

FatigueDurability India 2019

3rd International Conference & Exhibition on Fatigue, Durability and Fracture Mechanics & Symposium on Condition Assessment/Residual Life Assessment & Extension

29-31st August 2019, Visvesvaraya Technological University, Jnana Sangama, Belagavi, Karnataka



Organised by

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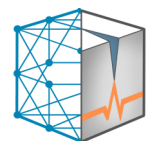
**Institute of
Structural Integrity
and Failure Studies**



**Visvesvaraya
Technological
University (VTU)**



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Indian Structural Integrity Society

www.2019.fatiguedurability.com

About the Conference

We heartily welcome you to FatigueDurability India 2019 – **3rd International Conference and Exhibition on Fatigue, Durability and Fracture Mechanics** and **Symposium on Condition Assessment / Residual Life Assessment & Extension** to be held at Visvesvaraya Technological University, Jnana Sangama, Belagavi, Karnataka from 29-31st August 2019.

Growing market is demanding more engineered products in a shorter design cycle, with longer life, durable, reduced cost and with better performance and competitive. Which encourages designers, researchers to explore more and more realistic solutions, techniques and procedures to ensure the consumer demand is achieved. Material in Design plays a major role in the design cycle innovation, leading to find better, smarter, cheaper material along with new product design techniques, innovative manufacturing technologies and in-service treatments. Innovations are inevitable to achieve best solutions however, it makes engineering product designers challenge still more complex in understanding, exploring and acquiring the knowledge of physics behind phenomenon associated with fatigue, fracture, material, process, product design, validation techniques & verification procedures to meet the real world challenge. It is the need of the hour to acquire, adopt and excel in this knowledge.

On the other hand, it is a billion dollar question to **repair** and **re-use** or **reject** the existing structures, which are subjected to all kind of environments, service loads, and abusive conditions over the years. How safe are they?, Can we continue with same condition, then how long? Is it repairable/reusable if yes, then how? or reject them - how to come to a judgement of rejecting them. Tons of questions in the engineers mind need answers. Condition assessment of these structures requires an interdisciplinary approach of study of material, NDT, fracture mechanics & life assessment techniques.

FatigueDurability 2015 and 2016 created a platform for multi-disciplinary discussion. We thank all for the overwhelming response. In both conferences more than 600 participants attended, 80+ papers were presented, 25+ experts shared expert keynotes and more than 30 companies exhibited their technologies.

Moving along, this year Conference & Exhibition, FatigueDurability India 2019 is planned for this August 29-31st at Visvesvaraya Technological University, Jnana Sangama, Belagavi, Karnataka. FatigueDurability India 2019 brings experts from different part of the world to ensure rigorous technical experience for cross disciplinary interactions.

This 3rd International Conference & Exhibition brings industrial experts and academicians on a single platform to facilitate the exchange of ideas and advancements in the field of fatigue, durability and fracture mechanics and its applications. There will be an exhibition to showcase the technological advancements and paper presentation to share the knowledge with real life cases.

The Conference focuses on covering a wide spectrum of topics from design, engineering, testing and computational evaluation of component / system for fatigue, durability and fracture mechanics aspects. There will be a forum of interdisciplinary discussion on working aspects related to material testing, evaluation of damage, NDT, failure analysis, FEM analysis, fatigue & fracture, processing, performance, reliability and so on. Participants are encouraged to bring their queries, problems and pose to the expert panel and derive solutions.

Design engineers, failure analysts, maintenance engineers, certification personnel, R&D professionals involved in auto, aero, power plants, marine, offshore, manufacturing, consumer durables, defense services, offshore structures, piping & pressure vessel, and general engineering sectors can participate in the conference & exhibition.

For more details about the conference login to www.2019.fatiguedurability.com. We request you to make use of this opportunity to interact, network with the professionals and experts in the field and be part of the FatigueDurability Community.

