

A close-up photograph of a man in a white lab coat looking through the eyepiece of a microscope. The microscope is black and has a yellow warning label on its side.

Advanced Analytical Training (Electrical, Material & Physical Analysis)

The logo for MIMOS Berhad, featuring a vertical column of ten small, white, square dots on the left side.

MIMOS Berhad
Technology Park Malaysia

▀ The understanding of failure mechanism in especially in semiconductor packaging becomes one of the important elements that every single employee is required to acquire strong knowledge in order to solve their assembly issues. Using current method of root cause analysis tool is insufficient if employees do not have fundamental understanding of the reason behind failure. This course is designed to provide important understanding on failure mechanisms for every component of materials used in semiconductor packaging.

The common failure mechanism in each packaging process will be addressed systematically and the analytical technique to characterize each of the failure mechanism will be instructed. Several case studies will be used for participants to incorporate the learning.



Claimable under HRDF
Scheme-SBL

LEARNING OUTCOMES

Upon completion, the participants would be:

- Failure Analysis Principles and Procedures
- Package Level Testing
- Electrical Testing
- Fault Isolation
- Package opening
- Optical and FESEM Inspection

METHODOLOGY

- This Course will utilize a combination of lecture and discussions
- Instructor led Classroom training

TARGET GROUP

- Test and debug personnel
- Failure analyst and characterization personnel
- Yield and reliability personnel
- Managers
- Laboratories personnel
- Researchers
- Anyone who submits devices to perform failure analysis

PRE-REQUISITE:

Knowledge in semiconductor industry is an added advantage.

DAY 1

Overview of Failure Analysis

Electrical Analysis

- Non-destructive Testing
 - 2D & 3D X-Ray
 - Scanning Acoustics Microscope
- Electrical Verification
 - Curve Tracer
- Fault Localization
 - Photon Emission Microscope
 - Thermal Emission Microscope
 - Magnetic Current Imaging

DAY 2

Physical Analysis

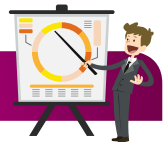
- Filled Emission Scanning Electron Microscope Techniques (FESEM)
- Dual Beam (DB)
- Transmission Electron Microscope (TEM)
- Atomic Force Microscopy
- Nano-indentation and Scanning Probe Microscopy (SPM)

DAY 3

Material Analysis

- X-Ray Photoelectron Spectroscopy (XPS)
- Auger Electron Spectroscopy (AES)
- Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS)
- Energy Dispersive Spectrometer (EDS)
- Fourier Transform Infrared Spectroscopy (FTIR)
- RAMAN

INSTRUCTOR PROFILE



Dr Suhairi Saharudin obtained his basic degree in Electrical and Electronics Engineering from University of Strathclyde, Glasgow, Scotland. Following his interest in emerging technologies back then in lasers and fiber optics, he further pursued his Masters degree in Optical Electronics in 1992 and established his career path in this field for the following 20 years as researcher in SIRIM Berhad and MIMOS Berhad (present). He concluded his academic endeavor in the same field of interest (Photonics) through Doctoral degree in Fiber laser research in 2006 from Universiti Putra Malaysia. He was among the founder of IEEE Photonics Society Malaysian chapter (previously known as IEEE Laser and Electro-optic society) and actively involved as Secretary and Chairman of the society. His 20 years of R&D experience and skills is now being directed towards activities involving technical problem identification such as Failure Analysis process. He currently is establishing a new interest in spectroscopic methods in failure analysis process particularly in Surface Analysis field.

INSTRUCTOR PROFILE



Ayob Azmi is a Failure Analysis Engineer in MIMOS Semiconductor Sdn. Bhd. He received his Bachelor Science in Electrical and Electronic Engineering from Trine University, Indiana, USA in 1996. Over past 15 years he has involved in various field of electronics industry includes PCBA manufacturing and testing, product development and testing, Embedded Design, Wafer fabrication and Sales and Marketing. His current job in Failure Analysis is in Fault Localization and Non-Destructive analysis and he is key technical personnel for Thermal Emission Microscope (THEM), Photon Emission Microscope (PEM), OBIRCH, Scanning Acoustic Microscope (SAM) and I-V Curve Tracer. He is also a qualified trainer awarded by HRDF Malaysia.



Hasniza Hashim received a B. Eng in Electrical and Electronics Engineering from University of Plymouth, United Kingdom in 1997. She has more than 20 years of experience in failure analysis technique, product characterization, test program optimization, yield improvement, quality and reliability. She was successfully fabricated, manufactured, tested and qualified Low and High Temperature Interdigitated Digital Electrode (IDE) technology platform, Humidity sensor and Moisture sensor. She has an experienced in going through the accreditation and sustaining of MIMOS Failure Analysis labs under ISO/IEC 17025. She is one of the approved signatory for the equipment Energy Dispersive X-ray Spectrometry (EDS) of FEG-Scanning Electron Microscope and the key technical personnel for FESEM/EDS, Nanoindentation and AFM.



