



DURAR

V International Seminar on Performance and Durability of Concrete Structures

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RILEM Meeting - Durability Indicators and Service Life Predictive Models

The seminar will address general issues related to the durability and to the mechanisms of deterioration and aging of concrete structures, focusing on the performance of concrete structural systems. Particular attention will be given to the indicators and criteria of durability, as well as to the service life predictive models, as a way of contributing to concrete formulation and structural design within a performance-based approach.

June 27 and 28, 2023

Goiânia-GO, Brazil

Programme - Overview Schedule

27/06/2023

Registration and reception of participants: 12:30 h to 14:00 h

Opening ceremony of the event: 14:00 h to 14:30 h

Section 1: Design and Specification for Durability – Nanoscale Processes, Indicators, and Durability Criteria

- 14:30 h to 15:20 h – Performance-based indicators and criteria of durability in concrete subject to carbonation and chlorides: a contribution to the specification of durable concretes – Prof. Dr. Mark Alexander (University of Cape Town);
- 15:20 h to 15:50 h – New Model Code/FIB and Eurocode novelties in the field of durability of concrete structures – Profa. Dra. Carmen Andrade (CIMNE, Universitat Politècnica de Catalunya – UPC);
- 15:50 h to 16:20 h – **Discussion: critical analysis and perspectives**
- **Coffee-break** – 30 min
- 16:50 h to 17:40 h – Deciphering nanoscale processes to understand and design for durability – Prof. Dr. Túlio Honório de Faria (LMPS/ENS, Paris Saclay);
- 17:40 h to 18:00 h – **Discussion and section closing**
- 18:00 h to 19:00 h – **Cocktail**

28/06/2023

Section 2: General Topics on the Durability of Concrete

- 08:30 h to 10:00 h – Recent research results from GEDUR/UFG (Part 1) – Six presentations on the following topics: porosity of cementitious systems; pore solution parameters; effect of sorption, desorption and equilibrium moisture content of the porous medium on concrete carbonation; parameters of chloride transport in concrete and predictive models; thermodynamic and kinetic parameters of reinforcement corrosion in different concretes, etc.;
- **Coffee-break** – 20 min
- 10:20 h to 10:50 h – Recent research results from GEDUR/UFG (Part 2) – Two presentations on the following topics: inspection techniques (GPR radar and ultrasound tomography) and use of infrared thermography to capture reinforcement corrosion processes;
- 10:50 h to 11:10 h – **Discussion: critical analysis and perspectives**
- 11:10 h to 12:00 h – Durability of concrete in biogas production structures: deterioration phenomena, performance of binders, standardisation – Recent progress and pending questions – Profa. Dra. Alexandra Bertron (LMDC, INSA Toulouse);
- 12:00 h to 12:15 h – **Discussion and section closing**

Section 3: Service Life Predictive Models – Performance Approach

- 14:30 h to 15:20 h – Presentation of the National Project PERFDUB – Bases for the durability of concrete and concrete structures with a performance-based approach – Prof. Dr. Gilles Escadeillas (UPS / INSA Toulouse);
- 15:20 h to 16:00 h – Fundamentals of carbonation and behavioral models after 20 years of natural exposure of concretes with mineral additions – Prof. Dr. Oswaldo Cascudo (EECA/PPGGECON, Universidade Federal de Goiás - UFG);
- 16:00 h to 16:30 h – **Discussion: critical analysis and perspectives**
- **Coffee-break** – 30 min
- 17:00 h to 17:30 h – Service life predictive models for concrete structures based on chloride attack – Profa. Dra. Carmen Andrade (CIMNE, Universitat Politècnica de Catalunya – UPC);
- 17:30 h to 17:50 h – **Discussion and section closing**
- 17:50 h to 18:00 h – **Seminar closing**

Investment:

CATEGORY	Registration until 05/05/2023 (R\$)	Registration after 05/05/2023 (R\$)
Undergraduate student	160,00	210,00
Postgraduate student	270,00	340,00
Professional	530,00	670,00

PS: event with limited registrations (limited seats)

TO REGISTER

www.durar2023.com

International Scientific Committee:

- Alexandra Bertron*** – Institut National des Sciences Appliquées – INSA Toulouse, France
Alexandre de Castro – Eletronbras Furnas, Brazil
Ana Velosa* – Universidade de Aveiro – UA, Portugal
Andrielli Moraes de Oliveira* – Universidade Federal de Goiás – UFG, Brazil
Carmen Andrade* – International Centre for Numerical Methods in Engineering – CIMNE/ Universitat Politècnica de Catalunya – UPC, Spain
Gilles Escadeillas* – Université Paul Sabatier – UPS/INSA Toulouse, France
Helena Carasek* – Universidade Federal de Goiás – UFG, Brazil
Marina Augusta Malagoli de Almeida – Instituto Federal de Educação – IFG-Jataí, Brazil
Mark Alexander* – University of Cape Town, South Africa
Oswaldo Cascudo* – Universidade Federal de Goiás – UFG, Brazil
Pedro Castro* – Centro de Investigación y de Estudios Avanzados, IPN/Mérida, Mexico
Paulo Helene* – Instituto Brasileiro do Concreto – IBRACON, Brazil
Túlio Honório de Faria* – LMPS/ENS Paris Saclay/Université Paris Saclay, France
Vanderley M. John* – Escola Politécnica da Universidade de São Paulo – EP.USP, Brazil

* RILEM members (in bold).

Organizers:

Post-Graduation Program in Geotechnics, Structures and Civil Construction - PPGGECON

School of Civil and Environmental Engineering - EECA

Universidade Federal de Goiás (Federal University of Goiás) – UFG, Brazil

Division of Technology in Civil and Hydraulic Engineering - DTEC.E

Eletronbras FURNAS, Brazil

Organizing Committee (Local Committee):

Oswaldo Cascudo – Universidade Federal de Goiás – UFG (Seminar Chair)

Renato Batista de Oliveira – Eletronbras Furnas (Coordinator by Furnas)

Helena Carasek – Universidade Federal de Goiás (Coordinator at UFG)

Alexandre de Castro – Eletronbras Furnas

Andrielli Moraes de Oliveira – Universidade Federal de Goiás - UFG

Renato Marques Cabral – Eletronbras Furnas

Daniela Castro Silva – Comunidade da Construção/Goiânia

Co-sponsorship/Promotion:

RILEM - International Union of Laboratories and Experts in Construction Materials, Systems and Structures

RILEM Technical Committees linked to the Theme of the Meeting:

- 281-CCC: Carbonation of concrete with supplementary cementitious materials.
- 286-GDP: Test methods for gas diffusion in porous media.
- 289-DCM: Long-term durability of structural concretes in marine exposure conditions.
- 296-ECS: Assessment of electrochemical methods to study corrosion of steel in concrete.
- 298-EBD: Test methods to evaluate durability of blended cement pastes against deleterious ions.
- MMS: Modelling and experimental validation of moisture state in bulk cementitious materials and at the steel-concrete interface.
- OCM: On-site corrosion condition assessment, monitoring and prediction.

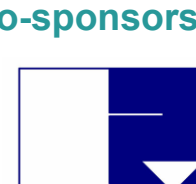
Realization:



Sponsorship:



Co-sponsorship:



Support:

