

# MEDACHS 2010 PROGRAM

## DAY 1 : APRIL, 28, 2010

### "Casoar Tadorne" Lecture Hall

### "Héron" Lecture Room

### "Les Baleines" Lecture Room

08:30 Registration

09:45 Welcome Gérard Blanchard (La Rochelle University President)

09:50 Welcome Francis Allard (Civil Engineering Laboratory Director)

10:00 Opening Denys Breysse (Chair SC, AUGC President) and Karim Aït-Mokhtar (Chair OC)

#### 10:20 Plenary Session 1 : Lars-Olof Nilsson (U. Lund) "On uncertainties and inaccuracies in empirical chloride ingress modelling"

##### DUR-1 Millet

##### PPR-1 - Amiri

##### NDT-1 Hugenschmidt / Gaillet

11:00 **16 - Correia M.J.** "Corrosion resistance evaluation of welded stainless steel in concrete"

**9 - Belenguer Blasco J.M.** "Prevention strategies for pathologic shrinkage cracking"

**33 - Lanata F.** "A signal processing approach for long-term monitoring of quay structures - the case of Genoa harbour"

11:20 **36 - Melchers R.** "Experimental investigation of accelerated low water corrosion of steel piling in harbours"

**21 - El Shami A.** "Improving the durability of reinforced concrete structures by using corrosion inhibitors"

**12 - Boero J.** "Effect of the shape of ROC curves on Risk Based Inspection: application of  $\alpha$ - $\gamma$  mesure for steel harbor structures"

11:40 **22 - Ezzdine R.** "Limestone degradation with Salt - application to Blaye stone"

**47 - Perrin M.** "Repair Materials Durability Of Structures In Marine Environment"

**62 - Villain G.** "Adapted mix design and characterization for non destructive assessment of concrete"

12:00 **56 - Shahidzadeh-Bonn N.** "Salt weathering of stones: effect of the kinetics of crystallization"

**52 - Roziere E.** "How to design performance-based specifications in the framework of the European Standards ?"

**69 - Hold S.** "The Use of LiDAR to Assist Diagnosis of Marine Pier Problems and to Facilitate Repair and Protection Measures"

#### 12:20 LUNCH

#### 14:00 Plenary Session 2 : Robert E. Melchers (U. Newcastle) "Aspects of long-term durability of reinforced concrete structures in marine environments"

##### DUR-2 - Ait-Mokhtar

##### PPR-2 - Basheer

##### NDT-2 - Andrade / Breysse

14:40 **19 - El Hachem R.** "External sulphate attack on mortars: influence of curing conditions and saturation rate"

**57 - Sisomphon K.** "Sodium Monofluorophosphate Treatment on Carbonated Slag Mortars"

**3 - Balayssac J.P.** "Evaluation of chloride contamination in concrete by combining non destructive testing methods"

15:00 **30 - Khelifa M.R.** "Testing of sulfate attack protocols on self-compacting concretes"

**76 - Donadio M.** "Effeciency and durability of Hydrophobic Impregnations: a review of recent research results"

**67 - Staquet S.** "Ultrasonic monitoring of setting and autogenous shrinkage development of high performance concrete in isothermal conditions"

15:20 **46 - Pepenar I.** "Long-term durability of reinforced and prestressed concrete elements in marine environment"

**68 - Haroske G.** "Wear resistant concrete in hydraulic structures"

**75 - Keddarn M.** "Impedance based method for on-site determination of corrosion rate in reinforced concrete structures"

15:40 **70 - Messad** "Performance approach using accelerated test method for external sulfate attack"

**61 - Tran Thu H.** "Influence of the characteristics of a mineral coating on its ability to resist to the biofouling"

**58 - Srinivasan S.** "A Review Of Fibre Optic Sensor Techniques For Monitoring Corrosion Activity In Concrete"

#### 16:00 Coffee Break

##### DUR-3 - Nilsson

##### PPR-3 - Yotte

16:30 **66 - Darquennes A.** "Early age autogeneous behaviour of slag cement concrete under free and isothermal conditions"

