# NATIONAL WORKSHOP ON

# FATIGUE AND FRACTURE OF ENGINEERING MATERIALS AND STRUCTURES



Mechanical Engineering Department

Motilal Nehru National Institute of Technology Allahabad

Allahabad - 211004

INDIA



Faculty members of Engineering Colleges, Practicing Engineers, Scientists and Post Graduate Students

December 17 - 18, 2014

A workshop on the topic of "Fatigue and Fracture of Engineering Materials and structures" is offered from December 17-18, 2014 at Motilal Nehru National Institute of Technology, Allahabad. It is sponsored by Technical Education Quality Improvement Programme – Phase - II (TEQIP-II). The workshop is designed to cater the needs of faculty members from Engineering colleges, scientists, practicing engineers from Industries and post graduate students. This programme will be beneficial for persons who are concerned with either teaching and / or industrial applications of life predication and reliability of Engineering components under service conditions.

### **OBJECTIVES**

The overall objective of the workshop is to bring together scientists and engineers in academia and industry in fields related to Fracture Mechanics and Fatigue of Materials. The workshop will cover industrial applications of the above topics including theoretical and analytical methods, numerical simulations and experimental techniques. One of the aims of the workshop is to promote cooperation between National scientists and engineers from a large number of disciplines, who are involved in research related to Fracture and Fatigue

# EXPECTED RESOURCE PERSONS

Prof. Vakil Singh, IIT-BHU Varanasi

Prof. SumitBasu, IIT Kanpur

Dr. S Tarafder, NML Jamshedpur

Dr. Vikas Kumar, DMRL Hyderabad

Dr. B.K.Mishra, IIT Roorkee

Prof. P Venkitanarayanan, IIT Kanpur

Dr. S Sivaprasad, NML Jamshedpur

Dr. Jitendra Kr Sahu, NML Jamshedpur

Er. Rishi Kumar, NPCIL Mumbai

Dr. R.B. Yadaw, DMSRDE Kanpur

### **IMPORTANT DATES**

• Receipts of Abstract (for Poster Presentation):

December 01, 2014 Extended to December 10, 2014

Click here for format of abstract

• Intimation about selection for Poster Presentation:

December 08, 2014 Extended to December 11, 2014

• Early Bird Registration:

December 05, 2014 Extended to December 11, 2014

• Last date for Spot Registration:

December 17, 2014 (spot registration is limited and is subjected to availability)

A format of poster presentation is given at the end of this brochure.

### **ELEGIBILITY**

Faculty members from technical Institutions, Engineers from Industries, Scientists from research organizations and P.G. students are welcomed to participate in the workshop. A poster presentation for PG students is also scheduled during the workshop and best poster presentation will be awarded. Format for poster presentation is given on last pages of this brochure.

# PROGRAMME FEE

**Students Delegates** :₹2000.00

**Faculty** : ₹4000.00

**Engineers & Scientists** : ₹5000.00

Registration fee includes registration kit, breakfast, lunch and dinner on first day and breakfast & lunch on second day. Candidates have to arrange their own lodging arrangement. However, outstation candidates may be provided accommodation, if available on first come first serve basis.

Private and public sector industries and other organizations are welcome to depute their executives, managers and engineers to participate in the workshop.

All payments should be made through either bank draft payable at Allahabad and drawn in favour of "Workshop on FFEMS-2014" or directly transferred to the account of workshop account. The details of bank account

**are:** Account No. : 718400301000143

Bank : Vijaya Bank, MNNIT Allahabad

IFSC : VIJB0007184

# **REGISTRATION FORM** Motilal Nehru National Institute of Technology, Allahabad A National Workshop on Fatigue and Fracture

December 17-18, 2014

Designation:	
Department:	
Institution/Organization:	
Years of Experience:	
Address:	
E-mail:	
Telephone No.:	Fax No.:
Mob.No.	
Qualification (Highest Degree):	
Area of Research Interest:	
Payment Details	
Demand draft no./ NEFT details:	Dated
Amount in ₹	Drawn at
Sponsored by	
Name	
Designation	
Organization	