Siti Rahmah Esa received her Bachelor's Degree in Microelectronic Engineering from Universiti Malaysia Perlis (UNIMAP) in 2006 and Master in Science from University of Malaya (UM) in 2017. She has a very good industrial experienced in the semiconductor industry. She was a Failure Analysis Engineer in Infineon Technologies Kulim from 2006 – 2013. During her experienced as Failure Analysis Engineer, she has been exposed to physical failure analysis techniques and material analysis, such as Field Emission Scanning Electron Microscope (FESEM), Dual Beam, Transmission Electron Microscope (TEM), Energy Dispersive X-ray Spectroscopy (EDS), Electron Energy Loss Spectroscopy (EELS) and Auger Electron Spectroscopy (AES). In June 2013, she joined MIMOS Berhad as a Failure Analysis Engineer. In 2016, she became a Leader of Material Analysis Lab. She has an experienced in going through the accreditation and sustaining of MIMOS Failure Analysis labs under ISO/IEC 17025. She is one of the approve signatories for Energy Dispersive X-ray Spectroscopy (EDS) of Dual Beam equipment. She has conducted a series of technical training for students and E&E engineers on the operation, techniques and application of Failure Analysis and Material Analysis Equipment. She is the key technical personnel of Dual Beam, Transmission Electron Microscope (TEM), Energy Dispersive X-ray Spectroscopy (EDS), Electron Energy Loss Spectroscopy (EELS), Auger Electron Spectroscopy (AES) and Time of Flight Secondary Ion Mass Spectrometry (ToF-SIMS).

INSTRUCTOR PROFILE



Mohammad Fairuz Amir received his Diploma In Electronic Engineering From Universiti Teknologi Mara (UiTM) in 2004, Bachelor in Electrical and Electronic Engineering From Universiti Teknologi Mara (UiTM) in 2007 and a Master of Science (Microelectronic) From Universiti Kebangsaan Malaysia (UKM) in 2014. He has good knowledge for Failure Analysis technologies in Electrical and Electronics and Manufacturing Industry in Malaysia, with primary emphasis in Auger Electron Spectroscopy (AES), Focused Ion Beam (FIB), Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray Spectroscopy (EDS) analysis. He has more than 10 years working experience in semiconductor industry. He past experience includes product development and semiconductor fabrication.

MIMOS HAS MORE THAN 20 TECHNOLOGY TRAININGS

For further information on these technology trainings, do visit us at www.mimos.my/tech or contact training.dev@mimos.my



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REGISTRATION FORM **Advanced Analytical Training - Electrical, Material & Physical** • MIMOS @ Technology Park Malaysia 7 - 9 April 2020 (early bird 2 March 2020), 13 - 14 July 2020 (early bird 30 June 2020), 9 - 11 Nov 2020 (early bird 1 October 2020)

Please complete this form and fax or email to us

COURSE FEE	Fee per participant	Fee inclusive SST	 <small>HRDF CLAIMABLE</small> <small>Claimable under HRDF Scheme-SBL</small>
<input type="checkbox"/> Early Bird Registration (date as above)	RM3,000.00	RM3,180.00	
<input type="checkbox"/> Standard Registration	RM3,200.00	RM3,392.00	
<input type="checkbox"/> Group Discount (3 participants above)	RM2,800.00	RM2,968.00	
<input type="checkbox"/> Universities & Colleges	RM2,700.00	RM2,862.00	

No	PARTICIPANT DETAILS	CONTACT INFORMATION	MEAL PREFERENCE
1	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
2	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
3	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
4	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
5	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian

Preferred date of training : 7 - 9 April 2020 13 - 14 July 2020 9 - 11 November 2020

Organisation :

Postal Address :

Tel : Fax :

Contact Person : Position :

Email :

AUTHORISATION

I understand and agree to MIMOS Berhad terms and conditions
(Signatory must be authorised to sign on behalf of the Organisation)

Name of the Authorised Person :

Position : Date :

Signature and Company Stamp:

Terms & Conditions:

- Upon received of this registration form (MIMOS), we will invoice to the contact-person for payment processing.
- Payment is required within 30 days upon receipt of the invoice. All payment must be received 7 working days prior to the training date. The fee shall include luncheon, coffee/tea breaks and training materials.
- Cancellation or postponement - Any cancellation must be made in writing and to reach us no later than 10 working days prior to the training date. If written notice is received in less than 10 working days, 100% of total fees is chargeable. A substitute delegate with similar background and competencies, is always welcome at no additional charge.
- Our instructor(s) and topics are confirmed at the time of this print. However, circumstances beyond the control of the organizers' may occur and MIMOS Berhad reserves the rights to alter or modify the advertised speakers/ topics if necessary.

To register & more information:

Business Development (MSSB), MIMOS Berhad

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