

RILEM Spring Conference @ Palazzo Mezzanotte
Piazza degli Affari, 6, 20123

Wednesday 10.04.2024

Sala GIALLA & Sala BLU 70

09:00-11:15	09:00-09:15	Prof. Alberto Guadagnini , Deputy Rector for Research, Politecnico di Milano Prof. Liberato Ferrara , Chair of the RILEM Spring Convention 2024, Politecnico di Milano
	09:15-09:30	Prof. Nicolas Roussel , RILEM president, RILEM presentation
	09:30-09:45	Enrico Nusiner , CTE President, LEVIAT
		Chair: Liberato Ferrara
	09:45-10:30	Keynote: Prof. José Andrade
	10:30-11:15	Keynote: Prof. Agnieszka Bigaj-van Vliet

11:15-11:45 *Morning Coffee Break*

Sala GIALLA & Sala BLU 70
Chair: **Enrico Sassoni**

11:45-13:15	11:45-12:30	Keynote: Dr Rob Wolfs (Colonetti medallist)
	12:30-13:15	Keynote: Dr Zhenming Li (Colonetti medallist)

13:15 - 14:30 *Lunch break*

14:30-15:00 TC presentation: **TC 288 - IEC - Prof. Marco di Prisco**

Sala GIALLA "SUSTAINABILITY IN CONSTRUCTION, CASE STUDIES & STANDARDS" chair Nele Chair: Nele de Belie		Sala BLU 70 "STRUCTURAL APPLICATIONS & CASE STUDIES" Chair: Ravindra Gettu	
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15:00-16:20	15:00-15:20	ID 26 BIO-FIBRE PROJECT: An educational framework to promote the use of bio-based building products <i>Paulina Faria</i>	ID 134 Short-term interaction assessment between concrete, marine biofilm and seawater in the context of floating offshore wind turbines <i>Alexandra Bertron</i>
	15:20-15:40	ID 25 Sustainability and quality of 'green' concrete structures - the role of performance-based standards <i>Geert De Schutter</i>	ID 185 Adaptive Sampling for Efficient NDT in Circular Economy <i>Ghezal Ahmad Jan Zia</i>
	15:40-16:00	ID 49 RAPCON project: Sustainable concrete made with recycled asphalt pavement <i>Giulia Masi</i>	ID 227 CO ₂ -reduction potentials in informal settlements and construction in Africa <i>Wolfram Schmidt</i>
	16:00-16:20	ID 210 Sustainable concrete-based interventions for the structural retrofitting of manufattura tabacchi in Bologna by Pier Luigi Nervi <i>Marco di Prisco</i>	ID 59 Sustainability optimisation: assessment of recycling scenarios for timber-concrete hybrid slabs <i>Laura Corti</i>

16:20 - 16:40 *Afternoon Coffee Break*

Sala GIALLA "INNOVATIVE MATERIALS & DURABILITY ASPECTS" Chair: Wolfram Schmidt		Sala BLU 70 "DIGITAL INNOVATIONS & 3D CONCRETE PRINTING" Chair: Nicolas Roussel	
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16:40-18:00	16:40-17:00	ID 153 Proposal of a phase change material-graphine modified composite with enhanced thermal conductivity for application in lightweight energy storage concrete <i>Mahsa Salimi</i>	ID 60 DINABAU: Integrating Digital Building Models for Teaching Sustainable Construction with Renewable Resources <i>Dominik Schöne</i>
	17:00-17:20	ID 53 Investigation of natural clays as precursor for geopolymers <i>Ilda Tole</i>	ID 182 REINCARNATE: Shaping a sustainable future in construction through digital innovation <i>Sabine Kruschwitz</i>
	17:20-17:40	ID 214 Rebar corrosion resistance of ultra-high performance concrete in presence of crack and bacteria <i>Maria Cruz Alonso</i>	ID 163 Beyond Theory: Pioneering AI-driven Materials Design in the Sustainable Building Material Lab <i>Christoph Voelker</i>
	17:40-18:00	ID 149 Carbonation treatment of RCA concrete: a preliminary investigation <i>Federica Lollini</i>	ID 119 Automated workflows for concrete additive manufacturing for design, optimization and fabrication of parametrized elements <i>Annika Robens-Radermacher</i>