**26 - Henriques D.F.** "Combined Performance Of Boron And Consolidation Products In Timber Degraded By Fungi"

16h:50 **35 - Leklou N.** "Effect of wetting-drying cycles of mortars samples affected by DEF"

**40 - Merouane A.** "Manufacture of sulphate resistance cement at low temperature by using Algerian phosphogypsum as mineralizer"

17:10 **42 - Moreno E.** "Effect of the curing time in the durability of the concrete cover"

**77 - Pel L.** "Principles and efficiency of salt extraction by poulticing: an NMR study"

17:30 **53 - Santhanam M.** "Effect of Solution Concentration on the Attack of Concrete by Combined Sulphate and Chloride Solutions"

**32 - Lameche S.** "Electrochemical behavior of Al, Al-Zn and Al-Zn-Sn materials in sodium chloride solutions"

## DAY 2 : APRIL, 29, 2010

### "Casoar Tadorne" Lecture Hall

### "Héron" Lecture Room

### "Les Baleines" Lecture Room

09:00 Plenary Session 3 : J.P. Korb (Ecole Polytechnique) "Continuous multi-scale NMR investigation of microstructure evolution of cementitious materials"		
TPM-1 - Marchand / Loukili	PMR-1 - Balayssac	CASE-1 - Moczko
09:40 <b>78 - Pel L.</b> "The formation of meta-stable sodium sulphate heptahydrate in porous materials as studied by NMR"	<b>15 - Breyse D.</b> "Modelling of random temperature and humidity variations in atlantic environment"	<b>41 - Miyazato S.</b> "Report On Research Project By Jsce-331"
10:00 <b>10 - Ben Fraj A.</b> "Investigating the diffusion of chloride ions in cementitious systems at early ages using EDS analysis"	<b>65 - Chaplain M.</b> "Modelling time to failure of notched beams under random humidity variations of Atlantic environment"	<b>18 - Del Grosso A.</b> "Requalification of the offshore port of Manfredonia - A case history for structural assessment and retrofit"
10:20 <b>13 - Bourbatache K.</b> "Application of the periodic homogenization technic to ionic transfer in cimentitious materials"	<b>4 - Bastidas E.</b> "Modeling and sensitivity analysis of maintenance of chloride-contaminated RC structures by cover rebuilding"	<b>17 - Antunes A. de C.</b> "Preliminar diagnosis of the 'Cais das Colunas', Lisbon, Portugal : State of conservation of the historical limestone quay"
10:40 <b>23 - Friedmann H.</b> "Macroscopic modelling of chloride ingress through cement based materials: study of electrical double layer effect"	<b>5 - Bastidas E.</b> "Probabilistic modeling of concrete cover thickness: characterization from image analysis and study of its influence on the probability of corrosion initiation"	<b>49 - Plagge R.</b> "Detection of moisture and salt in historical stonework at a marine costal site"
11:00 Coffee Break		
TPM-2 - Khelidj	PMR & DBAM - Melchers	NDT-3 - Villain
11:30 <b>44 - Nicot F.</b> "Micromechanical modeling of geomaterials: multi physical couplings and degradation"	<b>72 - Boéro J.</b> "Stochastic modelling of corrosion fields used for the reliability calculation of metallic port structures"	<b>14 - Breyse D.</b> "Non destructive assessment of concrete strength: the challenge of calibration"
11:50 <b>48 - Plagge R.</b> "Hygrothermal material property functions for numerical simulation tools"	<b>6 - Bastidas E.</b> "Sustainability of maintenance strategies for RC structures subjected to chloride ingress: experimental data and probabilistic analysis within the MAREO Project"	<b>34 - Lataste J.F.</b> "Assessment of debonding and delamination in reinforced concrete structure by means of NDT"
12:10 <b>74 - Deif A.</b> "Evaluation of concrete chloride diffusion coefficients from AgNO3 spray and titration measurements"	<b>7 - Bastidas E.</b> "Stochastic approach for the optimization of inspection intervals of RC structures subjected to chloride penetration"	<b>73 - Ghosh B.</b> "Detection of pitting corrosion in steel using image processing"
12:30 LUNCH		
14:00 Plenary Session 4 : M. Salta (LNEC) "Damage, maintenance and repair of steel structures"		
DURATINET Technical Session - Yotte / Amiri	TPM-3 - Rivard	RILEM Session - Nilsson
14:40 <b>38 - Marques P.</b> "The Relevance Of A Proficient Inspection Plan In Rehabilitation Projects – Durability Side (7 bridges and 1 quay)"	<b>45 - Nilsson L.O.</b> "Chloride redistribution after concrete repair of marine concrete"	<b>29 - Kamali B.S.</b> "Multi-scale modeling of mortar leaching: effects of mechanical and transport properties"
15:00 <b>55 - Schoefs F.</b> "Probabilistic of corrosion process along French coasts: a multiscale modeling from inspection data"	<b>37 - Mercado H.</b> "Two ways to measure the diffusion coefficient of chloride"	<b>39 - McCarter W.J.</b> "Conductivity Sensors To Monitor Cover-zone Performance"
15:20 <b>71 - Boero J.</b> "Decision-making system based on risk analysis for sustainable management of civil engineering infrastructures"	<b>60 - Trabelsi A.</b> "Characterization of steel corrosion in cement mortar by Electrochemical Impedance Spectroscopy"	<b>43 - Nanukuttan S.</b> "The use of novel Non-Destructive methods for quality control and performance evaluation of concrete structures"
15:40 Coffee Break		
16:10 <b>Audouin Dubreuil A.</b> "Inventory of the Ré Island Bridge"	<b>2 - Al-Kutti W.A.</b> "Effect of axial compressive damage on chloride migration through concrete subjected to marine environment"	<b>24 - Gullkers J.</b> "Development of Guidelines for the Assessment of Residual Service Life of Existing Reinforced Concrete Structures"
16:30 <b>Capra B.</b> "Risk management and maintenance optimization of seaside nuclear cooling piping systems"	<b>8 - Belarouci A.</b> "Influence of temperature on Transfer of Chlorides Ions In Concrete"	
18:00 VISIT DEPARTURE + GALA DINNER		

