

Material testing for hardness via Nanoindentation

5 – 7 Dec. 2017
9 am – 5 pm

MIMOS @ Technology Park Malaysia
Fees: Early bird - RM2,300/pax
After 17 Nov. 2017 - RM2,500/pax
Group Discount - RM2,100/pax
(3 pax & more)
 (rate exclude GST)

Overview

Nanoindentation is mechanical tester that can provide micromechanical properties of hardness and reduced modulus. Due to its capability of conducting test in localized and nanometer scale, nanoindentation test is a suitable tester to be used to evaluate the micromechanical properties of semiconductor that has ever decreasing trend of building structure. Localized and nanometer scale of measurement using nanoindentation test has provided some advantageous compared to that of conventional mechanical tests like tensile, compress, bending, and hardness tests to name a few. This is because the micromechanical data obtained from nanoindentation test can explain the individual properties and interaction with the surrounding materials as compared to that of data obtained from conventional mechanical test which is more into bulk mechanical properties. Thus, nanoindentation test is the suitable testing enabler that can be used to analyze the micromechanical properties, performance, and also the process history (load bearing) of the materials which are very important to the improvement of the existing process, design and production of semiconductor industry.

Methodology

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

Learning Outcomes

Upon completion, participants should be able to demonstrate/understand each of the following:

- The principle of using nanoindentation
- Differences between nanoindentation and bulk mechanical testing
- How to conduct the nanoindentation test
- Interpretation of the data obtained from nanoindentation
- Possible applications using nanoindentation test

Outline/Contents

Day 1:

- Introduction of Nanoindentation
- Nanoindentation Theory
- Differences between Nanoindentation and Hardness tests
- How to conduct Nanoindentation test
- Interpretation of data obtained from nanoindentation test

Day 2 and Day 3:

- Sample preparation before testing
- Nanoindenter equipment operation
- Case study: Application of using Nanoindentation test

Instructor 1



Dr. Muhammad Nubli Zulkifli received a B. Eng in Electronics Engineering from Universiti Sains Malaysia (USM) in 2005, M.Sc in Microelectronic Engineering from Universiti Malaysia Perlis (UniMAP) in 2008 and Ph.D in Microengineering and Nanoelectronics from Universiti Kebangsaan Malaysia (UKM) in 2014. Dr Nubli has a mix industrial and academic experience. He was a Failure Analysis Engineer at AIC Semiconductor Sdn. Bhd.

and On Semiconductor on 2006 and 2009, respectively. Currently, he is a Senior Lecturer at Electrical Engineering Section, Universiti Kuala Lumpur (UniKL). He has more than 20 publications and his research interest include semiconductor failure analysis and reliability, electronic packaging, ZnO nanogenerator, piezoelectric and thermoelectric materials, nanoindentation, nanocharacterization, finite element analysis, microstructure-mechanical-electrical properties relation to name a few.

Instructor 2



Hasniza Hashim received a B. Eng in Electrical and Electronics Engineering from University of Plymouth, United Kingdom in 1997.

She has a very good industrial experienced in semiconductor industry. She was a Failure Analysis engineer at Fujitsu Microelectronics (M) Sdn. Bhd from 1997 – 2002. She then joined and help to established Product Engineering team for Spansion (M) Sdn. Bhd. She worked as Product and Test Engineer from 2002 until 2012. During her experienced as Product Engineer, she exposed to failure analysis technique, product characterization, test program optimization, yield improvement, quality and reliability program. She also has an opportunity to work at Spansion Head Quarters in Sunnyvale, USA. While working in USA, her responsibility including analyzing customer return, solving product and test program issue as well as guiding product engineer from worldwide manufacturing plant on improving product's quality. In 2013, she joined MIMOS Berhad as Senior Engineer. She was appointed as Project Leader for sensor process technology realization project. She was successfully fabricated, manufactured, tested and qualified Low and High Temperature Interdigitated Digital Electrode (IDE) technology platform, Humidity sensor and Moisture sensor. The job covers Technology Qualification for Quality and Manufacturability requirement, Technology Transfer to NPI Pilot Line (Manufacturing Site) and performs Process Technology Trouble Shooting and Improvement. In 2016, she became a Leader and responsible for Physical and Electrical Analysis Lab operation. 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. She has conducted a series of technical training for students and E&E engineers on the operation, techniques and application of the Failure Analysis Equipment. She is the key technical personnel for FESEM/EDS, Nanoindentation and AFM.

