

Registration fee one-day conference:  
TC 253 members and (PhD) students: 150 Euro  
Non-members: 200 Euro

The registration fee includes one-day conference participation, coffee/thee, lunch, drinks, diner and digital conference proceedings

Conference registration:  
Register on-line for one-day conference:  
<http://www.citg.tudelft.nl/RILEM-MCI>  
go to: Enrollment  
(and Technical Committee meeting) at:

Accommodation:  
Please book the preferred conference hotel yourself:  
Hampshire Hotel Delft Centre through this link

### Location

Art Centre Delft | Rotterdamseweg 205 | 2629 HD  
Delft | T: 015 285 01 14 | F: 015 285 01 24



TU Delft / Materials & Environment  
Faculty of Civil Engineering and  
Geosciences  
Stevinweg 1  
2628 CN Delft  
The Netherlands  
T +31 (0)15 27 86382  
F +31 (0)15 27 86383  
<http://www.me.citg.tudelft.nl/events>  
[i.batterham@tudelft.nl](mailto:i.batterham@tudelft.nl)

### Scientific committee:

Alexandra Bertron  
(Chair of the TC 253-MCI) LMDC, UPS-INSA Toulouse  
Henk Jonkers  
(Secretary of the TC 253-MCI) Delft University of Technology  
Virginie Wiktor Delft University of Technology  
Moses Kilizwa University of Cape Town, South Africa  
Christine Lors Ecole des Mines de Douai, France  
Matthieu Peyre-Lavigne INSA Toulouse, France  
Célestine Voegel INSA Toulouse, France  
Pernilla Johansson Lund University, Sweden  
Thomas Verdier INSA Toulouse, France  
Philippe Grosseau Ecole Nationale des Mines de Saint-Etienne, France  
Clara Urzi University of Messina, Italy  
Sandra Manso Polytechnical University of Catalonia, Spain  
Kevin Paine Bath University, United Kingdom  
Jianyun Wang Ghent University, Belgium  
Nele de Belie Ghent University, Belgium

RILEM TC 253-MCI  
'Microorganisms-Cementitious  
Materials Interactions'

23 June 2016 in Delft, The Netherlands



TU Delft



# Scope

The RILEM TC 253-MCI warmly invites you to participate in the one day conference: 'Microorganisms-Cementitious Materials Interactions' This event will take place on Thursday 23 June 2016 in Delft, The Netherlands.

This one-day conference will be open to all interested in both positive and negative (detrimental) interactions between microorganisms such as bacteria, fungi and micro algae and cement-based materials used for infrastructures and buildings. The one-day conference will be preceded next day (24 June) with the half-yearly Technical Committee meeting which is open to TC 253 members only.

### Conference context:

Infrastructures and buildings are exposed to microorganisms in different ways: in many cases microorganisms have detrimental effects on structures and construction materials, however, in specific cases interactions can be beneficial. Structures exposed to aqueous media or general outdoors or indoors conditions are often also exposed to microorganisms. Deleterious effects of microorganisms such as bacteria, fungi, and micro-algae on cementitious materials can be linked to the production of aggressive metabolites (acids, CO<sup>2</sup>, sulphur compounds, others), but also to specific physical and chemical effects that microorganisms also in form of biofilms impose on the surface of these materials. Alternatively, specific material properties such as porosity, roughness, mineralogical and chemical composition can influence the receptivity of the material for growth and proliferation of specific microorganisms.

Physical and aesthetic deterioration lead to significant repair costs of structures, and production of hazardous compounds by microorganisms may lead to health problems, specifically in the indoors environment. However, on the other hand, specific microorganisms may also have beneficial effects on cementitious materials when their presence and metabolic activity can lead to protection or even self-repair of constructions. New formulations of cement-based materials, incorporating selected bacteria and suitable chemical precursors, are developed with the aim to form protective organic polymers (EPS=ExoPolymeric Substances) or to fill micro-cracks in concrete with bio-derived inorganic minerals, and thus improve durability properties.

More and more research efforts are devoted to these topics related to cementitious materials-microorganisms interactions within local or trans-regional initiatives. It is now necessary to implement concerted approaches and comparison of research outcomes to move toward a better understanding of the phenomena and furthermore to standardization and/or certification..

The four topics of the conference are in line with the subjects of the four TC 253-MCI working groups:

**Topic 1:** Deterioration of cement based materials by micro-organisms in different contexts (waste water networks, agricultural plants, biogas systems, agrofood environments and others)

**Topic 2:** Proliferation of microorganisms (algae, fungi) on building materials in indoor conditions

**Topic 3:** Algae and fungi colonization on building materials and protection of materials

**Topic 4:** Engineered bacteria-based protective systems for cementitious materials

These topics will be introduced and current state-of-the-art discussed by specialists in these four fields, see detailed program below. Contributions in form of poster pitches and poster presentations on these subjects by conference participants are welcome.



### Dates and Deadlines:

One-day conference	
'Microorganisms-Cementitious Materials Interactions':	23-06-2016
Half-yearly Technical Committee meeting (TC 253 members only):	24-06-2016
Conference registration deadline:	01-12-2015
A4-Abstract submission upload deadline:	01-12-2015
1st draft full paper upload deadline:	01-02-2016
Final version full paper upload deadline:	15-04-2016

### Abstract submission

Submit 500 words abstracts before 1st December 2015 via the conference website.

### Conference fee includes:

On-line conference proceeding book; papers and posters on a USB stick.



### Global preliminary program:

- 08:15 hr. registration (Art Centre Delft)
- 12:20 hr. Lunch
- 16:50 hr. Closure
- 17:00 hr. Drinks/bites & poster discussion
- 19:30 hr. Dinner (Art Centre Delft)

Please check the website for the complete program: [www.citg.tudelft.nl/RILEM-MCI](http://www.citg.tudelft.nl/RILEM-MCI)