

# National Workshop on Prefabricated Buildings and Construction

## NWPBC

November 29<sup>th</sup> & 30<sup>th</sup>, 2021

Venue: JN AUDITORIUM, JNTUH, Hyderabad

### 2nd Announcement

To coincide with the superannuation of  
Prof. N. V. Ramana Rao, Director, NIT Warangal,  
Formerly Rector & Professor of Civil Engineering, JNTUH

Organized Jointly by

Department of Civil Engineering, JNTUHCEH

&

Department of Civil Engineering, NIT Warangal



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## PREAMBLE

Prefabricated construction is the practice of assembling a variety of components of a structure at a manufacturing site and transporting those sub-assemblies to the location of the construction jobsite. Prefabricated construction is sometimes thought of as a low-end and massproduced mode of construction. Prefabrication has brought a substantial change in the development of construction industry worldwide over the last few decades. There are various types of modular precast building construction techniques prevalent worldwide. This workshop will deliberate on the various types of prefabrication technologies along with available standards & codal provisions, its advantages, disadvantages. Presently, construction materials and techniques have a severe competition among each other such as concrete against steel, precast concrete against in situ concrete or steel, Composite materials and glass is also used in prefabricated structures. Prefabricated structures can be produced with excellent quality construction as manufacturing is done under controlled conditions.

Thus, it has large potential for the future in the construction site. Precast concrete buildings systems are attracting people for wide applicability as they are accessible in numerous shapes, sizes, as well as structural elements and unreinforced pieces. Designing with prefab mechanism is not a barrier to creativity; on the contrary these are standardized components and provide group customization at lower costs through economies of high-volume work especially for mass housing.

The Governments are now planning mass housing schemes in this country. The prefabricated construction system has been identified as one of the replacements to altering the speed of conventional construction methods at a rapid rate. The procedure is highly planned, which requires a smaller labor force at higher productivity. Prefabricated construction improves quality, safety, productivity, labor efficiency, construction timeframe, construction waste, noise, dust and energy use.

These advantages can improve the entire industry and benefit all stakeholders in the industry chain, making prefabricated construction greener, environmentally-friendly and sustainable.

## OBJECTIVES

This workshop aims to discuss the latest developments in various Prefabricated Buildings and Construction technologies and processes related to Buildings and other allied construction, including precast and prefab structural steel.







## ABOUT JNTU HYDERABAD

Jawaharlal Nehru Technological University Hyderabad was established on 2 October 1972 by the Legislature of the State of Andhra Pradesh as the first-ever Technological University in the country. It has been in the forefront in providing quality technical education of relevance erstwhile combined Andhra Pradesh State. The university was re-designated as Jawaharlal Nehru Technological University Hyderabad (JNTUH), Hyderabad from August 2008. The jurisdiction of the University is of entire Telangana State. The University is situated at Kukatpally, Hyderabad in 89 acres campus. The University offers B.Tech. Degree programme in 24 disciplines, B.Pharmacy, M.Tech. Degree programme in 64 disciplines, M. Pharmacy in 11 disciplines, M.C.A., M.B.A, M.A.M, M.T.M, Pharma D. and Pharma D. (PB)

programmes in affiliated colleges. In addition to the Constituent Units of the University, JNTUH has 291 Affiliated Colleges. They include 199 Engineering Colleges, 72 Pharmacy Colleges, 20 standalone MCA/MBA colleges spread over Telangana State. The University has Memoranda of Understanding (MoU) with many National and International Organizations, Universities and Institutions. JNTUH has four constituent engineering colleges and four academic units/schools in addition to other administrative functional units. **JNTUH College of Engineering Hyderabad** is the oldest constituent college, formerly known as Nagarjuna Sagar Engineering College, was established in 1965. The infrastructure development in the past two decades in the college has been substantial. Presently the college has seven Engineering Departments viz Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science Engineering, Metallurgical Engineering and Chemical Engineering and four Sciences and Humanities Departments (Maths, Physics, Chemistry and HSS). The Industrial Consultancy Unit of the college is highly active in offering the expertise of the staff in various fields like Structural Engineering, Geotechnical Engineering, Transportation Engg., Surveying in Civil Engineering. All the departments are equipped with modern computing facilities to carry out Academic, Research and Development works in addition to the sophisticated high performance machines and equipment available in specific departments for assisting special objective tasks.