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Thursday 11.04.2024				
Sala GIALLA "CIRCULAR ECONOMY" Chairs: Geert De Schutter and Antonio Conforti		Sala BLU 70 "TEXTILE-REINFORCED CONCRETE & MORTARS" Chairs: Matteo Colomba and Giacomo Torelli		
Sala GIALLA "CIRCULAR ECONOMY" Chairs: Alexandra Bertron and Patrick Bamonte		Sala BLU 70 "ALTERNATIVE, LOW CO ₂ BINDERS" Chairs: Iida Toke and Antonio Kanellopoulos		
9:00-11:00	09:00-09:15	ID 242 A novel approach for the recovery and valorisation of alkaline industrial waste for applications in the building sector. Paolo Brazzo	ID 63 Optimizing textile-reinforced concrete sustainability and economic efficiency with innovative cement composites Mohammad Alim'allah	
	09:15-09:30	ID 199 Effects of non-hazardous construction and demolition waste on the behaviour of mortars Aemeline Couture	ID 131 TRC application potential to strengthen and repair concrete structures exposed to fire Kajsi Trska	
	09:30-09:45	ID 51 Role of particle packing mix design and fly ash on environmental impact of recycled aggregate concrete Sudhakar Barai	ID 165 High temperature performance of lightweight concrete-textile reinforced cementitious composite sandwich panels: a comprehensive review Matthieu Pettmann	
	09:45-10:00	ID 179 Valorization of masonry CDW as recycled aggregate in lightweight structural concrete Roumiana Zaharieva	ID 103 Mineral impregnation of high-strength fibre yarns for textile reinforced concrete with enhanced thermal stability Cesare Signorini	
	10:00-10:15	ID 82 The impact of carbonated fine recycled aggregates on sulfate attack of mortar Chao Qun Lye	ID 115 Tensile response and durability of flex-TRMs Mattia Baldassarri	
	10:15-10:30	ID 142 Valorization of delithiated β-spodumene as a raw construction material Ethem Ghorbel	ID 36 Investigation of the bond behaviour between geopolymer TRM and concrete Ioanna Skyrmanou	
	10:30-10:45	ID 139 Potential use of carbide lime waste in construction: a comprehensive analysis Teodoro Ilic	ID 233 Size effect on the direct tensile behaviour of glass textile reinforced concrete Ravindra Gettu	
	10:45-11:00	ID 80 Mineralogical model from x-ray powder diffraction and retrieval refinement to estimate attached mortar paste volume on the surface of recycled aggregates based on pseudo-density Andrea Biscioti	ID 114 Influence of carbonation curing conditions on fiber-matrix interfacial properties in cementitious composites Dhanendra Kumar	
	Morning Coffee Break			
	11:00-11:30	11:30-11:45	ID 99 Austrian mineral waste streams for alkali-activation: a comprehensive suitability evaluation approach Astr Hussein Mokhtar Hassan	ID 160 Use of limestone calcined clay in concrete Mahmoud Mohamed Ali Kamel
11:45-12:00		ID 171 Thermally treated residues and by-products as components of waste-based alkali-activated materials Fabian Roman Steindl	ID 224 Preliminary assessment of limestone calcined clay cement (LCC) in soil stabilization for geotechnical applications Joseph Mwiti Marangu	
12:00-12:15		ID 167 Effect of different mix design parameters on the workability and mechanical properties of CDW-GGBS based geopolymer composites Dangsheng Zhang	ID 77 MCM-41 as a secondary additive to the thermally loaded cement paste Maciej Szelag	
12:15-12:30		ID 164 Study on the Fracture Performance of Carbon Fiber Reinforced Recycled Powder-Based Geopolymer Composites Dangsheng Zhang	ID 78 Performance at elevated temperature of basalt powder modified cement paste Patryk Rumicki	
12:30-12:45		ID 143 How to predict strength and optimum mix designs of mineral-waste-based alkali-activated materials Iris Zoegl	ID 65 Modification of Properties of Reactivated Cement Fines with the Addition of Ground Blast Furnace Slag Neshabe Noel	
12:45-13:00		ID 27 Role of incinerated sewage sludge ash in early-age improvement of silico-aluminophosphate geopolymer Yazan Alrefai	ID 72 Mechanical activation of various sources of slag in the ordinary Portland cement blend for a sustainable binder Jitendra Patel	