## **DAY 3 : APRIL, 30, 2010**

### **"Casoar Tadorne" Lecture Hall**

### **"Héron" Lecture Room**

### **"Les Baleines" Lecture Room**

#### **09:00 Plenary Session 5 : M. Basheer (U. Belafast)**

##### **CC-1 - Carcasses**

09:40 **54 - Santos A.** "Inhibition of internal expansive reactions in cement based materials with mineral additions"

10:00 **28 - Kacimi L.** "Manufacture Of High Reactive Belite Cement And Durable In Corrosive Conditions By Using Fly Ash Waste"

10:20 **31 - Kherbache S.** "Use Of Crushed Sand For The Concretes"

#### **10:40 Coffee Break**

##### **CC-2 - Carcasses**

11:10 **63 - Younsi A.** "Mix design and carbonation of concrete with high substitution of cement by fly ash"

11:30 **11 - Bendjillali K.** "Improvement of the Mechanical Behavior of Limestone Mortars by the Incorporation of Synthetic Fibers Waste"

11:50 **25 - Hamami A.** "Influence of mix proportions on microstructure and gas permeability of cementitious materials : experimental study on pastes and mortars"

#### **12:10 LUNCH**

14:00

15:00

## **LEGEND OF THE SESSIONS**

**DUR-1** Durability - Session 1

**DUR-2** Durability - Session 2

**DUR-3** Durability - Session 3

**PPR-1** Prevention, Protection and Repair - Session 1

**PPR-2** Prevention, Protection and Repair - Session 2

**PPR-3** Prevention, Protection and Repair - Session 3

**CASE-1** Case Studies

**NDT-1** Non destructive testing - Session 1

**NDT-2** Non destructive testing - Session 2

**NDT-3** Non destructive testing - Session 3

**CC-1** Cement and Concrete - Session 1

**CC-2** Cement and Concrete - Session 2

**PMR** Probabilistic modelling and reliability

**DBAM** Decision, Maintenance, Asset management

## SPONSORS

