

ALL INDIA WEBINAR SERIES ON
RESIDUAL STRESSES, STRUCTURAL INTEGRITY:
NDE MANAGEMENT AND CONTROL

Starts with

Dr. Baldev Raj Memorial Lecture
In the Honor of NDE Stalwart

Organized by
National Design and Research Forum
The Institution of Engineers(India)

25th AUGUST 2020

ONLINE MEETING PLATFORM CISCO WEBEX

Join as an attendee:

[https://rvce.webex.com/rvce/onstage/g.php?
MTID=ebde31a58c470af2d67a7087a15b50a27](https://rvce.webex.com/rvce/onstage/g.php?MTID=ebde31a58c470af2d67a7087a15b50a27)

Click Here for Registration:

<https://forms.gle/HUiyttDens1nsAkz7>

In Association with

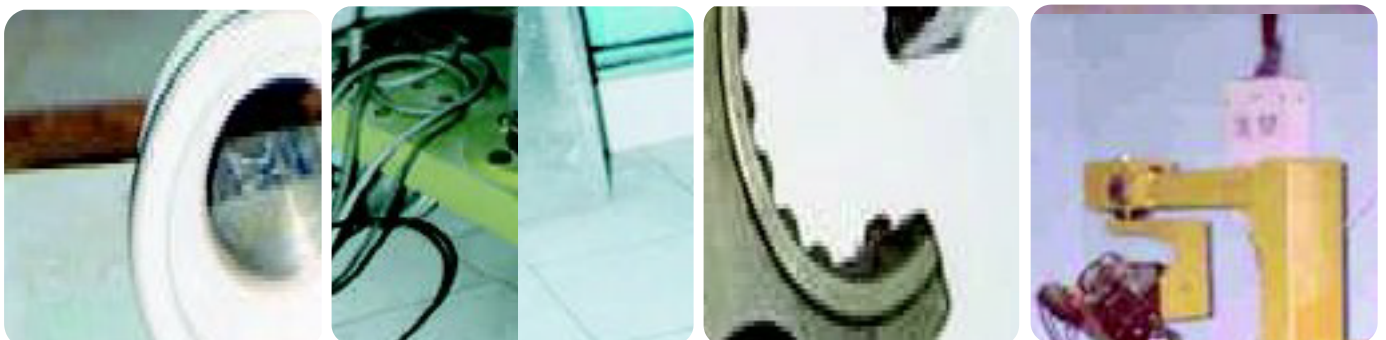


The Residual stresses originate during the manufacturing processes such as forging, extrusion, casting, heat treatment, welding, machining and others processes. Generally, compressive residual stress is beneficial as its presence improve the fatigue life of a component, whereas the tensile stress could lead to failure. These trends are observed in finished and in-service components, such as castings, forged parts, steel pipes, welded joints etc. Understanding of the cause of residual stress, its control & management and mitigating measures become important from the view point of improved performance in the field.

Both destructive and non-destructive methods are adopted for residual stress measurements in component after it is subjected to a series of manufacturing processes. The hole drilling technique is a destructive method, whereas X-Ray Diffraction (XRD) and Magnetic Barkhausen Noise (MBN) methods are classified under Non Destructive Evaluation (NDE) method. The X-Ray, Ultrasonic, Eddy Current, Magnetic techniques being non-invasive in nature are being employed in stress measurements in engineering parts as a part of structural integrity assessment and failure analysis. The measurement and analysis of residual stress, its distribution and application of NDE techniques in engineering component have become popular and widely used. The advanced measurement techniques such as Phased Array, Positron Annihilation, Guided Wave, Fibroscopy, Boroscopy etc., have come into practice recently. The structural integrity of a part as engineered through design, material processing, condition assessment and diagnostics measurements have assumed importance in Automotive, Energy, Rail, Aircraft, Space, Mining, Marine and other engineering sectors. It would immensely benefit the professionals from the manufacturing industries, academic circles and national R & D establishments.

Webinar Theme: The seminar will bring in the Practicing Engineers, Scientists, Academic partners and research fellows together to gain an assimilate knowledge on the basic aspects of Residual Stress and other NDE parameters and also to meet the service requirements relating to fabrication, manufacturing, quality control as well as structural integrity in engineering components. The Seminar covers Residual Stress measurement techniques including advanced methods, Modeling & Simulation, Industrial implications, Mitigating Measures, Problem Solving and Technological Advances in NDE techniques for structural integrity assessment. Further, it is an tool to predict the life of any engineering component and helpful in meeting the challenges and critical issues of industry 4.0 paradigm.

Webinar Speakers: The speakers will be drawn from well know Industries, distinguished academic institutions like IISc, IIT's, NIT's and R & D organizations



AGENDA

TIME	TOPIC	Industry/Academia Expert
09.30 - 09.40 hrs	Welcome Speech and Introduction about the webinar	Padmashree Dr. Mylswamy Annadurai Ex - Project Director, Chandrayaan - 1&2 Ex- Program Director, Mangalyaan Chairman -NDRF
09.40 – 09.45 hrs	About Dr.Baldev Raj and his contributions	Dr. Parvati Ramaswamy Professor, Christ University, Bangalore
09.45 – 10.45 hrs	Dr. Baldev Raj Memorial Lecture	Dr. Dheepa Srinivasan Chief Engineer, M/s. Pratt and Whitney, Bangalore
10.45 – 11.15 hrs	Panel Discussion: Way Forward	Panel Members: 1. Dr.Shyam Sunder, GE, Global Research Centre 2. Dr.S. Suresh Professor, PSG Tech and Former General Manger, WRI (BHEL) 3. Dr. P. Sampathkumaran, Technical Advisor: NDRF and Former Joint Director, CPRI Moderator: Dr. Parvati Ramaswamy
11.15 – 11.25 hrs	Concluding Remarks and Vote of Thanks	Dr. S. Seetharamu Technical Advisor: NDRF, Former Director, CPRI and Dr. V. Dillibabu –Scientist - DRDO & Director - NDRF

WEBINAR OBJECTIVES

Residual Stress Mapping during - Manufacturing, Processing
Conventional NDE methods and Stress Measurements
Structural Integrity involving Failure Studies & Stress Analysis
Residual Stress: Management, Control and Remedy
Advanced Techniques for NDE and Stress Measurements
Case Studies and Laboratory Demonstration

PATRON

Padmashree Dr. Mylswamy. Annadurai
Ex - Project Director, Chandrayaan - 1&2
Ex- Program Director, Mangalyaan
Chairman - NDRF

SEMINAR CHAIRMAN:

Dr. V. Dillibabu, Scientist - DRDO & Director - NDRF

SEMINAR CO-CHAIRMAN:

Dr. P .Sampathkumaran, Technical Advisor, NDRF, (Ex CPRI)

MENTORS:

Dr. S. Seetharamu, Technical Advisor, NDRF, (Ex CPRI)
Dr. Yogindra Simha, Professor, IISc

CONVENOR: Dr. J. R. Nataraj, RVCE

E - mail:natarajjr@rvce.edu.in
phone number- 09901150505

MANAGER, NDRF: Sankar Reddy

E - mail:bssreddy24@gmail.com
phone number- 9901903336