Send the completed registration form/DD to:

Dr. K. N. Pandey

Mechanical Engineering Department, MNNIT Allahabad, Allahabad – 211004

Email: knpandey@mnnit.ac.in,

Mob.No. 9919692937

Dr. D. K. Shukla,

Mechanical Engineering Department, MNNIT Allahabad, Allahabad –211004

Email: dkshukla@mnnit.ac.in, dkshukla@gmail.com

Mob.No. 9452695306

### **About MNNIT Allahabad**

Motilal Nehru National Institute of Technology Allahabad, Allahabad (MNNIT) is an Institute with total commitment to quality and excellence in academic pursuits. It was established as one of the seventeen Regional Engineering Colleges of India in the year 1961 as a joint enterprise of Government of India and Government of Uttar Pradesh, and was an associated college of University of Allahabad, which is the third oldest university in India.

With over 50 years of experience and achievements in the field of technical education, having traversed a long way, on June 26, 2002 MNREC was transformed into National Institute of Technology and Deemed University fully funded by Government of India. With the enactment of National Institutes of Technology Act-2007 (29 to 2007), the Institute has been granted the status of institution of national importance w.e.f. 15.08.2007.

The Institute offers nine B.Tech., nineteen M.Tech. Degree Programmes (including part-time), MCA, MBA, M.Sc. (Mathematics and Scientific Computing) and Master of Social work (M.S.W.) programmes and also registers candidates for the Ph.D. degree. The Institute has been recognized by the Government of India as one of the centres for the Quality Improvement Programme for M.Tech. and Ph.D. The entire campus is networked with 94 Mbps lease line. The institute offers congenial atmosphere for learning.

# About city of Allahabad and its connectivity

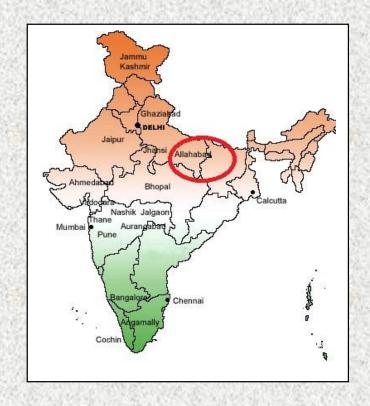
Allahabad is well known throughout the country for its purity and cleanliness that the city has maintained for many years. It's a holy and religious place and the meeting point of three most pious rivers namely Ganga, Yamuna and Saraswati. The city has always been associated with well known personalities of the country which has aggrandized the glory of the city. The city better known as "PRAYAG" has many governmental institutions which includes MNNIT, High Court of UP, Allahabad University & tourist places like Sangam, AnandBhawan, Narayani Ashram etc. Wide and clean roads with statues at regular squares form a part of the attraction of the city.

Allahabad city is situated in the north part of India in the Oudh region of state of Uttar Pradesh. It is well connected with flights, rail and road transport to other parts of India. Daily trains, buses and flights are available from major cities in India. Allahabad has its own domestic airport named Bamrauli airport which is 15 km away from the heart ofthe city. Direct air-link is available for New Delhiand

Mumbai. Air connectivity to other parts of India is available from Lucknow (200km) and Varanasi (135 km). Good road services are available in Allahabad. UPSRTC buses offer service to most of the cities in Uttar Pradesh.

From Allahabad bus services are available to as far as Delhi (650 km)and Kolkata (800km).For more details, please log-on to

http://allahabad.nic.in/



# About Department of Mechanical Engineering

The Department of Mechanical Engineering is one of the oldest and the largest department in terms of faculty, students and activities in various directions in MNNIT, Allahabad. The department offers B. Tech, M. Tech and PhD programs with a wide choice of specializations, electives and research areas. The Department of Mechanical Engineering offers two Bachelor of Technology programmes in the area of **Mechanical Engineering** and **Production and Industrial Engineering**. Every year about 150 students are admitted for these two programmes.

