

**TWO  
DAYS  
WORKSHOP  
ON**



# **PRACTICAL FAILURE ANALYSIS & CASE STUDIES**



- › 6TH & 7TH JAN 2023
- › HOTEL MIRAGE,  
ANDHERI - KURLA ROAD,  
MAROL, MUMBAI 400059.

By

**Ms Debbie Aliya**

Analytical Inc. Aliya USA



**INDIA CHAPTER**

## ⚙️ ABOUT THE WORKSHOP

Participants will learn the basic damage categories, and methods to distinguish fatigue fracture from overload, determine what type of loading(axial, bending, torsion, shear) caused the conditions that allowed fracture. A criteria for evaluating safety factors based on the crack appearance will be presented for fatigue. The importance of understanding how to recognize brittle and ductile features at macro and microscales will also be presented.

## ⚙️ AGENDA OF THE WORKSHOP

- Steps in a complete and “quick” failure analysis: When to do each
- The Failure Analysis Toolbox : Eyes, Brain, Mind, Microscopes, Mechanical tests, Etc.
- Damage Categories : Deformation, Wear, Fracture, Corrosion
- Basic Macro-Fractography
- Special techniques to overcome some of the limitations usually encountered when evaluating dirty, damaged fractures and brittle materials.
- “Traditional” surface appearances linked with fatigue and overload
- Basic Simplified Loading Geometries and their associated fragment shapes
- Special considerations for case hardened steels

## ⚙️ WHO SHOULD ATTEND

- Design Engineers
- Materials and Metallurgy Engineers
- Personnel performing failure analysis
- Quality and Reliability Engineers
- Students and budding researchers

## ⚙️ WHAT THE PARTICIPANTS WILL TAKE AWAY

1. A basic working knowledge of how to use visual examination to determine the damage category of a “failed part” or assembly, and the limitations of visual analysis.
  2. The most emphasis with focus on fracture, macro-Fractography and loading geometry.
  3. Highlights on a spectrum of tools used in failure analysis work on manufactured components
- How to perform a visual examination of a damaged assembly or component
  - How to classify damage, in the service of failure prevention (deformation, fracture, wear, corrosion, complex, thermal degradation)
  - How to recognize if unanticipated loads or environmental conditions contributed to the demise of the component
  - How to tell if the component was loaded in a manner not according to design.

## CONVENERS

**Dr. Vivek Singal**  
Executive Director

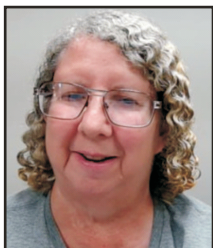
**Mr. S.S. Sabnis**  
Program Committee

### ASM International, India Chapter

409, Srishti Square, Lal Bahadur Shastri Marg, Bhandup (W), Mumbai 400078  
Ph : 91-22-35933220 | Email : [asmindia79@gmail.com](mailto:asmindia79@gmail.com)

## ⚙ ABOUT THE FACULTY

- Debbie Aliya is the owner of Aliya Analytical, Inc., USA, which specializes in failure analysis and prevention. What makes her approach unique is the attention to the insights of philosophy & psychology in engineering.



- Debbie has a BS in Metallurgy and Materials Science from Carnegie-Mellon University (Pittsburgh, PA) and an MS in Materials Science and Engineering from North-western University (Evanston, IL). She has served several times as Chair of the ASM International Failure Analysis Committee, and contributed several articles and participated in the editorial duties for the 2002 Metals Handbook volume on Failure Analysis. She also has a few articles in the 2004 edition of Volume 9 on Metallography.

- She has wide ranging interests, and has presented on Thinking Skill Optimization at various ASM International, Society of Manufacturing Engineers, Society of Automotive Engineers, and Machinery Failure Prevention Technology Society events. She has also taught multiple classes on Failure Analysis and Prevention, including a special topics class for graduate Materials Engineering students at Western Michigan University of the new ASM Affiliate Failure Analysis Society. She has also written a science fiction novel which promotes the cultivation of clear thinking.

## ⚙ ABOUT ASM

- ASM International is world renowned professional body of material scientists, R&D professional and academicians. The India Chapter established in 1979, is one of the leading chapters and continuously promotes knowledge about materials & processes through technical talks, courses, workshops and material mega events.

## ⚙ DETAILS OF REGISTRATION:

|                 |       |
|-----------------|-------|
| Name            | _____ |
| Contact No.     | _____ |
| E-mail          | _____ |
| Company Name    | _____ |
| Company Address | _____ |
| Cheque / DD No. | _____ |

## ⚙ DETAILS OF ADDITIONAL PARTICIPANTS :

| Sr. No. | Name | Contact No. |
|---------|------|-------------|
| 1.      |      |             |
| 2.      |      |             |
| 3.      |      |             |

## REGISTRATION FEE (RS) :

**Non ASM Members : 8500**

**ASM Members : 8000**

A discount of 10% is eligible upon registration of more than 3 participants from the same organisation. Applicable GST 18% will be extra

### Cheque / DD to be drawn in favour of:

ASM International, India Chapter

Bank details for NEFT / RTGS / SWIFT transfer

Bank Account No. : 00131000221860

Bank Name : HDFC Bank,

Branch : Mulund (W) - Vikas Palazzo

Bank Address : Ground Floor, Vikas Palazzo, J.N. Road, Mulund West

IFSC Code of branch : HDFC 0000015

Type of Account : Savings Account

GST No : 27AAAF3187G1ZM

**Please send the filled in registration form to the workshop convenors**

**ASM International  
India Chapter  
presents**

**-: Two days' workshop on :-  
PRACTICAL FAILURE ANALYSIS & CASE STUDIES**

**By Ms Debbie Aliya**

**6th & 7th Jan 2023**

**Hotel Mirage, Andheri - Kurla Road, Marol, Mumbai 400059.**

- ✓ Last date for registration : **5th January 2023**
- ✓ Scanned forms are accepted by **E-Mail**
- ✓ Participants interested in spot registration should inform by email before **4th January 2023** so as to make necessary arrangements
- ✓ Duration of the event : **0900 hours to 1600 hours** (inclusive of lunch and tea breaks)
- ✓ Contact for details and queries :

**Dr. Vivek Singal**

Email : [asmindia79@gmail.com](mailto:asmindia79@gmail.com)  
Ph : 91-22-35933220 / 9769208775

**Mr. Suhas S. Sabnis**

Email : [metsolcon@yahoo.co.in](mailto:metsolcon@yahoo.co.in)  
Ph : 9820578975

**ASM International, India Chapter**

Chairman : Mr. Sudhakar Bonde  
Vice Chairman : Mr. JayeshMukadam  
Vice Chairman : Mr. Rajesh Shah  
Secretary : Mr. Sandeep Rege  
Treasurer : Mr. Naresh Daftary



**INDIA CHAPTER**