We heartily welcome you to FatigueDurability India 2019.
Looking forward to your active Participation

Chief Patron



Dr. Karisiddappa

Vice Chancellor

Visvesvaraya Technological University (VTU)
Belagavi

Patrons



Dr. S Seetharamu

Former Director,
Central Power Research Institute (CPRI)
Technical Director,
Institute of Structural Integrity and
Failure Studies (ISIFS)



Dr. Satish Annigeri

Registrar (Evaluation) & Registrar (I/C)
Visvesvaraya Technological University
Belagavi



Smt. M.A.Sapna

Finance Officer
Visvesvaraya Technological University
Belagavi



Dr. Anand V Shivapur

PG.Coordinator and
Regional Director (I/C)
Visvesvaraya Technological University
Belagavi

Convenors



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Technical Director
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Convenor - Technical Committee



Dr. Raghunath W Khare

Head - Institute of Structural Integrity
& Failure Studies (ISIFS)
Materials & Failure Expert
rw@fatiguedurability.com

Conference Theme & Call for Papers

FatigueDurability India 2019 invites technical papers from all Academicians/ individuals/companies associated with engineering design, analysis, testing, instrumentation, research on Fatigue Durability & Fracture Mechanics or related technologies

Publishing Partner



Disclaimer: Selected papers from the conference will be published by Springer as a proceedings book volume. Springer will conduct quality checks on the accepted papers and only papers that pass these checks will be published

Topics FatigueDurability India 2019

The Authors are encouraged to submit paper on the following themes, but not limited to

- New Developments in – Fatigue, Durability and Fracture Studies

- Life Prediction Methodologies for New Materials

- Metals and Alloys
- Composite
- Engineering Materials
- Polymers / Rubber Durability
- Ceramics
- Concrete / Civil Application Materials
- Electrical Application Materials
- Electronics/Semiconductor Materials
- Others

- Fatigue, Fracture Evaluations under

- Thermo-Mechanical Environment
- Creep and Creep Fatigue Interaction
- Manufacturing Process Influence on Fatigue Life / Fracture
- Weld Fatigue
- Vibrational loads and fatigue life calculations

- Multi-Scale Fatigue and Fracture Modeling

- Molecular Dynamics / Atomistic Modeling
- Meso-Micro-Macro Scale Modeling
- Crack Initiation
- Crack Growth
- Failure Assessment
- Damage Mechanics

- Role of Loading in Fatigue and Fracture Evaluation

- Axial
- Biaxial
- Shear
- Multi-axial
- Cyclic
- Combined Loads (Time, Temperature Dependent)
- Fatigue Amplitude Loads, Mixed Mode
- Other Combinations

- Stress – Strain Relationship in Fatigue or Fracture Prediction

- Experimental
- Computational

- Fatigue / Fracture Evaluation Approach's

- Analytical/Experimental/Computational
- Correlation of Experimental – Computational Techniques

- Fatigue, Fracture Testing / Material Testing

- Material Property Development / Characterisation
- Fatigue Curves
- Fracture Strength of Material
- Others

- Residual Life Assessment and Extension Strategies

- Residual Life / Remaining Life Prediction
- Extension Techniques
- Damage Tolerance Procedures
- Probabilistic Damage Mechanics

- Stress Intensity Factors & Crack Growth Evaluation

- Methodology to predict SIF, Crack Length, Crack Size, Crack Stability, Crack Direction, Non-Planar Crack Growth
- Fatigue Life Evaluations

- Mean Time Between Failure (MTBF)

- Fatigue, Fracture, Reliability of Structures

- Airworthiness and Evaluation against the Standards

- New Technology Development in

- Material Testing Procedures, Equipment or Accessories
- Computational Software
- Life Prediction Methodologies
- Certifying Standards

