

Fatigue Durability India 2015

International Conference & Exhibition on

Fatigue, Durability and Fracture Mechanics

28 - 30th May 2015, J N Tata Auditorium, Indian Institute of Science, Bangalore India



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About the Conference

Market perception and demands has changed over the years; the consumer wants to have more efficient, long life, safer, reliable and cost effective products. This has created challenges to designers, engineers and analysts to ensure robust product design and engineering process. The Engineering Community is moving from conventional strength and stiffness based design process towards modern and advanced techniques, based on design evaluation, to ensure the durability, reliability and safety before the component or system is being released to the market.

This International Conference & Exhibition bring industrial experts and academicians to a single platform & facilitate the exchange of ideas and advancements in the field of fatigue , durability and fracture mechanical failure and its applications. There will be an exhibition showcase the technological advancements and case studies with advanced components.

The Conference focus on covering wide spectrum of topics from design, engineering, testing and computational evaluation of the component / system for fatigue, durability and fracture mechanics aspects. There will be an open forum to discuss case studies and solutions explored by different industrial experts.

There will be a paper presentation on the topics on theme of the conference from Industry, Academia and Research Institute, details provided in next part of this brochure. The best paper will be selected by a technical committee and will be awarded in the conference.

We are inviting experts to conduct focused workshop during the conference, confirmed topics are below. Few more will be added in the due course.

- Remaining Life Assessment & Extension Techniques
- Electronic equipment modeling for thermo-mechanical, electromagnetic fatigue, reliability aspects

Participants are encouraged to bring their queries, problems and pose to the expert panel and get the solution.

Design engineers, failure analysts, maintenance engineers, certification personnel, R&D professionals involved in auto aero, power plants, marine, off-shore, oil and gas, piping and pressure vessel, or general engineering sectors can participate in the conference & exhibition.

Looking forward for your active Participation

Convenors of FatigueDurability India 2015

Dr. R W Khare

Materials & Failure Study Expert &
Head – Institute of Structural Integrity and Failure Studies [ISIFS]
rw@fatiguedurability.com

Dr. Jagadish T

Head of the Department, Mechanical Engineering
Bangalore Institute of Technology Bangalore
jt@fatiguedurability.com

visit : www.2015.fatiguedurability.com
for more details

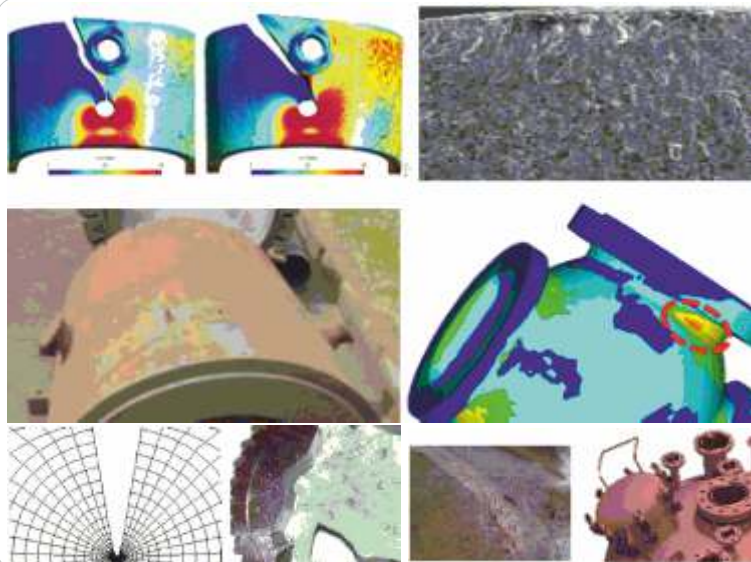
Contact

Technical Secretariate
FatigueDurability India 2015 - International Conference
Institute of Structural Integrity and Failure Studies [ISIFS]
28 (Old No 619/1), 2nd Floor, 36th Cross, 2nd Block,
Rajajinagar, Next to Srinivasa Kalyana Mantapa
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Conference Themes

- Advanced Techniques – in Fatigue, Durability and Fracture Studies
- Life Prediction methodologies for Structural Metals, Alloys, Polymer, Composites & Engineering Materials
- Thermo-Mechanical Fatigue
- Creep and Creep Fatigue Interaction
- Weld Fatigue Evaluation
- Vibrational Fatigue Evaluation
- Prediction of Cycles for Crack initiation & location
- Reliability assessment
- Fatigue of welds
- Virtual prototyping and virtual testing
- Fatigue damage accumulation in cyclic loading situation
- Life assessment and extension strategies
- Damage tolerance procedure
- Effect of residual stresses on durability
- Calculation of stress intensity factors, critical crack size
- Effect of multi-site damage
- Mean time between failure (MTBF)
- Fatigue Modeling and Simulation
- Life Prediction Methodology, Software Development
- Structural Health Monitoring and Prognostics
- Variable Amplitude Loads, Multiaxial & Mixed Mode Fatigue
- 3D non-planar crack propagation
- Fatigue Life Enhancement Techniques
- Cyclic Deformation and Crack Initiation
- Ageing aircraft



