Papers are requested on the three themes of the conference. Papers submitted should present original and previously unpublished advances of knowledge and/or technology.

Papers will be presented in English. Abstracts and final papers will be reviewed by the Scientific Committee. Intending authors should send an abstract of 200 words, outlining the contents of the proposed paper and clearly indicating the reference to the topics. Abstracts should be submitted online using the web based abstract submission system.

To submit an abstract please visit the official homepage at

http://www.matsci2010.rwth-aachen.de

or

http://www.rilem.org

Information on the acceptance of abstracts and for the preparation of papers will be given by November 30, 2009.

Authors of accepted papers are expected to attend and present their papers at the conference. All papers accepted by the Scientific Committee will be published in the Conference Report and will also be available on the Symposium CD-ROM.

Submission of abstracts: October 15, 2009
Acceptance of abstracts: November 30, 2009
Submission of papers: January 31, 2010
Approval of papers: March 31, 2010
Final submission of papers: April 30, 2010

Discover Aachen's diversity – and enjoy the city of water and horses, well known through Charlemagne and famous for its “Printen” (spicy ginger bread). The old imperial city presents itself as a cosmopolitan location with historical flair.

At the RWTH Aachen University and the other colleges roughly 40,000 students are registered. Young life especially pulsates in the “Pontviertel”, the favoured nightlife area with its numerous cafes, pubs and restaurants, but also in the alleys and in the squares of the old town something is always going on. Around the cathedral and town hall numerous retailers and branches of well-known retail shops invite you for a stroll. In between you will always find a nice place to relax.

Aachen's historic old town is perfect for the city’s visitors to promenade. You will be led through narrow lanes and historic squares and be inspired by Aachen's nearly 2000 years of history. Get to know the various facets of Aachen.

Embedded in the RILEM Annual Week is the Technical Day: On Thursday, September 9, 2010, the works of the technical committees are presented to all interested professionals working in the field of building materials and testing engineering.

Moreover, the Institute of Building Materials Research of RWTH Aachen University, Germany, organises a three-day conference comprising three different topics. The latest findings regarding textile reinforced concrete, the modelling of heterogeneous materials and the application of additions such as fly ash, blast furnace slag or superabsorbent polymers and dispersions to improve the concrete properties are presented.

The three topics are treated simultaneously in a large lecture building so that it will be easy for the conference participants to switch between topics and choose from the numerous contributions.

There will be sufficient time during the breaks or at the evening event on Tuesday to establish new contacts and to maintain the old ones.

Wolfgang Brameshuber (Germany, Chair)
Carmen Andrade (Spain)
Arnon Bentur (Israel)
Rostislav Chudoba (Germany)
Ravindra Gettu (India)
Josef Hegger (Germany)
Detlef Heinz (Germany)
Ole Jensen (Denmark)
Konstantin Kovler (Israel)
Eddie A.B. Koenders (Netherlands)
Peter Claissie (UK)
Viktor Mechtcherine (Germany)
Stefanie Reese (Germany)
Hans W. Reinhardt (Germany)
Karen Scivener (Switzerland)
Thanasis Triantafillou (Greece)
Klaas van Breugel (Netherlands)
Jan Wastiels (Belgium)
Jason Weiss (USA)
Peter Wriggers (Germany)
Romildo Dias Toledo Filho (Brazil)
vivid exchange of information. Reinforced Concrete, this combination had just led to a
Already at the First International Conference on Textile
engineering sciences but also of architecture will be
shall illustrate the potentials of this building material.
Apart from the basics, mainly examples of applications
modelling – shall be presented and discussed.
The modelling of the mechanical or physical behaviour of
heterogeneous materials is an important field of research
in building material science as well as in mechanics.
Heterogeneous, anisotropic or isotropic composite materials as for instance fibre-reinforced plastic materials, textile reinforced concrete, concrete and fibre concrete as well as masonry are modelled with micro-mechanical or macro models in most different ways.
Also the moisture transport in heterogeneous, porous materials offers a multitude of modelling possibilities.
The often existing multi-scaling of heterogeneous materials such as concrete requires the modelling on different scales and the transition from one level to another by suitable homogenisation methods.
Alternatively, there is the application of smeared concepts which suppress the multi-scaling.
All these models are created from clearly different angles by scientists of building materials as well as of mechanics.
It is the aim of this event to initiate a scientific discussion between engineering and natural sciences to develop a common strategy for the modelling of heterogeneous materials. Both disciplines can establish a mutual understanding on this joint conference and thus reach a successful realisation of their own modelling strategies.
Therefore, scientists are addressed who develop mechanical, fracture-mechanical or physical models in the field of building materials or mechanics in order to describe the strength, the fracture behaviour or the moisture transport behaviour of heterogeneous building materials such as concrete but also of fibre-reinforced materials and masonry.

The application of inert and reactive concrete additions is particularly sustainable – only because of waste recycling but it saves resources and energy at simultaneoulsy improved technical properties of concrete in the case of mineral materials and has positive effects on durability in case of superabsorbent polymers as well as dispersions.
Pozzolans such as fly ash, silica fume or metacalcin, latent hydraulic materials – here especially the ground granulated blast furnace slag powder and certainly also the stone powders which are mainly chemically not reactive – offer substantial potentials to improve for instance the density but also the workability of concrete.

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Different application concepts are already stated in the standards. The concept of exchange, the equivalent performance concept or the k-value concept have already been applied in different countries.
Also the combination of different additions to optimise the particle packing and thus to improve the workability and strength enables a tailor-made adjustment of the concrete properties.
Within the framework of this theme, the latest developments regarding normal concrete, self-compacting concrete or high-strength concrete in combination with the application of concrete additions are presented.
A section on organic additions will be included in this theme. The focus is on the scientific state of knowledge as well as on the application.
Therefore, all building material engineers who are engaged in the application of concrete additions are addressed.

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