The department is running four semester Master of Technology programmes in Mechanical Engineering with the specialization areas of **Computer Aided Design and Manufacturing**, **Design Engineering**, **Production Engineering**, **Product Design and Development and Thermal Engineering**. About 60 students (15 - 20 in each specialization) join these programmes. Strength of the department lies in its PhD programme. About 40 research scholars are pursuing PhD programme. Every year more than 10 students are admitted for PhD programme.

Department is actively engaged in research in the area of fatigue and fracture since four decades. Number of research papers has been published in this area. Department is having 100 kN and 25 kN servo-hydraulic test systems of MTS and BISS respectively and a thermal cycling test system which cater the need of experimental research in the area of fatigue and fracture.

### **COMMITTEE**

### PATRON

Prof. P.Chakrabarti

Director, Motilal Nehru National Institute of Technology, Allahabad-211004

#### CHAIRMAN

Prof. R.K. Srivastava

Head, Mechanical Engineering Department

Motilal Nehru National Institute of Technology, Allahabad-211004

#### Convener

Dr. K.N.Pandey

Professor

Mechanical Engineering Department

Motilal Nehru National Institute of Technology, Allahabad-211004

#### COURSE COORDINATOR

Dr. D.K.Shukla

Assistant Professor

Mechanical Engineering Department

Motilal Nehru National Institute of Technology, Allahabad-211004

### Members:

Dr. Samir Saraswati

Dr. Praveen Kumar Agrawal

Dr. Skylab P Bhore

Er. Sunil Kumar Gupta

### Technical Committee

Prof. Vakil Singh, IIT-BHU Varanasi

Prof. P Venkitanarayanan, IIT Kanpur

Prof. SumitBasu, IIT Kanpur

Dr. S Sivaprasad, NML Jamshedpur

Dr. S Tarafder, NML Jamshedpur

Dr. Jitendra Kr Sahu, NML Jamshedpur

Dr. Vikas Kumar, DMRL Hyderabad

Er. Rishi Kumar, NPCIL Mumbai

Dr. B.K.Mishra, IIT Roorkee

### **Poster Presentation Guidelines and Format**

### Sections of the Poster:

The major sections of the poster should include: Title, Abstract, Introduction, Methods, Results, and Discussion. Listed below are the suggested content guidelines for each section.

**Title.** The title of the poster should include the title of the student's research project as well as his or her name and the name of the department and program with which the student is affiliated.

**Abstract.** The abstract is a short informative and descriptive summary of your research project. The abstract should be descriptive and as such should identify the statement of purpose and scope of the research project. The scope of the research project is defined by a brief synopsis of the major limitations and delimitations of the problem. In addition, the abstract should also be informative and summarize the entire research project, giving the reader an overview of the methods, findings, and conclusions of your study. The abstract must, however, be short in length and should not exceed 1 to 2 paragraphs. In total, the abstract should not exceed 400 words. The abstract should be followed by a list of 3 to 5 key words that would be used to describe and index the research project. Copies (30) of the abstract should be available for individuals attending the poster session.

**Introduction**. The introduction should include clear statements about the research question or problem that you studied. The introduction should also provide the reader with a synopsis of the key research studies that were used as the foundation for your study or those studies that provide the theoretical grounding for your study. The introduction should then end with a clear statement the purpose of your research study.

**Method.** This section should explain procedures and the methods that you completed within your study. Be sure to describe your participants, measurements, and, any treatments, training sessions, or protocols that were followed with the scope of your research. Your method section should end with a description of any data analysis that was carried out.

**Results.** The results section is where you will describe the main findings from your research study. You may feel free to use tables, charts, and figures to illustrate your results. Be sure to include the findings from all your analysis of data.

**Discussion.** The discussion section is where you put the findings from your study in perspective. In this section, you should present the findings of your study in layperson's terms and relate the findings to other studies that were reviewed within the context of your project. In addition, within this section you should discuss how your finding could be applied to practitioners within your field. This section should end with some suggestions for future research. These suggestions should contain your recommendations and thoughts about how your study could be expanded; other tests that could be applied, what other samples could be studied, etc.