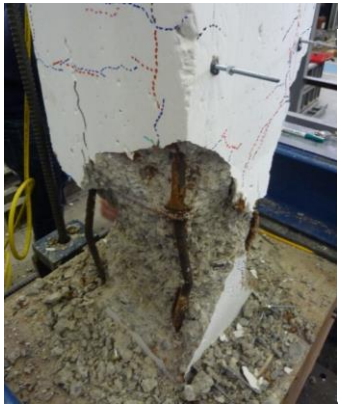
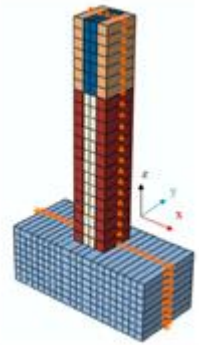
CALL FOR ABSTRACT

The CACRCS DAY welcome all the contributions related to the behaviour of reinforced concrete structures damaged by corrosion both with numerical and experimental approaches.

Authors willing to present a work at the CACRCS DAY are kindly invited to submit a 300 words abstract in accordance with the themes and topics before March 10, 2019. Authors are welcome to give an oral presentation at the event.

Papers, presented in the CACRCS DAY, will be then submitted to Structural Concrete and accepted papers, after review, will be published together in a special issue of Structural Concrete Journal. Papers have to follow the format of Structural Concrete and can be finalised for the submission after the event within 31 May 2019.





REGISTRATION

No registration fee is required.
For organizational reasons, please register by **March 10th, 2019** by sending an e-mail to **beatrice.belletti@unipr.it**

CONTACTS

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ORGANIZING COMMITTEE

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Matteo Colombo – Polytechnic of Milan
Marco di Prisco – Polytechnic of Milan
Mehdi Kashani – University of Southampton
Gian Piero Lignola – Universuty of Naple Federico II
Antonino Recupero – University of Messina
Zila Rinaldi – University of Rome Tor Vergata
Francesco Tondolo – Polytechnic of Turin
Francesca Vecchi – University of Parma

UNIVERSITÀ DI PARMA

INTERNATIONAL CACRCS DAY

Capacity Assessment of Corroded Reinforced Concrete Structures

9:00 – 18:30
25 March 2019
Parma, Italy
Italian Capital of Culture 2020

In collaboration with

Collegio dei Tecnici della Industrializzazione Edilizia

with the support of

Fédération Internationale
du Béton

Venue:
S. Elisabetta Conference Center
Campus- Via delle Scienze, 181, 43124 Parma
University of Parma
Italy

WELCOME TO CACRCS

Structural assessment of existing structures and infrastructures is becoming crucial in many industrialized countries.

Since the great part of existing structures and infrastructures has already reached the service life of 50 years, today is of fundamental importance to assess the actual conditions of the structural element in order to evaluate the remaining service life.

One of the major cause of degradation in reinforced concrete structures is corrosion of steel rebar. Corrosion damage is not always visible to technicians, but nevertheless can lead to structural failure, loss of life, loss of capital investment, and environmental damage. Moreover, corrosion is the main cause of degradation in RC structures in non-exceptional conditions and can have also significant effects on the seismic behavior, leading to dangerous strain localizations and variations of strength distribution and rotation capacity.

A lot of attention has been paid, up to now, to the definition of proper techniques able to prevent or to detect corrosion damage, but very few data are available on the actual capability of numerical and design approach to predict the structural behavior of elements affected by corrosion problems.

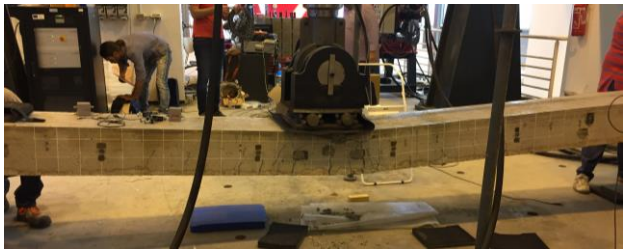
This issue is fundamental in order to assess the residual bearing capacity of a damaged structure and to properly select the best strategy of action for the possible renewal of the structures under investigation.

The failure mechanisms of corroded structures, indeed, can be very different from the ones of new or sound construction (buckling of corroded rebar is a typical example) and they are of paramount importance in the evaluation of the structural safety.

For this reason, the theme of the meeting is "Capacity Assessment of Corroded Reinforced Concrete Structures".

In order to assess the prediction capability of numerical and design tools, there is a strong need of reliable experimental benchmark. Because of this, some presentations of this workshop will be also dedicated to interesting experimental investigation not only on material but also on real scale structural elements affected by corrosion.

The CACRCS DAY is dedicated to bringing together all the professionals in the concrete industry and academics from all over the world. It will constitute an excellent forum for engineers, scientists, concrete technologists, researchers, academics and practitioners to exchange knowledge about advances in the field of reinforced concrete structures.



PRELIMINARY PROGRAM

09:00 *Registration*

Institutional greetings
Roberto Fornari, Vice Rector delegated to Research, University of Parma, Italy
Opening ceremony
Beatrice Belletti, University of Parma, Italy

Structural Performance and Seismic Fragility of Corroded RC Structures: Numerical Modelling and Experimental Investigation
Mehdi Kashani, University of Southampton, UK

Effect of corrosion on cyclic response of concrete columns
Camillo Nuti, University of Roma 3, Italy

Experimental analysis of RC elements subjected to rebar Corrosion and buckling
Zila Rinaldi, University of Tor Vergata, Italy

Modelling non-linear behaviour of RC structures including the effect of inelastic buckling and corrosion damage by means PARC_CL 2.1 Crack Model
Francesca Vecchi, University of Parma, Italy

A seismic behaviour comparison of corroded structures considering different construction periods
Gian Piero Lignola, University of Naple Federico II, Italy

Modeling of concrete for nonlinear analysis using Advanced FEA Tool
Mauro Parodi, Exemplar, Italy
Initial steps of corrosion and oxide characteristics
Carmen Andrade, International Center of Numerical Methods in Engineering, Spain

First Results of Flexural Tests on Corroded Prestressed Concrete Beams
Antonino Recupero, University of Messina, Italy

Resistance of corroded RC beams with bond deterioration
Dario Coronelli, Polytechnic of Milan, Italy

Challenges and uncertainties in application of non-linear analysis for capacity assessment of pretention concrete structures
Magda Paciorek, Oslo Metropolitan University, Norway

Annone overpass: assessment of reinforcement damage effects on collapse
Matteo Colombo, Polytechnic of Milan, Italy

Bond between steel and concrete in presence of corrosion
Francesco Tondolo, Polytechnic of Turin, Italy

Life-Cycle Reliability of Concrete Structures under Corrosion
Fabio Biondini, Polytechnic of Milan, Italy

Recent experimental investigations on the mechanics of corroded RC members under seismic loading.
Alessandro Palermo, University of Canterbury, New Zealand

Mechanical behavior of RC members subjected to corrosion: an overview of research projects conducted by IRSN
Jacques Jabbour, Institut de Radioprotection et de Sûreté Nucléaire, France

Coffee break and lunch will be kindly offered by

exemplar
Solutions for Complexity