Abstracts: before 30th June 2019

send to abstract@fatiguedurability.com

Papers: before 10th August 2019

send to papers@fatiguedurability.com

visit: 2019.fatiguedurability.com for template & more details

Registration Details

Registration Fee

Industry and R&D Institutions	: INR 5,000.00
Faculty, Research Scholars, InSIS Members	: INR 4,000.00
Students	: INR 3,000.00

GST [18%] is applicable extra

For Foreign Delegates

Industry and R&D Institutions	: USD 77.00
Educational Institutions	: USD 62.00
Students	: USD 47.00

Registration fee can be paid in cash/DD/cheque in favour of "FatigueDurability India 2019" payable at Bangalore and send the same along with Registration Form to

Convenor

FatigueDurability India 2019

Institute of Structural Integrity and Failure Studies

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

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Ph/Fax: +91 80 23320171 / 49539628

Mobile : +91 9900138009/9900137005

CALL US FOR ANY QUERIES

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Exhibition: Mr. Guruprasad, guruprasad@fatiguedurability.com | 9900138009

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Keynote Speakers

(Alphabetical Order)

**SHRI ANIL GUPTA**

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Dept. of Applied Mechanics,
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**DR. A. K. ASRAFF**

Group Director
Structural Dynamics & Analysis Group
LPSC, ISRO, Trivandrum, India

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Principal Researcher
Elastomer Material Durability,
Leartiker Polymer Research Centre, Spain

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Principal Consultant - COE,
Aerospace & Defense,
Visvesvaraya Technological University, India

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Dept of Metallurgical & Material Engg.
National Institute of Technology,
Warangal, India

**DR. J. M. CHANDRA KISHEN**

Professor
Dept. of Civil Engineering,
Indian Institute of Science, Bangalore India

**DR. OMAR IBRAHIM**

Managing Director & Fracture Expert,
Process Optimisation Corporation (POC), USA

**DR. DHIRAJ K MAHAJAN**

Assistant Professor,
Dept. of Mechanical Engg.
Indian Institute of Technology Ropar, India

**SHRI. PREM ANDRADE**

Senior Engineering Manager
ANSYS Inc,
Pune, India

**DR. GBADEBO M OWOLABI**

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Dept. of Mechanical Engg.
Howard University, Washington, DC, USA.

**PROF. RAGHU PRAKASH**

Professor,
Dept. of Mechanical Engg.
Indian Institute of Technology, Madras, India

**DR. INDRA VIR SINGH**

Professor,
Dept. of Mechanical and Industrial Engg.
Indian Institute of Technology Roorkee, India

**DR. B P C RAO**

Outstanding Scientist, Associate Director,
Head, Quality Assurance Division,
Indira Gandhi Centre for Atomic Research
Kalpakkam, India

**DR. R K KUMAR**

Joint Director,
Materials Technology Division,
Central Power Research Institute (CPRI)
Bangalore, India

**DR. SAM KANTIMATHI**

President
FATIGUE CONCEPTS & Aging Aircraft
Associates, California, USA

Keynote Speakers

(Alphabetical Order)

**SHRI. M. R. SARAF**

Senior Deputy Director, Head – Structural Dynamics & Automotive Materials
Automotive Research Association of India (ARAI), Pune India

**DR. A. VENUGOPAL RAO***

Scientist "C" and Head
Modelling & Simulation Group
Defence Metallurgical Research Laboratory (DMRL), Hyderabad, India

**DR. R SUNDER**

Research Director,
Bangalore Integrated System Solutions (P) Ltd
President, Indian Structural Integrity Society
Bangalore, India

**PROF. VIKRAM JAYARAM**

Chair, Division of Mechanical Sciences,
Professor
Dept. of Materials Engg.
Indian Institute of Science, Bangalore, India

Exhibitors Profile

FatigueDurability India 2019 creates a platform for companies to 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

Contact : Mr. Guruprasad
exhibition@fatiguedurability.com
+91 97382 62440



Student Symposia

Technical Paper Presentation Competition

As part of FatigueDurability India 2019, We are organising **Student Technical Paper Presentation Competition** from 29th - 31st August 2019. Students from Engineering Colleges, Universities pursuing Bachelor Degree, Master Degree are encouraged to submit the abstract for technical paper presentation competition.