Registration Details

Registration Fee

Industry and R&D Institutions : INR 4,000.00

Educational Institutions : INR 3,000.00

Students, Research Scholars : INR 2,000.00

Service Tax [12.36%] is applicable extra

Registration fee can be paid in cash/DD/cheque in favour of “**FatigueDurability India 2015**” payable at Bangalore and send the same along with Registration Form to

Convenor

Technical Secretariate

FatigueDurability India 2015

Institute of Structural Integrity and Failure Studies

28 (Old No 619/1), 2nd Floor, 36th Cross,

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CONFERENCE VENUE

J N Tata Auditorium

Indian Institute of Science

National Science Symposium Complex,

Sir CV Raman Avenue,

Bengaluru, Karnataka 560012

Call us for any queries

Registration :

Ms Nethra S, info@fatiguedurability.com | 9902900722

Exhibition:

Mr. Praveen, exhibition@fatiguedurability.com | 9900138009

Paper Presentation :

Mr. Pavan, papers@fatiguedurability.com | 9900103378

Invited Keynote Speakers [alphabetical list]

Dr. Alexander Shalumov

President & CEO
"ASONIKA" Scientific-Research Institute, Russia

Prof. Debabrata Chakraborty

Professor & Dean, R&D
Department of Mechanical Engineering
Indian Institute of Technology Guwahati

Dr. G. S. Grewal

Deputy Director & Head
Mechanical & Insulating Materials Division
Electrical Research & Development Association
[ERDA], Vadodara

Dr. Indra Vir Singh

Associate Professor,
Department of Mechanical & Industrial Engineering
Indian Institute of Technology Roorkee

Dr. R Jayaraman

Addl. General Manager
Metallurgy, SCT
Corporate Research & Development
Bharat Heavy Electricals Limited., Hyderabad

Dr. Kishore Brahma

VP & Head of Stress (AFDCI & PAG),
Engineering Core Group (ECG)
AXISCADES, Bangalore

Dr. H.V. Lakshminarayana

Professor, Dept. of Mech. Engg.
Dayananda Sagar College of Engineering
Bangalore

Dr. P. Parameswaran

Scientific Officer/G & Program Leader,
MSSCD, Physical Metallurgy Group, MMG,
Indira Gandhi Centre for Atomic Research [IGCAR]
Kalpakkam

Prof. Raghu Prakash

Professor, Machine Design Section
Department of Mechanical Engineering
Indian Institute of Technology Madras, Chennai

Dr. Ramesh Chandwani

Managing Director
Zentech International, UK

Dr. M. Ramji

Associate Professor,
Department of Mechanical &
Aerospace Engineering, Indian Institute of Technology, Hyderabad

Dr. G Raghava

Chief Scientist & Head, Fatigue & Fracture Laboratory
CSIR - Structural Engineering Research Centre, Chennai

Dr. Satish Chandra

Head - Structural Technologies Division (STTD)
National Aerospace Laboratories, Bangalore

Dr.S. Seetharamu

Director,
Material Technology Division,
Central Power Research Institute [CPRI]
Bangalore

Shri M. R. SARAF

Sr. DEPUTY DIRECTOR
Head of the Department - Structural Dynamics
& Automotive Materials Lab
The Automotive Research Association of India, Pune

Dr. R Sundar*

Director
Bangalore Integrated Systems Solution [BISS]
Bangalore

Dr. S. Tarafder

Chief Scientist & Head
Materials Science & Technology (MST) Division
National Metallurgical Laboratory [NML]
Jamshedpur

Dr A Venugopal Rao

Scientist "F"
Head, Modelling & Simulation Group
Defence Metallurgical Research Laboratory
(DMRL), HYDERABAD

Dr. Vinod Kumar

Dy. General Manager
R & D Centre for Iron & Steel
Steel Authority of India Ltd. Ranchi

Call for Papers

FatigueDurability India 2015 invites technical papers from all individuals/companies associated with engineering design, analysis, testing, instrumentation, research on Fatigue Durability & Fracture Mechanics or related technologies. The Authors are encouraged to submit paper on the following themes, but not limited to

- **New Technologies in Fatigue, Durability & Fracture Mechanics**
- **Material & Fatigue**
- **Thermo-Mechanical & Creep Fatigue**
- **Instrumentation & Life Prediction**
- **Computational Techniques & Life Prediction**
- **Engineering Design & Life Prediction**
- **Reliability**
- **Fracture Mechanics**
- **Other & Research**