## ABOUT NITW

NIT Warangal is the first among the chain of Regional Engineering Colleges and its foundation stone was laid by the 1st Prime Minister on 10th October, 1959. The REC was converted to National Institute of Technology in 2002 and got the status of Institution of National Importance in 2007. The Institute is well known for its dedicated faculty, staff and the state-of-the art infrastructure conducive to a healthy academic environment. The Institute is constantly striving to achieve higher levels of technical excellence. Evolving a socially relevant and yet internationally acceptable curriculum, implementing innovative and effective teaching methodologies and focusing on the wholesome development of the students are our concerns. Thanks to UNESCO and UK assistance in the past, many developmental activities were undertaken. The World Bank Assistance under Technical Education Quality Improvement Programme (TEQIP during 2004-09) had been a timely help in the overall development of the Institute. The Institute currently has thirteen academic departments and a few advanced research centres in various disciplines of engineering, pure sciences and management, with nearly 100 laboratories organized in a unique pattern of functioning, Central Library with state-of-the-art facilities, Auditorium, Student Activity Centre, Mega Computer Centre, Indoor Games Complex, big stadium, Seminar Halls with required infrastructure, Dispensary with state of art of facilities, etc. Faculty of repute, brilliant student community, excellent technical and supporting staff and an effective administration have all contributed to the pre-eminent status of N.I.T., Warangal. The Institute offers eight undergraduate programmes (B.Tech.) in engineering, Twenty-nine post graduate programmes (M.Tech., M.Sc., MCA and MBA) in engineering, sciences and management and research programmes in engineering, sciences, humanities, physical education and management. The institute is well-known for its Research and Development, Industrial Consultancy, Continuing Education and Training Programmes for teachers and industrial personnel.





## TOPICS

- ❖ Prefabrication Technologies
- ❖ Prefabricated building materials
- ❖ Prefabricated building components
- ❖ Prefabricated Construction systems
- ❖ Prefabricated Steel Structural Buildings
- ❖ Sustainability aspects of Prefabricated Buildings
- ❖ Safety & Stability of Prefabricated Constructions
- ❖ Architectural aspects of Prefabricated design
- ❖ Design Consideration of Prefabricated Buildings Setting up of Casting yards & Logistic requirements for a Prefabricated plant
- ❖ Multi storey Prefabricated Buildings Case studies of Prefabricated Buildings.

## Profile of Dr. N.V. RAMANA RAO

**Dr. N.V. Ramana Rao** is at present Director & Professor of Civil Engineering at National Institute of Technology, Warangal. He did his BE in Civil Engineering from (Osmania), M.Tech from (IIT Delhi), Ph.D (from (UK) and Post Doctorate. (from UK) in Civil and Structural Engineering from University of Wales, Swansea, UK. He has held several Administrative posts as Registrar, JNT University Hyderabad, Kukatpally, Hyderabad from 30.04.2012 to 21.07.2015, as Principal, JNTUH College of Engineering Hyderabad, Kukatpally, Hyderabad from 30.04.2008 to 24.11.2011, as Director, Bureau of Industrial Consultancy Services, JNT University, Hyderabad from 05.09.2003 to 05.05.2006, as Co-ordinator, Entrepreneurship Development Cell, JNT University Hyderabad from 01.08.2002 to 31.01.2004. He has edited three books and published 157 papers in International Journals/International Conferences/ National Journals/ National Conferences. He has Organized 12 Conferences/workshops, Delivered 15 invited lectures. He has guided more than 60 M.Tech's, 12 Ph.D's and guiding at present several Ph.Ds.



He has won Several Awards/ Prizes/Certificates. To name a few Bharath Ratna Sir Mokshagundam Visvesaraya Award for the year 2020 by the Government of Telangana and Institute of Engineers, Telangana State Centre, Outstanding Concrete Engineer Award for the year 2012 by A.P. Chapter of the Indian Concrete Institute, Sir Arthur Cotton Memorial Prize by the Institute of Engineers (India) for the best paper in the IEI Journal, December, 2012, Sir Arthur Cotton Memorial Prize by the Institute of Engineers (India) in 2015, State Best Teacher Award for the year 2011 by the Government of Andhra Pradesh, Best Designer Award for year the 2004 by Indian Concrete Institute, A.P., Hyderabad Center for the School of Information Technology Building. He has been Awarded the 1998 Commonwealth Fellowship to pursue Post Doctoral research at the University of Wales, Swansea. U.K., Young Engineer Award for the year 1995 by Government of Andhra Pradesh and Institution of Engineers, India, A.P. State Center. He was awarded the 1989 Commonwealth Scholarship to pursue Ph.D. in Structural engineering at the University of Wales, Swansea, UK. He is also Member, JEE Apex Board (JAB) for conduct of JEE Examination in 2018, 2019 & 2020 for admission into IITs, NITs & CFTIs for admission in to Professional courses of Engineering and Medical streams. He has visited US, UK, China, Spain, Taiwan, Portugal (Lisbon) for academic collaboration.

