# Materials, Systems and Structures in Civil Engineering – MSSCE 2016

In the period 15-29 August a number of doctoral course and conference segments will take place at the Technical University of Denmark under the common umbrella MSSCE 2016. The doctoral course segment described in this folder is part of this major event. MSSCE 2016 includes the following segments:

- Innovation of Teaching in Materials and Structures
- Reliability, Safety and Value of Information
- Service Life of Cement-based Materials and Structures
- Historical Masonry
- Electrochemistry in Civil Engineering
- Moisture in Materials and Structures
- Concrete with Supplementary Cementious Materials
- Frost Action in Concrete
- Fresh Concrete
- Clay and Shale
- Cold Region Engineering
- Building Materials and Indoor Environment
- Building Information Modelling in Civil Engineering

More information about MSSCE 2016 can be found at

www.conferencemanager.dk/MSSCE2016

# **Financial sponsors**

The Knud Højgaard Foundation and the Larsen & Nielsen foundation are financially sponsoring this event. The aim of the foundations includes promotion of research, development and teaching within the construction area.

# **RILEM Week 2016**

RILEM is the international union of laboratories and experts in construction materials, systems, and structures. RILEM has the aim to promote scientific cooperation. The event described in this folder relates to the Annual RILEM Week 2016 (21-24 Aug 2016). The RILEM Week is the highlight of the RILEM calendar each year and includes meetings in many of RILEM's technical and administrative committees. More information about RILEM can be found at <u>www.rilem.net</u>

# **Scientific sponsor**

RILEM is scientific sponsor of the doctoral course segment through the RILEM Educational Activities Committee, EAC. Since its formation in 2006 RILEM EAC has sponsored about 100 high-level courses all over the world. All doctoral students registered in the course are offered a 3-year free RILEM membership.



Materials, Systems and Structures in Civil Engineering – MSSCE 2016

# Doctoral course segment on

# Concrete with Supplementary Cementitious Materials

# Lyngby, Denmark, 15-19 August 2016

# **Organizers**

O.M. Jensen, K. Kovler, N. de Belie

Teachers TBA

**Sponsored by** RILEM EAC Knud Højgaard Foundation, Denmark Larsen & Nielsen Foundation, Denmark





#### Scope of doctoral course segment

Hydraulic and pozzolanic industrial by-products, natural resources and societal waste are increasingly being used as valuable, supplementary cementitious materials (SCMs) in concrete. Materials such as fly ash, blastfurnace slag, silica fume, calcined clay and limestone are important to obtain concrete with improved and targeted properties and not the least to make the construction industry more sustainable and less  $CO_2$ -intensive. The doctoral course segment will bring you up-to-date on this important area.

#### **Course contents**

The course will cover the most important topics in relation to the use of SCMs in concrete technology including:

- Properties of SCM
- Mix proportions
- Fresh concrete
- Hydration reactions
- Hardened concrete
- Durability aspects

The course consists of lectures, written exercises and hands-on laboratory exercises. Notes will be provided before the course.



# Work load, evaluation and certificates

The total work load is approximately 140 hours corresponding to 5 ECTS points, including the period at DTU, preparatory reading given before the course, and preparation of a poster presentation for the course. Certificates will be issued based on active participation in the entire course.

# **Participants**

Participants are expected to have a basic knowledge of concrete technology. Level and form of the course is aimed at doctoral students, but both final year master students and practicing engineers may also benefit from course participation. All lectures will be given in English.

# Venue and time

The general venue of the event is the Technical University of Denmark, Lyngby campus. The doctoral course segment will take place 15-19 August 2016. The course precedes the international RILEM conference segment on Concrete with supplementary cementitious materials, 21-24 August 2016.

At the conference time slots are allocated for PhD-project presentations by participants on the Doctoral Course. Participants at the doctoral course are encouraged to use this opportunity to broaden their contacts within the research community and to advertise their PhD projects.

# **Registration, price and accommodation**

The deadline for conference registration is Friday, 8 July 2016 through the conference website. A course fee of EUR 250 applies for the entire course. The course fee covers participation in the doctoral course part of MSSCE 2016 and includes study material, refreshments, a barbecue and a dinner. Participants will be responsible for travel, meals, and accommodation. Pre-bookings of rooms have been made at hotels in central Copenhagen, however, participants need to make their own accommodation arrangements at these or other hotels.

# **Further information**

Further information can be found at the home page of the general event

#### www.conferencemanager.dk/MSSCE2016

 or you may contact the segment responsible: Ole Mejlhede Jensen
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