Send Your

Abstracts : before 31st March 2015 to abstract@fatiguedurability.com

Papers : before 30th April 2015 to papers@fatiguedurability.com

Authors Registration : before 15th May 2015 to authors@fatiguedurability.com

Download the Paper Submission Template from : www.2015.fatiguedurability.com

Exhibitors Profile

FatigueDurability India 2015, creates a platform for companies showcase breakthrough technologies and products in

- Fatigue, Fracture Testing Machineries
- Fatigue, Durability Instrumentation & Associated Technologies
- Computational Software & Technologies
- Material Testing Equipments, Machineries & Accessories
- Data Acquisition and Processing Technologies
- Fatigue, Durability, Fracture Research Centers
- Fatigue, Durability, Fracture Training Centers
- Design, Engineering Equipments and Associated Technologies
- Material, Metallurgy, Life Prediction Technologies
- Reliability Software and Associated Technologies
- Fracture Prediction Equipments, Testing Instruments and Associated Technologies
- Academic Research and Training Center
- Engineering Services and Research Companies
- Certification Agencies
- Consulting Firms

to list few, but not limited to.

Interested can send mail to exhibition@fatiguedurability.com

Contact

Praveen B

Exhibition Co-ordinator FatigueDurability India 2015
praveen@fatiguedurability.com +91 9900138009

About the Organisers



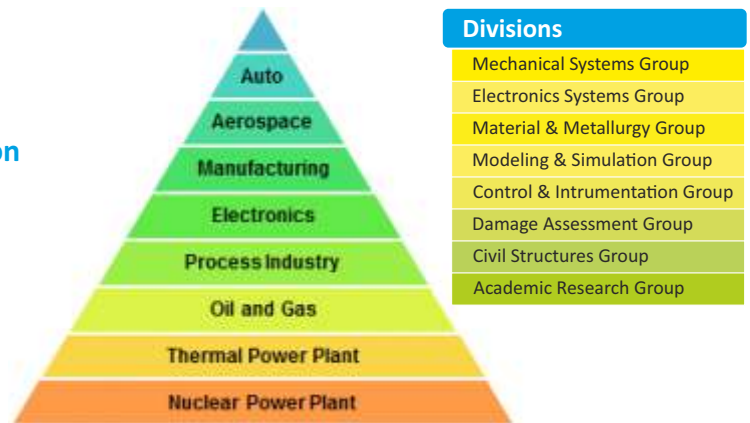
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Institute of Structural Integrity and Failure Studies [ISIFS] is a Bangalore based Collaborative Research & Development Institute with consortium of experts having decades of experience in mechanical, material, metallurgy, damage assessment, failure studies and FEA simulation.

Institute of Structural Integrity and Failure Studies engages with the industry, academia and interested community in encouraging the knowledge sharing and news about advanced technology developments to make the engineering community actively participate in resolving the problems faced by industries and publishing the results to achieve competitive expertise in the global scene.

Institute of Structural Integrity and Failure Studies aims to promote, educate and encourage the research focusing on

- **Fatigue, Fracture and Durability Assessment**
– Yield, Flow and Fracture Simulation
- **Residual Life Assessment and Extension**
- **Advanced Finite Element Modeling /Computer Simulation**
- **Weld Engineering, Life Assessment and Modeling**
- **Structural Health Monitoring**
- **Civil Structural Engineering**
- **Electronics Reliability, Fatigue, Thermal, EMI/EMC, NVH**
- **Material Modeling and Simulation**
– Complex Materials porous, concrete, graphite Materials
- **Damage Assessment – NDT, Remote Sensing**



Institute of Structural Integrity and Failure Studies understand the timely need in bringing different expertise people together and create a platform for research and knowledge sharing.

Consulting Wing of Institute of Structural Integrity brings a consortium of experts to address the requirements of industry for design, material, FEA and failure studies.

For more details Visit : www.fatiguedurability.com,
Email : Dr. Raghunath Khare, rw@fatiguedurability.com, info@fatiguedurability.com, Ph/Fax: +91 80 49539628

India Science Foundation

India Science Foundation is a non-profit organisation working on promotion of Science, Engineering & Technology. India Science Foundation organises training programs, awareness programs, competitions, seminars, workshops for different learning level. It has been active in organizing Industry-Institution interactions and co-ordinating the students innovations with industrial requirements. India Science Foundation has been active in promoting basic science based research from grass route level to industrial research. India Science Foundation identifies talented science students, young engineers, innovators and their innovations. Award them for their excellence in the filed and supports to make the technology commercialized, by bringing the interested industry to their door step.

www.indiasciencefoundation.com

Main Sponsor

DHIO Research and Engineering Pvt Ltd.,



DHIO Research & Engineering Pvt Ltd., is a Collaborative Engineering Services and R&D Company based in Bangalore India

DHIO has an experienced pool of experts, engineers and scientists with decades of domain experience and expertise in applying state of the art simulation technology to in advanced Computer Aided Engineering Design, Analysis, Life Estimation and Optimisation Knowledge. DHIO Extends its support to Auto, Aero, Power plant, Chemical Processing, Railways and General Engineering Companies to achieve complex engineering simulation needs in product/process/material design, redesign, engineering, reverse engineering, analysis and optimisation to save money, material & time.