13:00-13:15		ID 180 Stability of soil and tunnel excavations as SCM - Comparison of thermal and mechano-chemical activation Leo Ruckes	ID 37 Production of synthetic hydraulic binder precursors from steel slags: experimental validation and thermodynamic simulation Filippo Diaccari	
13:15-13:30		ID 91 Microstructure evolution of cementitious matrices utilising graphite mix tailing as supplementary cementitious materials Surya Maruthupandian	ID 107 Optimizing the design of high-volume-fly ash (HVFA) cementitious materials: enhancing the performance with clinoptilolite zeolite modification Zeynep B. Bundur	
Lunch Break				
14:30-15:45		14:30-14:45	ID 86 Effect of alkali-activated concrete composition on carbonation rate under accelerated and natural conditions Luis Tambara	ID 162 Test and Analysis of Prestressed Ultra High Performance Concrete Beams Jens Uffjaer
	14:45-15:00	ID 89 Chloride binding by layered double hydroxides (LDH/AFm phases) and alkali-activated slag pastes Gregor Gluth	ID 199 A study on effect of fatigue loading on mechanical properties of UHPFRC Yusuke Nagai	
	15:00-15:15	ID 169 Influence of carbonation on the chloride ingress analyzed via optical sensors Mariene Sakoparnig	ID 124 Investigation of Shear Capacity to Facilitate More Efficient Short-Span RAUHPRC Beams Timothy Frank	
	15:15-15:30	ID 180 Study on the predictability of carbonation resistance of cementitious materials based on NMR features and the use of sland Sabine Kruschwitz	ID 35 Integrating an ANN-based tensile model with a hybrid rotating crack formulation to simulate the behavior of shear-critical UHPFRC structural elements with unconventional cross sections Amjad Diab	
	15:30-15:45	ID 174 Non-destructive testing for the determination of durability-relevant material properties of clinker-reduced building materials Thilo Bintz	ID 88 Cyclic behaviour of thin-walled pre-cracked HFRPC in bending Sara Basri	
	15:45-16:15	Sala GIALLA Young Delegate Coffee / RILEM presentation (Dr. Ciancia + RYC representative)		Afternoon Coffee Break
	16:15-16:30	ID 181 Comparative analysis of microstructure of carbonating cement paste using proton NMR relaxometry and MIP Rui Zhang	ID 231 Exploring shear strength of concrete: A novel Z-test for direct shear testing of HFRPC Nicholas Sergio Burello	ID 120 Rheological and pumpability analysis of sustainable 3D printing mortars incorporating recycled sand: a dynamic-mechanical approach Jens De Waele
	16:30-16:45	ID 181 Corrosion of rebars in concrete: evaluation of preventative measures Fabio Bolzani	ID 232 Development of self-sensing mortars using different electrically conductive inclusions Giuseppe Torelli	ID 194 Mechanical properties and life cycle assessment of mortars and concretes made with recycled glass fibers from wind turbine blades Costantino Menna
	16:45-17:00	ID 22 Advancing corrosion resistance of steel fibre reinforced concrete in railway construction Kangsheng Tang	ID 93 Quantification of hemp concrete displacement subjected hygrothermal solicitation based on 2D DIC Haiquan Liu	ID 205 An indirect methodology for evaluating the rheological properties of a digitally fabricated concrete incorporating corrosion inhibitors Francesco Soave
	17:00-17:15	ID 24 Recent and Current Initiatives of ACI Committee 222 on Corrosion of Metals in Concrete Cedi Halmen	ID 104 Development of crack free AAM-oli-fibre composite for application in sewer systems Ogrijen Rudic	ID 83 Magneto-rheological properties of fayalite slag incorporated cement mixtures Mert Yavuz Yordamci
17:15-17:30	ID 30 A Probabilistic Approach to Service Life Prediction: Comparing a Reactive Transport Model with the Fib Chloride Model Ashika L. Schuthelb	ID 226 Advances in Wind Turbine Tower Design and Optimization Yara Alzaubi	ID 219 Fracture energy parameterisation of 3D printed concrete elements in comparison with cast elements Kasapa Sriram Kompella	

