AMVIP
SUSTAINABLE TECHNOLOGIES · ECONOMY · ENVIRONMENT

VIBRATION BASED STRUCTURAL HEALTH MONITORING

RM400

MasterClass series

Enhance your expertise in VBDD and SHM by understanding vibration principles, applying theory to detect structural damage, and interpreting analysis results.

OUR SPECIAL MENTORS

Session 01

DR KHAIRUL HAZMAN PADIL

- FORENSIC ENGINEERING CENTRE (FEC)
- DIRECTOR OF VRG DINAMIK SDN BHD

Session 02

DR YON KONG CHEN

- ACTIVE CONTRIBUTOR TO THE INSTITUTE OF NOISE AND VIBRATION, UTM KUALA LUMPUR (IKG)
- DIRECTOR OF VRG DINAMIK SDN BHD

DATE & TIME

UPON REQUEST

8.30AM - 5.00PM

LOCATION

TO BE ARRANGED

CONTACT US

CONTACT
AMVIP2019@GMAIL.COM
FOR MORE INQUIRY

FOR REGISTRATION & INFORMATION

WWW.AMVIP.ORG

COURSE DESCRIPTION

This course provides participants with a comprehensive introduction to vibration-based damage detection (VBDD) and structural health monitoring (SHM). Through three interactive sessions, participants will develop an understanding of how vibrations can be used as a non destructive tool to assess the integrity of structures such as bridges, buildings, and critical infrastructure. The course progresses from fundamental vibration theory to advanced analytical methods, including dynamic finite element analysis, equipping participants with both theoretical knowledge and practical skills for structural assessment and performance evaluation.

Key Learning Outcomes

- Understand the principles of VBDD and its role in SHM.
- Identify key vibration parameters such as natural frequency, mode shapes, and amplitude.
- Apply vibration theory to understand how structural behavior changes due to damage or deterioration.
- Develop finite element models for simulating structural vibration responses.
- Interpret dynamic analysis results to evaluate structural performance.

WHO SHOULD ATTEND?

Anyone involved in ensuring structural integrity, maintenance, inspection, and risk management of assets across industries.

- **Civil/Mechanical/Vibration/Rotating/Corrosion Engineers**
- **Structural Integrity Management Professionals**
- **Maintenance and QA/QC/Inspection personnel**
- **Asset Owners & Operators (Oil & Gas, Energy & Power, Utilities, Water, Rail, Marine, Ports, Bridges, Airports and Buildings)**
- **Structural Integrity Product Manufacturers and Contractors**
- **Failure Investigation Practitioners**
- **Standards and QA/QC Regulatory & Compliance Officials**
- **Health, Safety & Environmental (HSE) Personnel**

**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

Session 1	Session 2	Session 3
Introduction to vibration based damage detection and structural health monitoring	Vibration theory and parameters	Dynamic finite element analysis

ABOUT THE TRAINER

Session 01

DR KHAIRUL HAZMAN PADIL

- Forensic Engineering Centre (FEC)
- Director of VRG Dinamik Sdn Bhd

Dr. Khairul Hazman Padil is a Senior Lecturer at the Department of Structure & Materials, Faculty of Civil Engineering, Universiti Teknologi Malaysia (UTM). He is actively involved in the Forensic Engineering Centre (FEC), where he contributes to research and consultancy projects related to structural health monitoring, damage detection, and dynamic analysis of civil structures. In addition to his academic role, he is the Director of VRG Dinamik Sdn Bhd, a company that provides specialized services in structural vibration assessment and monitoring.

With a strong foundation in both research and practice, Dr. Khairul Hazman has led numerous projects involving vibration-based structural integrity assessment, dynamic finite element modelling, and the application of artificial intelligence in structural diagnostics. His extensive academic background, coupled with hands-on industry experience, positions him as a leading expert in integrating theoretical knowledge with real-world engineering applications.

ABOUT THE TRAINER

Session 02

DR YON KONG CHEN

- Active contributor to the Institute of Noise and Vibration, UTM Kuala Lumpur (IKG)
- Director of VRG Dinamik Sdn Bhd

Dr. Yon Kong Chen is the Director of VRG Dinamik Sdn Bhd and a graduate of Universiti Teknologi Malaysia (UTM), where he completed his PhD in Civil Engineering. He is actively involved with the Institute of Noise and Vibration, UTM Kuala Lumpur (IKG), contributing to the advancement of structural health monitoring (SHM) technologies and vibration based diagnostics in civil infrastructure. Dr. Yon has led the implementation of innovative SHM solutions on major structures such as Jambatan Perdana, Putrajaya, in collaboration with international partners like Nplus S.r.l. His research expertise includes vibration-based damage detection, guided ultrasonic wave monitoring, and deep learning techniques for uncertainty compensation—areas in which he has published and applied extensively. Through his leadership at VRG Dinamik, Dr. Yon combines deep academic knowledge with hands-on industry experience, offering valuable insights into dynamic finite element analysis and real-world structural integrity assessments.

PARTICIPANT FEE

CATEGORY	DEADLINE	AMOUNT (RM) AMVIP MEMBER	AMOUNT (RM) NON MEMBER
EARLY BIRD FEE	9TH APRIL	400.00	450.00
NORMAL FEE	16TH APRIL	440.00	490.00
LATE REGISTRATION	22ND APRIL	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 PENEBAT 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.

ASSOCIATION OF MATERIALS, VIBRATION & INSULATION PRACTITIONERS, MALAYSIA (AMVIP)

(TIN No: F-59596806060) *(ROS No: PPM-002-10-25092019)*

Secretariat Address: 14, Jalan Industri PBP 3, Taman Industri, Pusat Bandar Puchong, 47100 Puchong, Selangor, Malaysia.
Website : www.amvip.org
Email: amvip2019@gmail.com
Tel: +603-8060-2335

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