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**The Institution of Engineers, Malaysia**  
Bangunan Ingenieur, Lots 60/62, Jalan 52/4, Peti Surat 223, 46720  
Petaling Jaya, Selangor Darul Ehsan

### REGISTRATION FORM

Half-Day Course on Macro Synthetic Fibre Reinforced Concrete –  
A Modern, Cost Efficient, Durable and Sustainable Construction Material  
For Underground Structures

**Date : 6<sup>th</sup> October 2018**

| No            | Name(s) | M'ship No. | Grade | Fee (RM)* |
|---------------|---------|------------|-------|-----------|
|               |         |            |       |           |
|               |         |            |       |           |
|               |         |            |       |           |
|               |         | SUB TOTAL  |       |           |
| TOTAL PAYABLE |         |            |       |           |

*\* Fee MUST be fully paid A WEEK BEFORE the commencement of the course. Bookings via fax from outstations MUST be followed with payment at least A WEEK BEFORE the day of the course. Seats could only be confirmed upon payment.*

Enclosed herewith a crossed cheque No: \_\_\_\_\_ for the sum of RM \_\_\_\_\_ issued in favour of "The Institution of Engineers, Malaysia" and crossed 'A/C payee only'. I/We understand that the fee is not refundable if I/We withdraw after my/our application is accepted by the Organising Committee as stated in the **cancellation term**. If I/We fail to attend the seminar, the paid registration fee will not be refunded.

Contact Person: \_\_\_\_\_ Designation: \_\_\_\_\_

Name of Organisation: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ (O) \_\_\_\_\_ (Fax)

\_\_\_\_\_ (H) \_\_\_\_\_ (HP)

Email: \_\_\_\_\_

Signature & Stamp

Date

Photocopies are acceptable

## **Half-Day Course on Macro Synthetic Fibre Reinforced Concrete – A Modern, Cost Efficient, Durable and Sustainable Construction Material For Underground Structures**

Organised By: Tunnelling & Underground Space Technical Division, IEM

**Date: 6<sup>th</sup> October 2018 ( Saturday)**  
**Venue: Auditorium Malakoff, Ground Floor, Wisma IEM, Petaling Jaya**  
**Time: 8.30am – 1.00pm**

**BEM Approved CPD Hours = 4**

**Ref. No: IEM18/HQ/329/C**

### **REGISTRATION FEE (SUBJECT TO 0% GST)**

| <u>Grade</u>         | <u>Normal</u> | <u>Online</u> |
|----------------------|---------------|---------------|
| IEM Student Member   | RM100.00      | RM80.00       |
| IEM Graduate Member  | RM180.00      | RM150.00      |
| IEM Corporate Member | RM300.00      | RM250.00      |
| Non IEM Member       | RM530.00      | RM440.00      |

#### **Terms & Conditions:**

- Closing date: **30<sup>th</sup> September 2018**
- For ONLINE REGISTRATION, only ONLINE PAYMENT is applicable [via RHB and Maybank2u – Personal Saving & Personal Current ; Credit Card - Visa/Master].
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION.
- FULL PAYMENT must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails to attend the course, the fee shall still be settled in full.
- Fee paid is not refundable. Registration fee includes lecture notes and refreshments.
- The Organising Committee reserves the right to cancel, alter, or change the programme due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.

## **Synopsis**

Fibre reinforced concrete is in use commercially in the construction industries since the late 1970s. Starting with steel fibres in applications of minor structural relevance, such as pavements and temporary shotcrete linings, today, fibres are well established in a continuously growing variety of structural applications. Permanent shotcrete linings, precast tunnel segments, pre-stressed girders and railway track slabs for instances, are applications that the beneficial properties of fibres offered to concrete and rendering the brittle concrete into a ductile, robust, durable and sustainable composite construction material. Significant cost savings could be achieved by the use of fibres, mainly by not only total or partial replacement of ordinary reinforcement, but also by improving the serviceability and durability in concrete.

Macro synthetic fibre reinforced concrete has its roots in the late 1990s. Though, it is a relatively new technology but it has reached maturity as an engineered construction material and is today widely used in all forms of concrete construction. Its many advantages over steel reinforcement have established itself a strong position in the marketplace as well as continuous research and development opens up more fields of applications.

This presentation gives a comprehensive overview on the possibilities and the potential of macro synthetic fibre reinforced concrete, covering the fibre technology, properties of the material, testing and QA, design aspects, normative situation, durability and sustainability as well as research. These topics will be illustrated through case histories related to the individual field of application.

## **About The Speakers**



Dr. Ralf Winterberg specialises in fibre reinforcement for concrete and its application development. After two employments as Technical Director and Managing Director respectively in German companies, he started his own Engineering Company in Germany for the development of fibre reinforced concrete solutions and applications in 2004. Since 2005 he has been working also as a consultant to the Fibre Division of Officine Maccaferri S.p.A., headquartered in Italy, supporting their worldwide subsidiaries in the technical market development of their Fibre Division.

In February 2010 he joined Maccaferri Asia Headquarters in Malaysia, as Business Development Manager and Technical Director of the Fibre Division Asia/Oceania. In July 2014 he joined BarChip Inc. (formerly Elasto Plastic Concrete), the market leaders in structural synthetic fibre reinforcement, headquartered in Japan, to take up the role as Group Chief Engineer for their worldwide network.

He is currently the president of the Macro Synthetic Fibre Association (MSFA).

## **Who Could Benefit From The Course**

Engineers and Managers in construction and Tunnelling industry where explosives are used.

## **Course Schedule & Outline**

| 08.30 – 09.00 | Scan in and Registration   |
|---------------|--|
| 09.00 – 09.05 | Welcome and Opening Address  |
| 09.05 – 10.30 | <b>Macro Synthetic Fibre Reinforced Concrete Technologies</b>      |
| 10.30 – 10:45 | Tea Break  |
| 10:45 – 12.30 | <b>Design Aspect of Fibre Reinforced Concrete &amp; Case Study</b> |
| 12.30 – 01.00 | Lunch  |

## **CANCELLATION POLICY**

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund less 30% if cancellation is received in writing more than 7 days before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership status.

## **PERSONAL DATA PROTECTION ACT**

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.