

Topics to be Covered

1. Designing materials and components resisting failures
2. Design and fracture mechanics
3. Fracture and failure mechanisms
4. Early detection and NDT methods
5. In-situ metallography
6. Remote field testing methods
7. Microscopy and failure analysis
8. Methods of repair and refurbishment

Who should attend?

Faculty Members and Research Scholars of Engineering Colleges and young engineers from industries are encouraged to attend this programme.

Registration Fee

For participants from industry/ Faculty Members Rs.1000/- for Research Scholars and Students Rs.500/- Demand Draft in favour of **Society of Material Science Engineers**. Intimation of selection and confirmation of participation would be made through E-mail only. The number of participant is limited to 60 on a first come first served basis.

Travelling / Accomodation

No TA / DA will be provided. Participants should make their own arrangement for boarding and lodging.

Address for communication

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ORGANISERS

CONVENERS

Dr. L.Karunamoorthy, Prof. & Head, Dept. of Mech. Engg., AU.
Dr.P.Parameswaran, Metallurgy & Materials Group, IGCAR
Dr. S. Rajendra Boopathy, Prof, Dept.of Mech.Engg. AU.

CO-ORDINATORS

Dr.M.Pradeep Kumar, Asso.Prof., Dept. of Mech. Engg.
Dr.S.Senthilkumaran, Asso.Prof & Head i/c,CWS
Dr. D. Sangeetha, Ass Prof, (SG), Dept of Mech Engg.

ADVISORY COMMITTEE

Dr.S.Sampath Kumar, Professor, Dept. of Mech. Engg.
Dr.B.Mohan, Professor, Dept. of Mech. Engg.
Dr. T.Jayakumar, Director, Metallurgy & Materials Group,
IGCAR
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Group, IGCAR
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Dr.A.Siddharthan, Asst. Prof., Dept. of Mech. Engg
Mr.D.Samuelraj, Asst. Prof., Dept. of Mech. Engg.,



Two days workshop
On
**Fail-safe Design, Early
Detection & Avoiding
Future Recurrence
of Failures**
October 28-29, 2013

Organised by

**Society of Material Science Engineers
Department of Mechanical Engineering
College of Engineering, Guindy,
Anna University, Chennai 600025**
&
**Society for Failure Analysis
Chennai Centre**

About The Department

The Mechanical Engineering Department in Anna University (CEG) - started in the year 1895 provides excellent learning and research opportunities for under Graduate, Post Graduate and Research Students. The Department has various divisions namely Engineering Design (ED), Internal Combustion Engineering (ICE), Institute of Energy Studies (IES), Refrigeration and Air-Conditioning (R&AC) and Central Workshop (CWS). Supported by the well qualified and experienced faculty members, the Department is actively engaged in executing R&D & consulting projects for many reputed industries. The Department of Mechanical Engineering is fully equipped with state of the art experimental and computational facilities in the field of Product Design and Analysis. The Department of Mechanical Engineering has also received research projects funded by DST, UGC, MNRE, AICTE and other agencies.

About Society for failure Analysis (SFA)

Founded in 2006 with the following aim and objectives:

To serve as National Society to promote, encourage and develop the growth of "Art and Science of Failure Analysis" and to stimulate interest in compilation of a database, for effective identification of root causes of failures and their prevention thereof.

To serve as a common forum for individuals, institutions, organizations and industries interested in the above.

To disseminate information concerning developments both in India and abroad in the related fields.

To organize lectures, discussions, conferences, seminars, colloquia, courses related to failure analysis and to provide a valuable feedback on failure analysis covering design, materials, manufacturing deficiencies/limitations and maintenance. Currently SFA centres are established in many parts of India and Chennai centre was opened in October 2011.

Interested participants are encouraged to become members of SFA. For more details: www.sfaindia.org

About The Workshop

The avoidance of failure is considered as the foremost objective in engineering design. It is useful feedback as failure assessment can throw useful information as to why a component or structure failed and this information is available for future designs. Although failures appear to be inevitable, they in turn lead to greater safety margins in design. An understanding of the application of stress analysis principles and the causes underlying materials failures is a valuable assessment on structural integrity. Therefore the concepts of stress analysis and fracture mechanics have wide applicability in design. While the stress analysis concepts do design the components that do not fail under the design loads, fracture mechanics assessment of the criticality of cracks and defects is equally important in prediction of failures. Present workshop aims to discuss the above aspects of design.

As prevention is better than cure, inspection techniques are useful in the diagnosis of impending failure as they form the early detection methodologies. The response to failure detection is ultimately to take some mitigating action. In successful investigation the system can be diagnosed to classify its state as nominal, degraded, or failed. In many cases, a future failure of the component could be predicted. The workshop aims to discuss various advanced NDT methodologies in early detection of the defect state.

The complexity of an engineering system is well known that failure can manifest itself in a number of ways. The failures may be caused by the mismatch between structural and/or material properties and the system (functional) requirements imposed by the environment and design. Some of the manifestations of failure are structural in nature viz.-cracking, corrosion, creep, melting, wear, excessive deformation. Failure analysis looks at these modes to give an insight into how a component was loaded and what form of loading or stress state led to failure. It examines how different materials fail according to their fundamental properties. Therefore the present workshop also focuses on failure analysis which brings the modes of failures from materials' point of view.

Two days workshop

On

Fail-safe Design, Early Detection & Avoiding Future Recurrence of Failures

OCTOBER 28-29, 2013

Name:.....

Designation:.....

Department:.....

**Mailing
address:**.....

Mobile:.....

Fax :.....

E-mail:.....

**Reasons (max. 3) for interest in the
participation in the workshop:**

1.

2.

3.

Date: _ / _ / _

Signature:.....

**Recommendation of the
H.O.D/Director/Principal**

Last date for registration: 23rd Oct 2013