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# IALCCE 2012

## Third International Symposium on Life-Cycle Civil Engineering

3 - 6 October 2012
Hofburg Palace, Vienna, Austria

## IALCCE

The Symposium is organized on behalf of International Association for Life-Cycle Civil Engineering (IALCCE) under the auspices of the University of Natural Resources and Life Sciences. IALCCE (www.ialcce.org) is a young Association founded in October 2006. Its activities encompass all aspects of life-cycle assessment, design, maintenance, rehabilitation, and monitoring of civil engineering systems.
The International Symposium on Life-Cycle Civil Engineering is a biennial event. In 2012, Austria will host the Symposium for the first time. The IALCCE 2012 Symposium provides an opportunity for academics, engineers, architects, and builders from Austria, Europe, and around the world to keep themselves up to date with latest developments in the field of life-cycle civil engineering.

## Mini - Symposium MS 1-2:

### Performance Based Evaluation of Corrosion in Reinforced and Pre-Stressed Concrete Structures

**Ulrich Schneck, CITec Concrete Improvement Technologies GmbH, Dresden, Germany**

The aim of the symposium shall be to present current methods, approaches and opportunities for a performance based assessment of corrosion processes in reinforced and pre-stressed concrete structures. The advantages of a performance based evaluation - compared to the most commonly used prescriptive rules - are for example:

- in case of regular monitoring: early information about developing corrosion issues, about local failures in concrete quality, about deviating environment exposure and/ or chloride ingress behaviour compared to the planned material specifications, and consequently a reduced repair effort

- in case of one-time monitoring prior to concrete repair and maintenance actions: the corrosion related surface parts can be identified safely and be separated from corrosion free areas (which is usually different from the visual appearance) – this results in enhanced repair options, precise information for required quantities in tenders, and higher durability of the repair

- in case of early detected problem areas without immediate need of repair: monitoring sensors can be placed appropriately for long-term surveillance

Generally, with a deeper understanding of the corrosion processes in an individual structure, the maintenance and repair effort can be reduced and focussed on areas in need. The lifetime can be expanded, and responsible advice can be given about when, how and where to act or even to do nothing and tolerate an overall increased chloride content, because no typical macro elements and pitting corrosion can result from this situation.