

BACKGROUND

Fiber-reinforced polymer (FRP) composite are now being extensively used as primary and secondary load bearing structures in many industries like aerospace, automobile, civil infrastructure, wind energy, marine and sports.



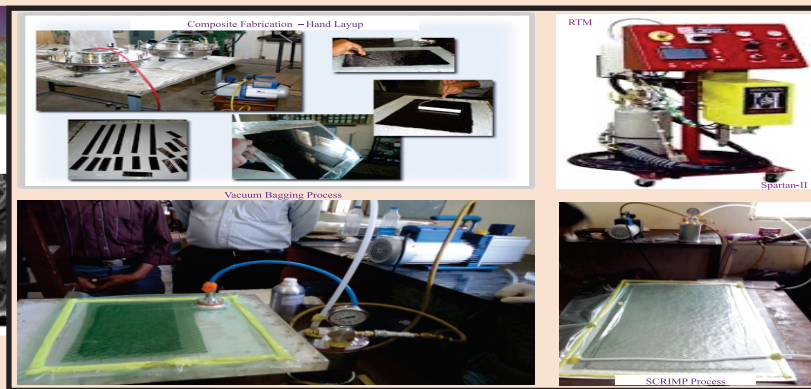
The feature of custom tailored properties and heterogeneous nature offered by composites call for special attention to their characterization. Testing of heterogeneous and anisotropic FRP materials poses several challenges like numerous parameter identification, development of specific test methodology and fixtures etc.



As a whole, the knowledge of fabrication methods, accurate machining and testing methodology is essential for researchers and practicing engineers from design and manufacturing perspective.

This short course is for all industry and research professionals involved in development and usage of FRP composites; material characterization; life prediction;

damage assessment and repair aspects of FRP composite structures. Engineers and designers in both private and public practice will benefit. This course will provide an excellent exposure on FRP composite to young scientists, research scholars and teachers at the universities and private engineering colleges.



WHO SHOULD ATTEND?

This short course is aimed at providing an overview of composites, its application, fabrication and testing methodologies .

- Introduction to Composites
- Fabrication methodologies
- Basic Mechanics
- Material Characterization
- Whole-field Strain Analysis using Digital Image correlation (DIC) technique
- Mechanics of Composite Repair
- Fatigue life assessment
- Applications and Case Studies

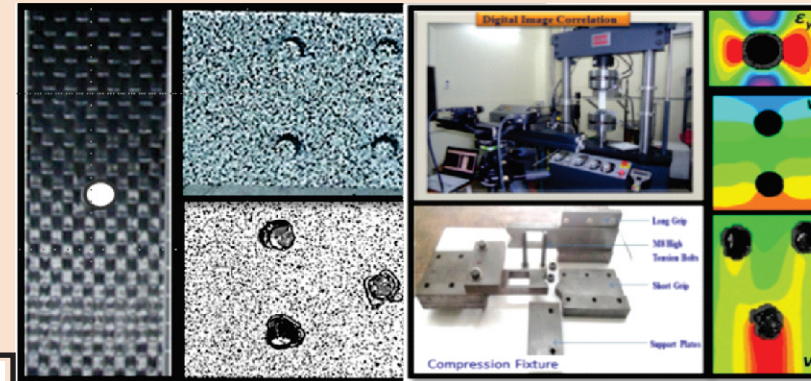
COURSE CONTENTS

Day one: Introduction and overview, Mechanics, Manufacturing; Material Characterization and Lab Demonstration.

Day two: Case Studies on Applications of FRP; Mechanics of Composite Repair; Fatigue life assessment

COURSE MATERIAL

A copy of selected presentation material of the course will be provided along with other useful references and case studies.



REGISTRATION FEES

Application for participation in the short course may be sent in the attached proforma along with the registration fee to Dr. M. Ramji so as to reach him before 25th of June, 2014. The fee should be remitted by a crossed demand draft in favor of "IIT Hyderabad" payable at state bank of India. Rs. 10000/- per participant from Industry and research labs, and the fee is fixed at Rs. 8000/- for participants from academic institutions. A limited seats are available for students whom the fee is Rs. 5000/-.

Please indicate FRP 2014 in the remarks section while attaching DD/ in electronic funds transfer.

A scanned copy of registration form shall be sent through email (frp@iith.ac.in). Please see www.iith.ac.in/~frp for any further details.

Travel, boarding and lodging expenses of the participants will have to be borne by the participants or their sponsoring organizations. A limited accommodation is available at the IIT-H guest house. Therefore, participants, who wish to avail this facility, are advised to write to Dr. M. Ramji well in advance, and in any case, not later than 25th of June, 2013. The registration fees include lunch, dinner and refreshments.

A Short Course On FRP Composites: Overview, Characterization, Analysis, Design and Applications

July 10th-11th, 2014

REGISTRATION FORM

Personal Information :

Name: _____

Designation: _____

Organization: _____

Mailing Address: _____

Phone: _____

Email: _____

Registration Fee:

Enclosed is a crossed draft no.....

..... Dated

For Rs..... In favor of "IIT-Hyderabad", payable at State Bank of India, Hyderabad. Also, payment may be made directly to IIT-Hyderabad using Electronic Bank Transfer using the following details

Payable to: IIT Hyderabad

Bank Name: State Bank of Hyderabad

Web: <http://www.iith.ac.in/~frp>

SHORT COURSE ORGANIZERS

Dr. M. Ramji, Assistant Professor,
Department of Mechanical & Aerospace
Engineering, IIT H

Dr. M. Ramji's research expertise is on composite repair, fundamental fracture studies, high temperature material testing, computational fracture and damage mechanics. He focuses on mechanics of repair aspects applicable to composite structures involving digital image correlation. He also uses digital reflection and transmission photoelasticity for applied stress strain/stress analysis. He also extensively uses FEA for practical stress analysis of mechanical components. He is a member of SEM, USA.