Target Group

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

Registration

Email the following information to :
mssb_biz@mimos.my

- Company
- Full name
- Contact Person
- Contact No
- Email
- Number of participants
- Course title

Pre-requisite

Knowledge in semiconductor industry is an added advantage.

Payment Details

Crossed Cheque or Bank Transfer
- MIMOS Berhad
- Acct No : 512147020249
- Swift Code : MBBEMYKL
- Bank : Maybank Bank Berhad,
Taman Sri Serdang, Selangor

Cancellation Policy

Must be in writing with reason

- 10 days before course – No charge
- 4 days before course – 50% charge
- 2 days before course – 100% charge
- Replacement participant can be accepted at no additional charge

Enquiries & RSVP

Ms. Amy Letchumy: letchumy@mimos.my, Ms. Faradaya Machmud: faradaya.machmud@mimos.my

Tel: 603-89955000 Ext. 55642 & 55279 Fax: 603-89914331

MIMOS Semiconductor (M) Sdn Bhd, MIMOS Berhad, Technology Park Malaysia 57000 Kuala Lumpur

Mr. Billy Joe Dominic: billy@nanomalaysia.com.my

Tel: 016 810 2625 Fax : 603-21818849

NanoMalaysia Berhad A-2-2, Level 2, 157 Hampshire Place Office, No. 1, Jalan Mayang Sari, 50450 Kuala Lumpur

Register Now!

(Limited seats available)



REGISTRATION FORM

Material Testing for Hardness via Nanoindentation

MIMOS @ Technology Park Malaysia

5 - 7 December 2017 (3 days)

Please complete this form and fax or email to us

COURSE FEE	Fee per participant	Fee inclusive GST
☐ Standard Registration	RM 2,500.00	RM 2,650.00
☐ Early Bird Registration (Before 17 November 2017)	RM 2,300.00	RM 2,438.00
☐ Group Discount (Minimum 3 participants)	RM 2,100.00	RM 2,226.00

No	PARTICIPANT DETAILS	CONTACT INFORMATION	MEAL PREFERENCE
1	Name: Designation:	Email: Mobile No.:	☐ Vegetarian ☐ Non-Vegetarian
2	Name: Designation:	Email: Mobile No.:	☐ Vegetarian ☐ Non-Vegetarian
3	Name: Designation:	Email: Mobile No.:	☐ Vegetarian ☐ Non-Vegetarian
4	Name: Designation:	Email: Mobile No.:	☐ Vegetarian ☐ Non-Vegetarian

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:

To Register & for More Information:

Business Development (MSSB), MIMOS Berhad

Call : +603-8995 5000 ext. 55279 (Fara)
55642 (Amy)

Email : faradaya.machmud@mimos.my
letchumy@mimos.my

Strategic Communication and Event,
NanoMalaysia Berhad
Call : + 6016 810 2625 (Billy)
Email: billy@nanomalaysia.com.my

Please complete this form and fax or email to us
Referred by:

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Terms & Conditions:

- 1) Upon received of this registration form (MIMOS), we will invoice to the contact-person for payment processing.
- 2) 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 includes luncheon, coffee/tea breaks and training materials.
- 3) This quotation includes Government Service Tax (GST).
- 4) Mode of Payment - **Cheque** or **Bank Drafts** to be made payable to **MIMOS Berhad**.
- 5) 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.
- 6) 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.

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