

METALLURGICAL FAILURE INVESTIGATION AND FRACTOGRAPHY

RM400

MasterClass series

Learn how to conduct failure investigations by identifying common failure modes, applying analysis techniques, and using practical fractography to uncover critical evidence.

OUR SPECIAL MENTORS



Session 01

DR. ANDREW SPOWAGE

CENG, CSCI, FIMMM, FIMM,
PGCHE, CSSBB, MFIP-L4



Session 02

EUR.ING. NIGEL BREWITT

MMET, CENG, FIMMM,
FIMM, MFIP-L4

 DATE & TIME

**UPON
REQUEST**

8.30AM - 5.00PM

 LOCATION

**TO BE
ARRANGED**

CONTACT US

CONTACT
AMVIP2019@GMAIL.COM
FOR MORE INQUIRY

COURSE DESCRIPTION

Failures of engineering components can lead to catastrophic safety risks and costly downtime. This AMVIP CPD-recognized one-day Masterclass equips engineers from all industries with a systematic approach to investigate metallurgical failures and emphasizing the use of fractographic evidence, the most valuable source of evidence of metallurgical failures. All training is given by Level 4 Materials Failure Investigation Practitioners.

Key Learning Outcomes

- How to carry out a failure investigation
- The common failure modes
- Analysis and investigation techniques
- Practical fractography as a key evidence to uncover failure modes

WHO SHOULD ATTEND?

Anyone involved in the design, testing, maintenance, and quality management of materials, equipment, and operational systems.

- **Materials/Mechanical Engineers**
- **QA/QC and Integrity Management Professionals**
- **Maintenance personnel**
- **Design engineers**
- **Operations teams**
- **Laboratory staff and SEM operators**

**No Pre-Requisites in Qualifications*

**Participants require a reasonable understanding of English*

SCHEDULE

8:30am – 9:00am	Registration
9:00am – 10:30am	Session 1 (1.5 hours)
10:30am – 11:00am	Tea-break
11:00am – 12:30pm	Session 2 (1.5 hours)
12:30pm – 2:00pm	LUNCH (included)
2:00pm – 4:00pm	Session 3 (2 hours)
4:00pm – 4:30pm	Tea-break & Group Photo
4:30pm	ADJOURN

- Face-to-face lectures conducted in English
- AMVIP Certificate of Attendance (5 hours CPD)
- **Industry-focused:** 100% case studies from real industrial failures

SYLLABUS

Morning Session Theory & Methodology	Afternoon Session Fractography & Case Studies
<ul style="list-style-type: none">• Introduction• Failure analysis principles• Systematic Investigation• Evidence preservation• Lab techniques• Classification of Failure Mechanisms	<ul style="list-style-type: none">• Introduction• Ductile failure• Brittle failure• Fatigue failure• Environmental assisted failure

ABOUT THE TRAINER

Session 01



**DR. ANDREW
SPOWAGE**

CEng, CSci, FIMMM, FIMM,
PGCHE, CSSBB, MFIP-L4

Dr Andrew holds the position of Reader within the School of Engineering and Materials Science at Queen Mary University of London (QMUL) and is a director in MTIS Sdn. Bhd. a Malaysian based SME. His area of expertise spans the performance of materials, including materials selection, corrosion, characterisation and testing to failure of materials. Before joining QMUL Andrew held the post of APAC Engineering Manager Wood PLC where he ran the materials, corrosion and integrity management teams. Andrew has also held the post of Head of Department of Mechanical Materials and Manufacturing Engineering at The University of Nottingham's Malaysia Campus and has been a materials performance specialist for MTIS Sdn. Bhd. Since 2009. Dr Andrew holds a Post Graduate Certificate in Higher Education (PGCHE), is a Chartered Engineer, (CEng) a Chartered Scientist (CSci) and is a fellow of IOM3, IMM, AMVIP and HEA. In addition, Andrew is a Level 4 Materials Failure Investigator.

ABOUT THE TRAINER

Session 02



EUR.ING. NIGEL BREWITT

Mmet, CEng, FIMMM,
FIMM, MFIP-L4

Nigel graduated from The University of Sheffield with a Masters Degree in advanced physical metallurgy and from Derby University with a post graduate diploma in corrosion science and technology. He worked in the welding and fabrication industry for 10 years before joining Rolls-Royce where he spent 20 years in the nuclear submarine division and a further 3 years in the aero engine division as a metallurgist/ failure investigator. This also included working offshore on titanium heat exchangers in the North Sea for six years. Since retirement from RR, he has worked on a broad range of projects for Intertek Services Ltd in the UK as a failure investigator mainly on aerospace and railway track components. He is currently working mainly on offshore component failures. Nigel is also a part-time lecturer at Nottingham University Malaysia Campus giving advice on industrial design and manufacturing.

He is a European Engineer (Eur.Ing.), a Chartered Engineer (CEng), a Fellow of the Institute of Materials Minerals and Mining, a Fellow of the Institute of Materials Malaysia and was made Adjunct Professor of Practice at the University of Nottingham Malaysia Campus. He is also on the industrial advisory boards for University of Tunku Abdul Rahman (UTAR), Tunku Abdul Rahman University of Management and Technology (TARUC), Queen Mary University (China) and Nottingham University Malaysia Campus. In addition, Nigel is a Level 4 Materials Failure Investigator.

PARTICIPANT FEE

CATEGORY	DEADLINE	AMOUNT (RM) AMVIP MEMBER	AMOUNT (RM) NON MEMBER
EARLY BIRD FEE		400.00	450.00
NORMAL FEE		440.00	490.00
LATE REGISTRATION	N/A	500.00	550.00

PAYMENT METHODS

IBG, CDM, Cheque, telegraphic transfer or bank draft
SEND PAYMENT SLIP WITH REGISTRATION TO
amvip2019@gmail.com

Account Name: PERSATUAN AHLI MAHIR BAHAN,
GETARAN DAN PENEBAK MALAYSIA
Account No: 8010289200
Swift Code: CIBBMYKL
Bank Name: CIMB BANK BERHAD
Bank Branch: BANDAR PUTERI PUCHONG, SELANGOR
Country: MALAYSIA



TERMS & CONDITIONS

- Full payment to be made upon registration.
 - 50% refundable if cancellation is made 14 days before course date.
 - No refund if cancellation is made 7 days before course date, however, replacement participant allowed.
 - AMVIP reserves the right to reject any participant into the classroom if payment has not been confirmed.
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ASSOCIATION OF MATERIALS, VIBRATION & INSULATION PRACTITIONERS, MALAYSIA (AMVIP)

(TIN No: F-59596806060)

(ROS No: PPM-002-10-25092019)

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