Dr. S. Suriya Prakash, Assistant Professor,
Department of Civil Engineering, IIT H

Dr. Suriya Prakash's research expertise on structural concrete behaviour, design and application of FRP composites in civil infrastructure. He worked with STRUCTURAL Inc, USA a renowned firm in strengthening design and construction using FRP Composite materials. He has designed strengthening solutions for several buildings in the US and middle east. He has authored several papers on strengthening with FRP composites. He is a member of ASCE and ACI, USA.

INVITED SPEAKERS

- Dr. P. Alagusundaramoorthy, Professor, IIT Madras
- Dr. C. M. Manjunatha, Senior Principal Scientist, CSIR-NAL
- Mr. Srinivas Aluri, Hara Industries Ltd

CONTACT DETAILS

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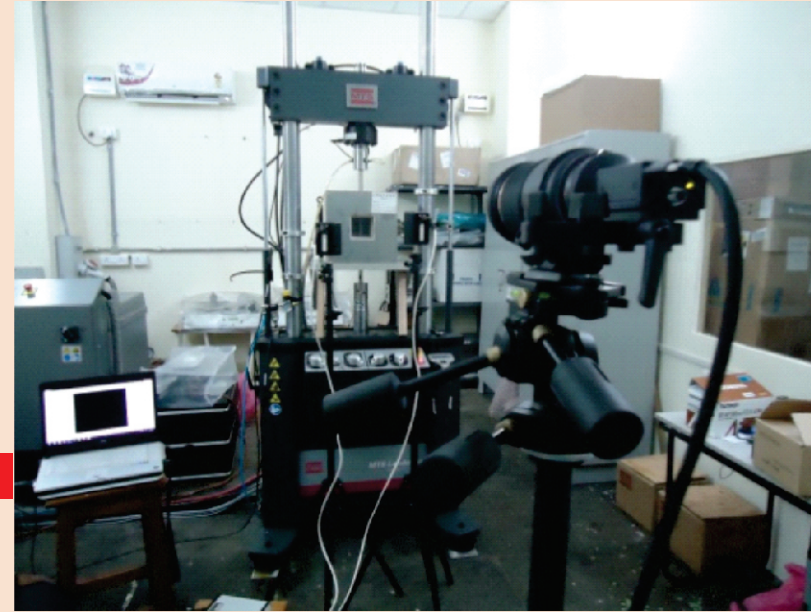
DATE AND VENUE

The short course is proposed to be held at IIT Hyderabad, Yeddumailaram, Andhra Pradesh during July 10-11, 2014. IIT-Hyderabad is located in its temporary premises in the quiet residential campus of Ordnance Factory Medak (OFMK) at Yeddumailaram, about 50 km from the heart of Hyderabad city. The requisite infrastructure, namely hostels, classrooms, offices, recreation, sports and medical facilities, are all located within the OFMK Estate. The permanent campus is being constructed and is located on the National Highway 9 at Kandi village (near Sangareddy town,, Andhra Pradesh).

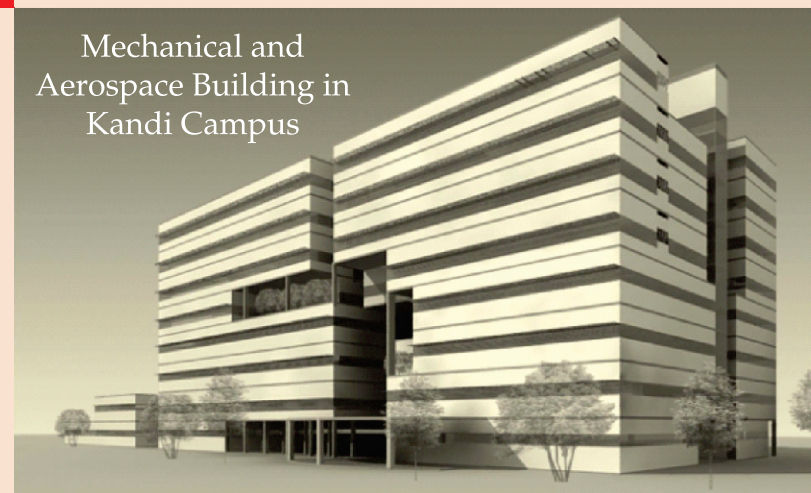
ABOUT IIT HYDERABAD

Inventions and innovations are key words on which the foundation of IITH is based. One of India's eight new IITs – IITH started functioning in August 2008. With a current strength of 130 faculty and 1400 students, IITH offers B.Tech program in seven disciplines, M.Tech in six disciplines, M.Sc in two disciplines and Ph.D in 11 disciplines. IITH develops state-of-the-art infrastructure for advanced research and has produced over 100

publications in internationally reputed journals.



Research is a culture among the faculty and students of IITH. This is evident from several research projects ranging from Rs 18 lakhs to Rs 18 crores that are ongoing at IITH. On top of the gamut of sponsored projects from various funding agencies, IITH has active collaboration with industry as well. IITH also has an innovative fractal academic program where the students are offered fractional credits and the first semester undergraduates are allowed to do a project of their choice. Many more innovations in the academic front are in the offing. IITH always strives to offer an innovative environment where one is not afraid to experiment with high-risk ideas.



Mechanical and
Aerospace Building in
Kandi Campus

A Short Course On FRP Composites: Overview, Characterization, Analysis, Design and Applications

July 10th -11th, 2014
IIT Hyderabad



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

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<http://www.iith.ac.in/~frp>