

TECHNICAL TALK ON
“KNITTING BESPOKE REINFORCEMENT FOR NEW CONCRETE STRUCTURES”
Organised by the Civil and Structural Engineering Technical Division (CSETD)
BEM Approved CPD/PDP: 2 Hours **Ref : IEM18/HQ/487/T**

Date : 13 DECEMBER 2018 (THURSDAY)
Time : 5.30 p.m. – 7.30 p.m.
Venue : Auditorium Tan Sri Prof. Chin Fung Kee,
3rd Floor, Wisma IEM,
Petaling Jaya, Selangor
Speaker : **Dr. John Orr**
MEng (Hons) PhD CEng MStructE FHEA

SYNOPSIS

Abstract:

With the goal of achieving low carbon concrete design, two major challenges exist:

- 1) to reinforce structures with complex geometries and
- 2) to provide durable and resilient infrastructure. Meeting both challenges would allow us to capitalise on the fluidity of concrete to meet long-term emissions reductions targets. This will require an entirely new approach to design and construction of concrete structures.

This presentation will describe results of an EPSRC funded research project which aimed to completely replace internal steel reinforcement with a knitted composite reinforcement cage made from Carbon fibre. By fabricating this reinforcement in exactly the right geometry, we will provide exactly the right strength exactly where it is needed. This is potentially transformative for concrete construction, and will greatly simplify the reinforcing of complex shapes.

ANNOUNCEMENT TO NOTE

FEES

(Effective 1st October 2017)

Members

Registration Fee :	FREE OF CHARGE
Administrative Fee :	
<u>Online</u>	RM15
<u>Walk In</u>	RM20

Non-Members

Registration Fee :	RM50
Administrative Fee :	RM20

- Limited seats are available on a "first come first served" basis (maximum 100 participants).

- **To secure your seat, kindly register online at www.myiem.org.my**

PERSONAL DATA PROTECTION ACT

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Dr. John Orr is an EPSRC Early Career Fellow and University Lecturer in Concrete Structure at the University of Cambridge. His teaching and research are related to sustainable construction, with emphasis placed on concrete and structural optimisation. John graduated with a first class MEng (Hons) Degree in Civil Engineering from the University of Bath in 2009, winning three University Awards.

He subsequently stayed in the Department of Architecture and Civil Engineering to complete a PhD in Fabric Formwork, Flexible Formwork for Concrete Structures, graduating in 2012. Throughout his PhD John worked in industry with Atkins, who sponsored his research through an EPSRC collaborative Award in Science & Engineering. Dr. Orr joined the University of Cambridge in 2017.

Dr. John has a strong research interest in all aspects of flexible formwork, including its potential to significantly reduce concrete consumption through optimised design processes, and its inherent architectural appeal. His work takes a holistic approach to the unique optimization, design and construction requirements of these concrete.

Ir. CHONG CHEE MENG

Chairman

Civil and Structural Engineering Technical Division (CSETD)