

## Universidad Autónoma de Nuevo León (UANL)

UANL is the third largest public university in Mexico and the most important institution of higher learning in Northeastern Mexico, which offers the highest number of academic programs. In a 2011 survey, it was ranked as the fourth leading university in Mexico.

## Monterrey, Mexico

Monterrey is the capital city of the northeastern state of Nuevo León, Mexico. The city is anchor to the third-largest metropolitan area in Mexico, and serves as a commercial center and as base of many significant international corporations. It is one of Mexico's most developed cities, with the highest per capita income in the nation. Rich in history and culture, it is often regarded as the most "Americanized" city in this country.



## UANL-RILEM Doctoral Course

The School of Civil Engineering (Facultad de Ingeniería Civil - FIC) at UANL is hosting this doctoral course on "Concrete Durability".

The main objective is to train professionals with the latest advances in the recent technological breakthroughs in the study of various aspects of the modern concrete technology. The series of doctoral courses are organized by visiting researchers and the permanent academic staff at UANL. The planning of the courses is done in cooperation between the Department of Civil Engineering of the Technical University of Denmark (DTU), and RILEM.

## Financial support

The organizing committee will devote efforts to obtain the required budgets from industry and State/Federal agencies to subsidize the registration fees for attendants. Organizations that decide to participate as sponsors will be announced in future version of this brochure, as well as in the following link <http://www.rilem.net>

## Scientific support by RILEM

RILEM is an international union of experts in construction materials, systems, and structures with the aim to promote scientific cooperation. RILEM is scientific sponsor of the doctoral course "Durability of Concrete" hosted by UANL. All doctoral students registered in the full doctoral course are offered a three-year free RILEM membership. More information about RILEM can be found at: [www.rilem.net](http://www.rilem.net).



Universidad Autónoma de Nuevo León (UANL)  
Facultad de Ingeniería Civil (FIC)

## UANL-RILEM Doctoral Course

## Durability of concrete

Monterrey, 23-28 August 2014

## Lecturers

R. Doug Hooton,  
O. Mejlhede Jensen,  
K. Kovler,  
T. Luping,  
K. Scrivener,  
W. Jason Weiss  
Alejandro Durán-Herrera

## Organized by

Ole Mejlhede Jensen, Konstantin Kovler,  
Alejandro Durán-Herrera

## Sponsored by

FIC-UANL  
ACI Central and Southern Mexico Chapter  
ACI Northeast Mexico Chapter  
RILEM



## Scope of course

The concern about concrete durability is far from new. Concrete from ancient Rome is known to contain ox blood, apparently to pass on the strength and endurance of the ox to the final structure.

Modern concrete technology has identified a number of damage mechanisms that can take place depending on concrete environment and concrete quality – damage mechanisms which every year necessitate massive investments in rehabilitation and repair. However, constantly ongoing research refines our theoretical knowledge about why deterioration takes place, models for prediction of deterioration are improved, and new measures to prevent deterioration processes appear and extend the service life of concrete structures. This course brings you up-to-date on this important area.

## Course contents

The course will cover several important challenges of concrete durability:

- Chloride ingress
- Carbonation
- Corrosion
- Alkali-silica reaction (ASR)
- Sulphate attack

The course consists of lectures, written exercises and hands-on laboratory exercises. Social activities during the course are planned to promote a stimulating study atmosphere.

## Work load

Approximately 140 hours corresponding to 5 ECTS points, including the period at UANL, preparatory reading given before the course, and completion of a poster to be presented at the course.

## Study materials

Notes will be provided before the course.

## Evaluation and diplomas

Diplomas will be issued based on active participation in the entire course.

## Participants

The 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.

## Costs

A course fee of USD 250 will apply for the entire course, and the fee of single-day participation will be USD 100 per day. The students will be responsible for travel, meals, and accommodation.

## Accommodation

A list of hostels and hotels in the vicinity of UANL will be provided.



## Further information and registration

Applicants should register by 1 June 2014. Single-day participation is possible. For further information you may contact the Course Secretary

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