Important Dates :

Last date to Submit the abstract : 15 th July 2019
Date for Announcement of Selected abstracts : 25th July 2019
Last Date for Submission of Final PPT : 10th August 2019

For Conference Registration Fee & Details available at
More Details on : www.2019.fatiguedurability.com

For Student Competition

Submit your abstract today !

Last date to Submit the abstract : 15 th July 2019
studentabstract@fatiguedurability.com

Co-ordinators for Student Symposium

Mr. Guruprasad
guruprasad@fatiguedurability.com
+91 9738262440

Prof Anil S Pol
anil@fatiguedurability.com
+91 9738480136

Prof Prasad Raikar
prasad@fatiguedurability.com
+91 98458 03779

Registration Fee for Student Competition :
INR 1500.00 + 18% GST per student

Awards : There will be a 1st, 2nd and 3rd cash prize and complimentary benefit

About the Organisers



Institute of Structural Integrity and Failure Studies

Institute of Structural Integrity and Failure Studies (ISIFS) 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. ISIFS has a consortium of experts with decades of experience in solving the real time industrial – fatigue, fracture, failure problems associated with design, engineering, material, process related with insight of theoretical, analytical, experimental & computational simulation knowledge.

Institute of Structural Integrity and Failure Studies aims to promote, educate & encourage the research focussing on technologies associated with fatigue, fracture, failure, FEM, Life Assessment, Damage Mechanics, material modeling aspects and beyond covering design to life assessment and extension.

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 & Failure Studies brings a consortium of experts to address the requirements of industry.

For more details Visit : www.fatiguedurability.com

Contact : Dr. Raghunath W Khare, Head - ISIFS, Materials & Failure Expert
rw@fatiguedurability.com | Ph/Fax: +91 80 49539628



Visvesvaraya Technological University (VTU)

Visvesvaraya Technological University (VTU) is one of the largest Technological Universities in India with 20 years tradition of excellence in Engineering & Technical Education, Research and Innovations. It came into existence in the year 1998 to cater for the needs of Indian industries for trained technical manpower with practical experience and sound theoretical knowledge. University has very successfully achieved the tremendous task of bringing various colleges affiliated earlier to different Universities, with different syllabi, different procedures and different traditions under one umbrella. The university having 218 affiliated colleges, 1 constituent college and 17 Autonomous colleges with undergraduate courses in 35 disciplines, PG program in 94 disciplines and Ph.D& M.sc(Engg.) with research programs in 592 departments, over 4 lakhs Engineering Students study in the various institutes affiliated to the University. The University has 13 Quality Improvement Programme (QIP) centers in various affiliated colleges and 16 extension centers for offering PG programs. The University has revised the syllabi for UG and PG from the academic year 2014-15. It has four regional centers across the State of Karnataka in Belagavi, Bengaluru, Kalaburagi and Mysuru respectively. University is comprised of a multi-disciplinary and multi-level institution offering wide ranging programmes in engineering, technology and Management. The University is making steady progress in developing and providing best technical environment for education and will continue to serve the nation in coming years.

Visvesvaraya Technological University is named after notable Indian engineer, scholar, statesman and the recipient of highest honour 'Bharata Ratna' Sir M. Visvesvaraya.

Equipped with extremely rich resources of an outstanding student body and faculty strong partnerships with business, industry, and government and support from alumni and friends, VTU is designing a future of global preeminence, leadership and service. VTU is the first university in the country to adopt Innovative steps in the examination reforms by adopting Digital Evaluation System in the year 2011-12 followed by online services like delivery of question papers to affiliated colleges (Question Paper Delivery System-QPDS), result announcement, photocopy availability, PG courses thesis valuation, Ph.D. thesis valuation and Examination Results announced on Mobile Phone through SMS.

