

### ❖ Selection and Mode of Payment:

Selected candidates will be intimated through E-Mail. They have to remit the necessary course fee to the Bank as per the details given below.

**Outstation participants requiring accommodation and boarding facilities have to pay Rs. 2,000/- in addition to the course fee.**

Account Name	GIAN NITW
Account No	62447453600
Bank	State Bank of Hyderabad
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC Code	SBHY0020149
MICR Code	506004011
SWIFT Code	SBHYINBB018

Candidates registering early will be given preference in short listing process. For any queries regarding registration of the course, please contact the Course Coordinators:

#### Dr. P. Rathish Kumar

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#### Dr. S. Venkateswara Rao

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### ❖ About GIAN Course:

Ministry of Human Resource Development (MHRD), Government of India (GoI) has launched an innovative program titled “Global Initiative of Academic Networks (GIAN)” in higher Education, in order to garner the best international experience. As part of this, internationally renowned Academicians and Scientists are invited to augment the Country’s academic resources, accelerate the pace of quality reforms and elevate India’s scientific and technological capacity to global excellence.

### ❖ About the Institute and Warangal:

National Institute of Technology, Warangal (NITW) formerly known as RECW is the first among seventeen RECs set up in 1959. Over the years, the Institute has established itself as a premier Institution in imparting technical education of a very high standard, leading to B.Tech, M.Tech and Ph.D. programmes in various specializations of Science and Engineering streams. Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140 km from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology, Warangal campus is 3 km away from Kazipet railway station and 12 km away from Warangal railway station.

### ❖ About the Department

The Department of Civil Engineering offers B. Tech programme in Civil Engineering, 7 M.Tech programmes including Engineering Structures and PhD programme. The Department is a recognized QIP centre since 1978. The Department has well established and well equipped laboratories. The Department has experienced faculty engaged in teaching, research, capacity building activities and industry extension services. Faculty members represent several policy making and professional bodies. The Department has liaison with reputed industries and R&D organizations. The Engineering Structures Division was introduced in the year 1967.



MHRD  
Govt. of India

**Five Days GIAN Course on**

**FRP Technology for Strengthening  
and Rehabilitation of Structures**

**August 21-25, 2017**

**Call for Registration and Participation**

**International Faculty**

**Dr. Indrajit Ray**

**Professor and Program coordinator in  
Construction Engineering & Management,  
University of the West Indies, St Augustine,  
Trinidad and Tobago, W.I.**

**Course Coordinators**

**Dr. P. Rathish Kumar**

**Dr. S. Venkateswara Rao**

**Engineering Structures Division  
Department of Civil Engineering  
National Institute of Technology  
Warangal**

**506 004, Telangana, India**

### ❖ Overview of the Course:

Despite numerous successful constructions of worldwide infrastructures, many infrastructures built with the conventional concrete and steel are now rapidly deteriorating long before their expected service life. These alarming infrastructural problems create an urgent need for more durable and advanced construction materials and technology that can be used to strengthen and enhance the performance of deteriorating and crippling structures. One such recent advancement of materials and technology is the use of fibre reinforced polymer (FRP) wrap technology. The FRP wrap technology can be used both as bond-critical application to retrofit and rehabilitate the existing deteriorated structures and also as contact-critical application to confine the structures to make them more ductile and resilient.

An international expert with vast experience of teaching and research on advanced and sustainable materials for civil infrastructures will deliver lectures and share his experience in this areas related to strengthening and rehabilitation of structures using FRP technology and share his experience on field implementation of the products, and behaviour of FRP composites.

### ❖ Course Objectives:

The primary objectives of the course are as follows:

- i) Review FRP technology in terms of composition, properties, design and applications
- ii) Expose participants to design and implementation of advanced FRP applications as new technology for strengthening and rehabilitation of civil infrastructure
- iii) Provide exposure to FRP systems and practical case studies for real life projects on repairs and rehabilitation of infrastructure.
- iv) Enhance the capability of participants to identify and solve problems related to deterioration of civil engineering infrastructure.

### ❖ International Faculty:

**Dr. Indrajit Ray** is Professor and Program Coordinator of Construction Engineering, Materials, and Management at University of West Indies, St Augustine, Trinidad and Tobago. Prof Ray's research and teaching experience spanned over 30 years in various countries. Before this position Dr Ray was Visiting Professor of Civil and Environmental Engineering at Purdue University Northwest and Indiana-Purdue University, USA for 3 years, respectively. Prior to this he was Research Professor of Civil and Environmental Engineering at West Virginia University, USA for 12 years. He is an international expert on advanced and sustainable construction materials for civil infrastructure, externally bonded fiber reinforced polymer wrap for strengthening and rehabilitation of structures, prediction models for durability of FRP bars in concrete, field implementation of the products, and behaviour of FRP composites. He authored over 110 peer-reviewed publications and 20 technical reports in this field and made several invited technical presentations. Prof. Ray led over US \$5 million research projects funded by West Virginia and Pennsylvania Department of Transportation, USA, Federal Highway Administration, USA, National Science Foundation, USA. He is the voting member of ASTM International committees-- C09 Concrete and Concrete Aggregates and C01 on Cement, faculty network member of ACI, life member of Institution of Engineers. He has vast experience of teaching several courses on advanced and sustainable materials in civil engineering, materials technology, construction facilities management, design of civil engineering materials, and finite element analysis. Prof. Ray has been awarded civil engineering excellence in teaching awards in West Virginia University four times in his career. He has supervised over 40 MS and Ph.D. students and acted as graduate advisory committee members of over 25 MS and PhD. students.

### ❖ Who can participate?

This program is open to the Faculty, Post graduate students, Field Engineers and Research Scholars working in the areas of Structural / Construction Engineering from various Institutes. Civil Engineers working in Industries, Consultancy firms, R&D laboratories can also participate.

### ❖ How to Register?

#### Stage-1: Web Portal Registration:

Visit <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying Rs. 500/- online through Net Banking / Debit / Credit card. This provides the user with life time registration to enrol in any number of GIAN courses offered.

#### Stage-2: Course Registration:

Login to the GIAN portal with the user ID and Password already created in Step 1. Click on Course Registration option at the top of Registration Form. Select the Course titled "**FRP TECHNOLOGY FOR STRENGTHENING AND REHABILITATION OF STRUCTURES**" from the list and click on Save option. Confirm your registration by clicking on Confirm Course.

### ❖ Registration Fee:

<b>Faculty</b>	<b>Rs. 2,000/-</b>
<b>Participants from Industry / Research Organizations</b>	<b>Rs. 4,000/-</b>
<b>Students &amp; Scholars</b> <ul style="list-style-type: none"><li>• Without award of Grade</li><li>• With award of Grade</li></ul>	<b>Rs. 500/-</b> <b>Rs. 1,000/-</b>
<b>Participants from abroad</b>	<b>US \$ 200</b>

The Registration fee includes instructional materials, laboratory use and session teas.

**The out-station participants will be provided with boarding and lodging on additional payment of Rs. 2,000/- in Student Hostel on sharing basis**