**Prof. N.V. Ramana Rao** took over as Director, NIT Warangal on 23.10.2017.



# WORKSHOP PROGRAM

Day 1:- 29 November 2021 (Monday)	
08:00 AM – 09:00 AM	Registration
09:00 AM – 10:00 AM	Inaugural Session
10:00 AM – 10:30 AM	Construction Technologies for speedy delivery of structures - An overview - by C. A..Prasad, Director, Metey Engineering and construction Pvt.Ltd., Hyderabad
10:30 AM – 11:00 AM	High Tea
11:00 AM – 11:45 AM	Key Note Lecture : Importance of Structural Integrity in Precast Constructions - by Dr. N. Gopala Krsihnan, Director CBRI
11:45 AM – 12:15 PM	Case studies of Multi story precast buildings - Design - Execution and details Mr. Sourabh Purandare, Director, Innovela Building solutions pvt.Ltd., Pune, Maharashtra
12:15 PM – 12:35 PM	Accessories required for Precast Construction by Mr. Bhargav Jog, Dextra co.
12:35 PM - 01:00 PM	Water Proofing of Structures - Different types and details by Mr. Ramesh and Nithya Nandan, Hindustan Water Proofing co.
01:00 PM – 02:00 PM	Lunch
02:00 PM – 02:30PM	Pre Engineered buildings- Merits and Demerits over conventional buildings- Long spans achievement – detailsBy Mr. P.V.Rao , Director, Pennar Industries
02:30 PM – 03:00 PM	Off site construction case studies- where design meets delivery - by Mr. Srindihi Anantaraman, Managing Director Geodesic Techniques
03:00 PM – 03.20 PM	Presentation by Sponsors
03:20 PM – 03:40 PM	Presentation by Sponsors
03:40 PM - 04:10 PM	Tea Break
04:10 PM – 04:30 PM	Architecture – A Constant Change – Technology adoption - by Sreenath Vinay, Partner I Principal Architect, Architecture Dialogue
04:30 PM – 05:00 PM	Design considerations for Precast - BIS and other International codes relating to precast concrete technologies in India - Prof. Dr. K. Subramanyam, IIT Hyderabad
05:0 PM – 05:30 PM	Transportation, Erection and safety in Precast construction – C.N. Sridhara, Head of Designs, Preca Industries, Hyd
05:30 PM – onwards	Adoption of technologies in the Real Estate sector -Panel discussion - CREDAI / TREDATA with Prefab Industry and Consultants
Day 2:- 30 November 2021 (Tuesday)	
09:00 AM – 09:30 AM	Key Note Lecture “Prefabricated Volumetric Modular Construction: Prospects & Challenges” by Dr. Ajay ChourasiaSr. Principal Scientist, CSIR-Central Building Research Institute (CBRI), Roorkee
09:30 AM – 10:00 AM	Joints in Precast construction, By Prof. Dr. C B Kameswara Rao, NIT, Warangal, Telangana state
10.00 AM – 10:30 PM	Setting up of Casting yards & Logistic requirements for a Prefabricated plant by Mr. C.Satyanarayana, MD, Inventaa Industries, Hyderabad
10:30 AM – 11:00 AM	Tea Break
11:00 AM – 11:30 AM	Quasi Static Behaviour of Precast wet connection with Shear key Dr. Siva chidambaram, Senior scientist, CBRI, Roorkee
11:30 PM – 12:00 PM	Sustainable Light weight concrete panels for structural and non structural applications – Prof S. Suriya Prakash , IIT Hyderabad
12:00 AM – 12:30 PM	Composite construction in PEB By Dr. Padmaja Gokaraju, AVP- Designs , Kirby Building systems and Structures(I) Pvt.Ltd., Hyderabad
12:30 PM – 12:45 PM	Presentation by Sponsors
12:45 PM – 01:00 PM	Presentation by Sponsors
01:00 PM – 01:30 PM	A case study showcasing Implementation of a Pre Engineered Building Project By Mr. Krishnan Raju, Asst. Vice President , Kirby Building systems and Structures(I) Pvt.Ltd., Hyderabad
01:30 PM - 02:30 PM	Lunch
02:30 PM - 03:30 PM	Panel discussion on Prefab buildings and other technologies adoption - Its technical Issues in construction- Requirement of Engineers in the field- Skilling and training - Moderator C.A. Prasad
03:30 PM - 05:30 PM	Felicitation program of Dr. N V Ramana Rao on the eve of his retirement as Professor from JNTUH





## DATE & VENUE

**November 29<sup>th</sup> & 30<sup>th</sup> 2021, J.N. Auditorium, JNTUH, Kukatpally, Hyderabad-500 085.**

### WHO SHOULD ATTEND

This workshop is useful to Students, Researchers, Architects & practicing engineers, Developers & Builders Infrastructure Managers, Construction Managers, Equipment Manufacturers, Project Managers, Property Developers, Government officials and Engineers & Academicians.

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# NATIONAL WORKSHOP ON PREFABRICATED BUILDINGS AND CONSTRUCTION NWPBC – 2021

29<sup>th</sup> & 30<sup>th</sup> November 2021

Organized Jointly by  
**Department of Civil Engineering, JNTUHCEH &  
Department of Civil Engineering, NIT Warangal**

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