More About VTU Visit : www.vtu.ac.in

About the Organisers

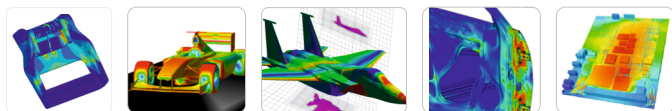


DHIO Research & Engineering Pvt Ltd., is a Collaborative Engineering Services and R&D Company based in Bangalore India.

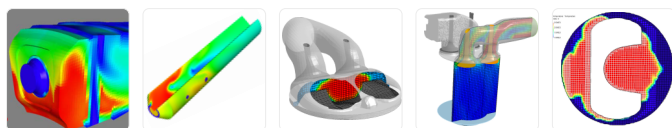
DHIO has an experienced pool of experts, engineers and scientists with decades of domain experience and expertise in applying state of the art simulation technology to in advanced Computer Aided Engineering Design, Analysis, Life Estimation and Optimisation Knowledge. DHIO Extends its support to Auto, 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 and time.

DHIO SERVICE & PRODUCT PORTFOLIO

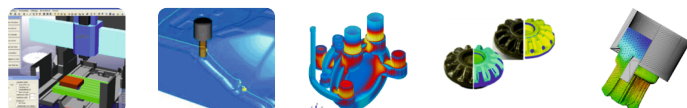
CAE Services – FEA/CFD/MBD/Fatigue/Optimization



Chemical Reaction Kinetics / Combustion Development



Manufacturing Process Simulation



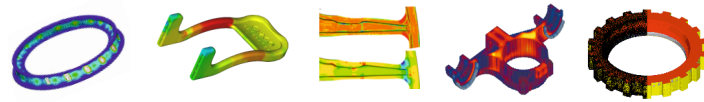
CNC

CAM

Casting

Forging

Extrusion



Welding

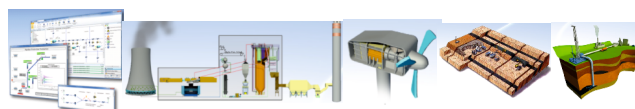
Injection
Molding

Sheetmetal

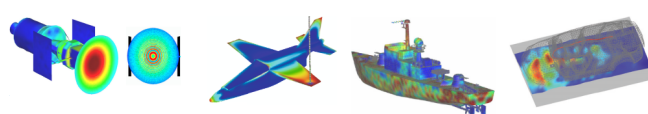
Heat
Treatment

P/M

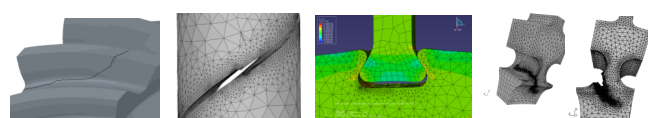
Thermal Fluid Network Simulation



EMI/EMC Evaluation



Fatigue, Fracture - Life Calculation Simulation



For Product, Services or Training Contact

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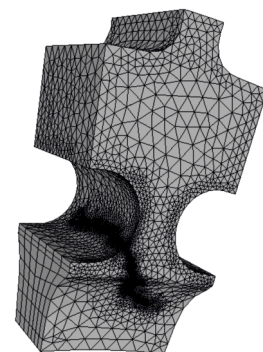
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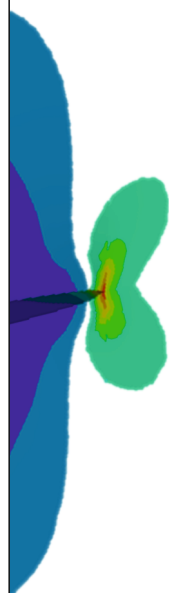
Glimpse of FatigueDurability India 2015/2016

FatigueDurability India 2019



To

Book Post



Contact

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