DHIO service portfolio includes

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- Vibration, Dynamics, Acoustic, Seismic, Code Evaluation
- Life Calculations – Fatigue, Durability
- Thermal and Heat Transfer Studies
- Multi Body Dynamic Simulation
- Multi-Disciplinary Optimization
- Computational Fluid Dynamics
- Thermal Fluid Network Simulation
- Manufacturing Process Simulation
- Electronic Cooling Simulation
- EMI/EMC Evaluation and Certification
- Chemical Kinetics Simulation

DHIO – technology transfer division has a wealth of knowledge in selling CAE products and supplying technical support to customers that are solving highly complex simulations. DHIO’s technical knowledge and understanding of CAE domain has helped customers to achieve the best results in shortest lead time by using state of the art technology tools.

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For any details please contact us for any of your engineering needs. www.dhio.in

Contact : Mrs Uma B, uma@dhio.in +91 9591994642

CAE Services FEA/CFD/Fatigue/MBD/Optimisation



Thermal Fluid Network Simulation



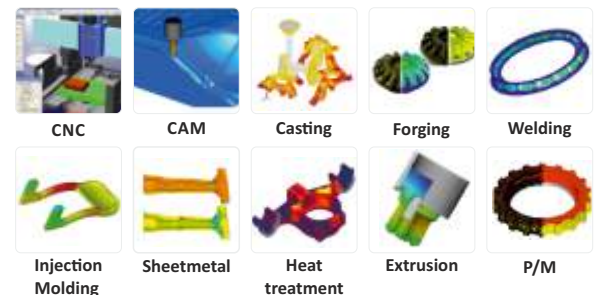
Chemical Reaction Kinetics/ CHEMKIN



EMI/EMC Evaluation



Manufacturing Process Simulation



For demo & Trial on

Thermal - Hydraulic, Powerplant Simulation Software
 Finite Element Analysis Software
 Fatigue Durability Software
 Computational Fluid Dynamics Software

Contact : Mr. Sathyanarayana Rao, snr@dhio.in, +91 9591877011

Parallel Workshops on 30th May 2015

One Day Workshop On

Remaining Life Assessment & Extension Techniques

Remaining Life Assessment & Extension has gained importance in the recent past, as there are several crores worth of assets are due for their life assessment & also this is current time necessity. This includes assets from aerospace, power plants, off-shore structures, marine structures, piping and pressure vessels, and so on. An assessment of the remaining life of these ageing assets, and determining strategies for the extension of their service life is a technical challenge. This includes NDT, materials testing, reverse engineering, finite element analysis, prediction of fatigue hot spots by a combination of testing and computer simulation, crack propagation studies (to determine the stress intensity factors and crack growth – k/N and da/dN curves) and so on.

One day workshop encourages participants to bring their projects / problems faced in the form of a presentation / document for discussion with the experts. There will be open forum to discuss the participant related issues.

Topics Covered

- Failure criteria
- Materials and metallurgy
- Life consuming mechanisms
- Failure mechanisms – crack initiation and growth
- Life assessment methods
- FEM analysis and computer simulation of fatigue crack initiation, creep and crack growth.
- Testing and NDT

For more details contact

Mr. Manoj

Email : RLAWorkshop@fatiguedurability.com, Ph: +91 80 23320171

One Day Workshop On

Electronic equipment modeling for thermal, mechanical, electromagnetic fatigue, reliability aspects by

Dr. Alexander Shalnov, President & CEO,
"ASONIKA" Scientific-Research Institute, Russia

The workshop focuses on an automated system for ensuring reliability and quality of the equipment (ASONIKA) to realize design and integrated computer simulation of highly reliable radio electronic means (REM) accordance with the requirements of the standards at the stages of engineering-production-exploitation.

Operation of onboard REM is characterized by combination of rigid external factors that act simultaneously, which leads to a systemic failure. During testing, such failures are difficult to detect since there are no standards that would allow to fully recreate simultaneously electrical functioning processes, the accompanying thermal, mechanical, aerodynamic, radiation and other environmental effects, technological effects of random variation parameters, aging, corrosion and other degradation factors. The problem is complicated by the fact that modern REM include advanced microelectronic products with certain physical and technological features, which should also be considered in the complex mathematical modeling. All of these factors and interrelated effects must be properly taken into account during the technological engineering that can only be performed by a computer.

For more details contact

Mr. Manoj

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To,

Book Post

Contact

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