



# The Institution of Engineers, Malaysia

(Southern Branch)

24-B, Jalan Abiad, Taman Tebrau Jaya, 80400 Johor Bahru  
Tel : 07- 331 9705 Fax : 07-3363406

E-mail : [iemsouthern@gmail.com](mailto:iemsouthern@gmail.com) ; Website : [www.iemsb.org.my](http://www.iemsb.org.my)

## Webinar: Talk on Tensegrity Structures: Applications and Computational

**Date** : Saturday, 5 June 2021  
**Time** : 9.30 a.m. – 11.30 a.m. (Registration start at 9.00 a.m)  
**Venue** : ZOOM Application  
**Speaker** : Ir. Dr. Oh Chai Lian, Faculty of Civil Engineering – UiTM

### Synopsis

Tensegrity Structure in a form of struts and cables owns important characteristics such as lightweight, self-stressed, flexible and controllable. The design of tensegrity system is different from the traditional systems with continuous transmission of compression. In tensegrity system, the tensional network (i.e. cable) is assembled in order to support the “floated” (or discontinuous) compression (i.e. struts). Tensegrity structure maintains its shape through self-equilibrium and its ability to stand without any supports under gravitational load is proven. Although the study on tensegrity system only started since 1950’s, the development and extensiveness of the study has fruitfully contributed to new independent branches of studies. Tensegrities has gained enormous interests in architectural, civil engineering, space engineering, sculpture construction, biology and recently in the robotic and automation community.

In the first part of her talk, the speaker will give an overview on the tensegrity structure, in terms of the brief history, principles, design concepts and several important applications. Tensegrity mimicking biological systems namely bio tensegrity is one of the important applications. Principle of bio tensegrity has been well adapted to living organism structure even in micro level like cells. The speaker will share her research work on the shape change analysis of bio tensegrity models mimicking human spine, in the second part. Basic assumptions, computational strategies and the important findings from the research will also be presented.

The objective of the talk is also to give a better understanding for our young engineers and practicing engineers to get some insight on the above topic.

### About the Speaker:

**Dr. Oh Chai Lian** received bachelor’s degree in Civil Engineering and master’s degree in Civil & Structure from Universiti Teknologi Malaysia in 2003 and 2005, respectively. She obtained her Ph. D in Civil Engineering from Universiti Sains Malaysia in 2017. She has been a Civil and Structure engineer for four years and as a Lecturer with Universiti Teknologi MARA since 2008. Currently, she is Senior Lecturer in the Faculty of Civil Engineering, UiTM Shah Alam and lecturing on Mechanics of Solids, Structural Analysis, and Integrated Design Project. She is also actively participated in Research Works, writings and reviewing Technical Papers and Books. Her research interests are Optimization, Tensegrity, Green Concrete and Reinforced Concrete beam. She is Professional Engineer (P. Eng.) registered with Board of Engineers, Malaysia (BEM) and Corporate Member (M.I.E.M.) of The Institution of Engineers, Malaysia (IEM).

### Participant Fees:

	Online
IEM Member	RM 30.00
Non-Member	RM 60.00

**Closing Date: 1<sup>st</sup> June 2021**

The webinar is strictly limited to **90 participants** only. Registration will be on a first-come-first-serve basis. Kindly return the reply slip to the IEM (SB) office before **1<sup>st</sup> June 2021** together with a non-refundable cheque for the participant fees made payable to **The Institution of Engineers, Malaysia (Southern Branch)**. Alternatively, you could bank-in the participant fees into the Institution’s Maybank Current Account (No. 5-013920-15708), and to facsimile both the Bank-in and Reply Slips to the Institution. The Institution requests all members co-operation in ensuring fees are paid in advance to the seminar. Please also be reminded that fees will not be refunded to absent participants who have paid, and to also note that all reservations must be paid despite participant cancellations. Thank you for your continuous support of the Institution.

*Chairman, Sub-Committee on Seminar and Technical Talk, IEM (SB)*

---

**BEM Approved**  
**CPD Hours: 2**  
**Ref No: IEM21/SB/184/T(w)**

**REPLY SLIP**

To: Hon. Secretary, The Institution of Engineers, Malaysia (Southern Branch) **Fax: 07 – 3363406**

**Webinar: Talk on Tensegrity Structures: Applications and computational**

Saturday, 5 June 2021, 9.30 a.m. – 11.30 a.m.

Via ZOOM Application

*Details of Online Login ID will be provided after registration*

I wish to attend the above talk. I enclosed herewith a cheque no..... for the amount of RM..... as payment for the participant fee.

Name: ..... Membership No: ..... I/C No: .....

Tel (O): ..... Tel (H/P): ..... E-mail: .....

**(COMPULSORY)**

Company's Name: .....

Signature: ..... Date: .....

- Note:**
- Kindly email to [iemsouthern@gmail.com](mailto:iemsouthern@gmail.com) the Reply Slip together with the payment slip for confirmation.
  - Attendance by representative will not be issued with the Certificate of Attendance.
  - Participants are to login with FULL NAME as verification of Attendance for the whole duration of the event.

**PERSONAL DATA PROTECTION ACT**

*I have read and understood IEM's Personal Data Protection Notice published on IEM's website at [www.myiem.org.my](http://www.myiem.org.my) and I agree to IEM's use and processing of my personal data*