to materials processing, phase change heat transfer and ultrafast transport.

Dr. Anirban Bhattacharya is currently working as Assistant Professor in the School of Mechanical Sciences, IIT Bhubaneswar. He received both his Ph.D. and Masters from Indian Institute of Science, Bangalore and has worked as a post-doctoral researcher at The University of Manchester, UK and GE Global Research, Bangalore. His primary research areas are modelling of multi-scale phase-change processes, thermal energy storage systems and heat transfer processes.

Contact address:

School of Mechanical Sciences, IIT Bhubaneswar, Argul, Jatni, Odisha-752050.
Email: prath@iitbbs.ac.in, mihirdas@iitbbs.ac.in
Mobile: +91 9437419774, 7008333601