



Strategies for Sustainable Concrete Structures

RILEM International Conference Numerical Modeling Strategies for Sustainable Concrete Structures

**December 14-16, 2015
Rio de Janeiro, Brazil**



Chairmen:

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Support, organization:



Cement is the main constituent of the most widely used building material and will continue to be largely used in the years to come. Its production generates CO₂ emissions. It is, thus, of primary importance to optimize the use of this cement in the concrete structures, while checking that these structures have lifespan compatible with the stakes of the sustainable development. To take up this challenge, it is essential to use adapted tools of quantification making it possible to justify, in a rigorous and reliable way, the strategic and technical choices adopted.

The numerical methods (finite elements, finite volumes, finite differences ...) constitute a relevant response to this challenge. They potentially allow, due to a best taken into account of the rheological, physico-chemical, and mechanical concrete properties, and of thermo-hydro-mechanics and environmental boundary conditions on the structures, to optimize these structures (optimization with respect to time, money, safety, energy, CO₂ emissions, and, more generally, life cycle), in a way more reliable than the codes and analytical approaches currently used.

The control of the concretes placing in the formworks, their durability, their cracking, their shrinkages, and their creeps, with respect to the sustainable development (evaluation of CO₂ emissions, for example) constitute, therefore, the principal topics of this international conference.

The objective is to join together researchers, engineers, architects, urbanists, industrials and owners, to exchange and reflect on the use of these numerical tools and their contribution with respect to the current stakes of sustainable development.

Following SSCS'2012 in Aix-en-Provence it was decided to organize the second Conference SSCS'2015 in Rio de Janeiro/Brazil. For this second conference we have decided to organize the presentations as following: each day a series of invited presentations in a plenary section during the morning and the beginning of the afternoon followed by submitted papers in parallel sections. This organization has been chosen to privilege the scientific and technical discussions.

Conference Topics

I. Theoretical and Numerical Models

- I.1. Flowing and Casting
- I.2. Early age behaviours
- I.3. Drying, Shrinkages and Creeps
- I.4. Cracking behaviours (static, fatigue, dynamic)
- I.5. Chemical aging (chemical reactions and transfers)
- I.6. Coupling Problems
- I.7. Durability

II. Structural applications and Sustainability

- II.1. Bridges
- II.2. Buildings
- II.3. Nuclear structures and storages
- II.4. Tunnels
- II.5. Roads and Railways
- II.6. Hydroelectrical power plants
- II.7. Others applications



Registration fees

Conference registration fees include: admission to all scientific programs, proceedings (CD-Rom), opening reception, coffee breaks, lunches, technical visit and conference banquet.

Fees (all taxes included)	Before August 31 st 2015	After August 31 st 2015
Registration fee	US\$ 650	US\$ 750
RILEM or AFGC members	US\$ 600	US\$ 700
IBRACON or ABMEC members	R\$1200	R\$ 1400
Students	US\$400	US\$450
Students members of IBRACON or ABMEC	R\$ 800	R\$ 900

Key dates and deadlines

Abstracts submission	28/February/2015
Abstracts acceptance	30/March/2015
Manuscript submission	30/June/2015
Manuscript acceptance	30/July/2015
Reviewed manuscript	15/August/2015
Conference at Rio de Janeiro	14-16/December/2015

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