2nd Workshop
The new boundaries of structural concrete
Università Politecnica delle Marche

ANCONA – September 15-16, 2011
Engineering Faculty

FINAL PROGRAMME

SEPTEMBER 15

09:00 Registration

09:45 Welcome Addresses
Marco Pacetti (Rector of Università Politecnica delle Marche)
Giovanni Latini (Dean of Engineering Faculty)
Michele Valente (ACI Italy Chapter President)

10:15 Session A – Performance and Life-cycle Costs of New Concrete Structures
Chairman: Mario Collepardi
ACI International Honorary Member - ENCO, Ponzano Veneto, Italy

Keynote Lecture
Performance-based Service Life Design of Reinforced Concrete Structures Exposed to Chloride Environments
Luca Bertolini (Politecnico di Milano, Italy)

10:45 Coffee break
11:15  
**Session A (continued) – PERFORMANCE AND LIFE-CYCLE COSTS OF NEW CONCRETE STRUCTURES**  
Chairman: **Mario Collepardi**  
*ACI International Honorary Member - ENCO, Ponzano Veneto, Italy*

**Presentations**

*Sustainability and Mechanical Performance of Fiber-reinforced Self-compacting Concrete (FR-SCC)*  
A. P. Fantilli, C. Villani, B. Chiaia, and D. Zampini

*Concrete demolition waste: a sustainable source for structural concrete*  
S. Manzi, C. Mazzotti and M.C. Bignozzi

*Steel slag characterization for the recovery as recycled aggregate in concrete*  
C. Collivignarelli, S. Sorlini and L. Rondi

*Mechanical Behaviour of Concrete with Recycled Aggregate*  

*Feasibility study of Concrete with Recycled Nylon Fibers and Concrete Demolition Debris*  
A. E. Blal, F. Girardi, N. Baldassino and R. Di Maggio

*Utilization of Used Foundry Sand in Cementitious Materials for Structural Applications*  
F. Tittarelli, M.L. Ruello and S. Monosi

*Hydrophobic Treatments as Preventive or Restorative Methods against Reinforced Concrete Deterioration*  
F. Tittarelli, G. Moriconi

*Environmental Behavior of Geopolymeric and Conventional Concrete*  
F. Colangelo, L. Esposito, R. Cioffi

13:00  
**Lunch**

15:00  
**Session B – CONTROLLED-PERFORMANCE CONCRETE**  
Chairman: **Giovanni Plizzari**  
*University of Brescia, Italy*

**Keynote Lecture**

*Evolution in Ferrocement and Thin Reinforced Cementitious Composites: Five Decades of Progress*  
**Antoine Naaman** (Professor Emeritus of Civil Engineering, University of Michigan, USA)

15:30  
**Presentations**

*High-performance Self-compacting Concrete*  
S. Collepardi, S Maringoni, F. Simonelli, and R. Troli

*Light-weight Self-compacting Concrete*  
A. Borsoi, M. Collepardi, S. Collepardi, and R. Troli

*Long Term Behaviour of Self Compacting Concrete: Comparison between Experimental Results and Predicting Models*  
C. Mazzotti
Creep and Durability Aspects of Ordinary Reinforced FRC Beams
E. Vasanelli, F. Micelli, M.A. Aiello, G. Plizzari and M. Molfetta

The Role of the Depth and the Width on the Shear Strength of Fiber-reinforced Concrete Beams: an Experimental Study
A. Conforti, F. Minelli and G. A. Plizzari

16:30 Coffee break

17:00 Session B (continued) – CONTROLLED-PERFORMANCE CONCRETE
Chairman: Giovanni Plizzari
University of Brescia, Italy

Experimental Investigation of Reinforced Concrete, High-Redundancy, Walls
Zipeng Xu, Liang Huang, Yiqiu Lu

Experimental Study of Axial Stress-Strain Relationship of Cylindrical Concrete Elements Confined by CFRP under a Maintained Preload
S. Ivorra, L. Estevan and J.M. Adam

Two-dimensional Elements in Fiber-reinforced Concrete
A. Grimaldi, F. Nerilli and Z. Rinaldi

Computational Fluid Dynamics Modeling of the Concrete Fresh State Behaviour: from Identification of Rheological Properties to the Casting Flow Simulation
L. Ferrara, M. Cremonesi and A. Frangi

A Unified Calculation Formula for RC Members Subjected to Combined Bending, Shear, Torsion, and Axial Loads
Yiqiu Lu, Liang Huang, Zipeng Xu

Analytical Modeling of Reinforcement Corrosion Effects on RC Members Degradation
A. Bossio, M. Montuori, F. Bellucci, G. P. Lignola, A. Prota, E. Cosenza, G. Manfredi

18.00 ACI Italy Chapter Convention

19:00 Dinner at Fortino Napoleonico in Portonovo
SEPTEMBER 16

9:00  Session C - NEW SCENARIOS FOR CONCRETE
Chairman: Salvador Ivorra Chorro
University of Alicante, Spain

Keynote Lecture
Current Sustainability Issues & Innovation in Cement-Based Materials
Tarun R. Naik (Research Professor and Academic Program Director, CBU, University of Wisconsin - Milwaukee, USA)

9:30  Presentations
New Nano-cementing Materials
V. Daniele, G. Taglieri, A. Gregori, R. Volpe

Performance of Multi-scale Fiber-reinforced Cement Composites at High Strain Rate
L. Coppola, E. Cadoni, D. Forni and A. Buoso

Transport Properties of Nano-clay Modified Hydrophobic Concrete
L. Di Maio, M.L. Fariello, P. Scarfato, L. Incarnato, L. Courard and F. Michel

The Use of Inorganic Pigments for Producing Coloured SCC
V. Corinaldesi, S. Monosi and M.L. Ruello

10:30 Coffee break

11:00  Session C (continued) - NEW SCENARIOS FOR CONCRETE
Chairman: Salvador Ivorra Chorro
University of Alicante, Spain

Retrofitting of Beam-Column Exterior Joint with HPFRC Jacketing
C. Beschi, G. Metelli and P. Riva

Experimental Analysis of Polymeric Fiber-reinforced Concrete at Low Contents
L. Pani and L. Francesconi

Effect of Fly Ash and Corrosion Inhibitors on Concrete Strength: a Modular Approach
M. Valente, M. Bressan, A. Pasqualini, S. Bianchini and F.M. Liberatore

A Preliminary Assessment on the Influence of Mixing Techniques on High Performance Structural Concrete Properties
S. Manzi

Performances in Case of Fire of Concrete Members Reinforced with FRP Rods: Experimental Results and Bond Models
E. Nigro, A. Bilotta, G. Cefarelli, G. Manfredi and E. Cosenza

A Novel Meso-scopic Model for Simulating the Mechanical Behaviour of Fiber-reinforced Concrete Composites (FRCCs)
A. Caggiano, G. Etse and E. Martinelli

13:00 Lunch

15:00  Session D – CONCRETE QUALITY CONTROL ON SITE
Chairman: Paolo Riva
University of Bergamo, Italy
Keynote Lecture

*Slab Cracking Control in Continuous Steel-Concrete Bridge Viaducts*

Luigino Dezi and Graziano Leoni (Università Politecnica delle Marche, Italy)

15:30 Presentations

*The Influence of Carbon Nanotubes Dispersion on Stress Sensitivity of Cementitious Composites Materials*
L. Coppola, A. Buoso and F. Corazza

*Concrete Compressive Strength Extracted from Existing Buildings*
M.T. Cristofaro, A. D’Ambris, M. De Stefano and M. Tanganelli

*Experimental Study on the Behavior of SFRC Columns under Seismic Loads*
F. Germano and G.A. Plizzari

16:30 Coffee break

17:00 *Round Table on Sustainability of Concrete Structures*
Chairman: Ing. M. Valente – ACI Italy Chapter President

18:00 Closing Session

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