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Friday 12.04.2024

		Sala GIALLA "SUSTAINABILITY IN CONSTRUCTION & CASE STUDIES" Chairs: Luca Valentini and Magda Posani	Sala BLU 70 "DURABILITY" Chairs: Fabio Bolzoni and Isgor Burkan	Sala BLU 60 "STRUCTURAL STRENGTHENING / RETROFITTING STRATEGIES" Chairs: Liborio Cavaleri and Didier Snoeck
09:00-11:00	09:00-09:15	ID 213 Plastic waste for concrete mixtures: Advanced Strategies and Solutions <i>Liborio Cavaleri</i>	ID 45 Prevention of PEG-1000 migration in eco-sustainable, form-stable phase change material applied to aerial lime-based mortars <i>Paulina Guzman Garcia Lascurain</i>	ID 41 Protecting heritage marble stones: A comparative analysis of TEOS, DAP and ammonium oxalate based approaches <i>Shipin Prakash</i>
	09:15-09:30	ID 84 Active control of concrete curing monitored by acoustic emission <i>Eleni Korda</i>	ID 54 Role of PB in portland cement hydration: new insights from in-situ laboratory XRD <i>Yikai Liu</i>	ID 202 Ready-mixed green plasters for the preservation of the architectural heritage. Analysis of the environmental profile and certification. <i>Maria Cecilia Carangi</i>
	09:30-09:45	ID 33 Water Consumption of Concrete Production in Panama <i>Yazmin L. Mack-Vergara</i>	ID 76 Durability of Mg-based binders - Resistance against chlorides, moisture and corrosion <i>Fabio Enrico Furcas</i>	ID 204 Numerical modelling of thermal conductivity of sprayed plasters in fire <i>Antonio Cibelli</i>
	09:45-10:00	ID 43 Advancements in Hygrothermal Monitoring: A Comparative Study of Sensor Reliability and Installation Strategies in Construction Elements <i>Simone Panico</i>	ID 87 Pore solution compositions of GGBFS-Containing cement pastes <i>Ali Nikoonasab</i>	ID 237 Evaluation of the damaged stone arch bridge strengthened with UHPC based on limit analysis method <i>Jun Yang</i>
	10:00-10:15	ID 42 Development of robust mixture-design method based on particle packing, efficiency and compressive strength <i>Deepankar Kumar Ashish</i>	ID 191 Reaction kinetics of high-volume fly ash pastes in presence of alkali-hydroxide <i>Muhammad Riaz Ahmad</i>	ID 158 Extending the durability of salt-contaminated stones and mortars by ammonium phosphate <i>Enrico Sassoni</i>
	10:15-10:30	ID 152 Recycled brick as a partial cement substitute <i>Milot Muhaxheri</i>	ID 211 Soil PH KCL measurement correlates the strength of tropical earth mortar <i>Lily Walter</i>	ID 197 Strengthening of existing timber beams with NSM CFRP plates <i>Alessandro Cognoni</i>
	10:30-10:45	ID 173 Enhancing reactivity of ferrite-rich cement clinker using organic ligands <i>Elijah Adesanya</i>	ID 212 Leaching behaviour of sodium carbonate-activated slag/ash matrices encapsulating spent nuclear-grade ion exchange resins <i>M. Jimena de Hita</i>	ID 225 Life cycle analysis comparison between traditional and innovative tunnel retrofitting approaches <i>Andrea Marcucci</i>
	10:45-11:00	ID 161 Minimising the carbon footprint of standard-compliant structural concrete by adopting low-binder LC3 mix designs <i>Beatrice Malchiodi</i>	ID 159 The effect of the ion concentration on the hydration kinetics <i>Olcay Gürabi Aydoğan</i>	
11:00-11:30 Morning Coffee Break				
		Sala GIALLA "ALTERNATIVE, LOW CO ₂ BINDERS" Chairs: Estefania Cuenca and Cesare Signorini	Sala BLU 70 "CIRCULAR ECONOMY" Chair: Giovanni Muclaccia	Sala BLU 60 "BITUMINOUS MATERIALS" Chairs: Giulia Masi and Francesco Lo Monte
11:30-13:30	11:30-11:45	ID 39 Reactivity of siderite (FeCO ₃) in cementitious systems and its potential use as a future SCM <i>Marjorie Pons Piñeyro</i>	ID 140 Reuse of EAF slag as aggregates in structural concretes <i>Alan Piemonti</i>	ID 157 Comparative Life Cycle Assessment of Flexible Pavement Construction Using Cement-Only and Mineral Stabilizer Approaches: A Case Study <i>Sudeshna Purkayastha</i>
	11:45-12:00	ID 50 Marine dredged sediments as a supplementary cementitious material <i>Prashant Devda</i>	ID 200 Understanding the effects of wood biomass ash on brick quality <i>Ivana Carević</i>	ID 73 Rice husk ash modified asphalt: a sustainable alternative binder to petroleum <i>Sudeshna Purkayastha</i>
	12:00-12:15	ID 106 Carbonated wollastonite as supplementary cementitious material for cement and concrete <i>Frank Winnefeld</i>	ID 123 Excavated earth incorporating hemp and tannin for the manufacture of thermally insulated wall panels <i>Elhem Ghorbel</i>	ID 116 Experimental investigation on performance and curing of cold mix asphalt: impact of additives <i>Gourab Saha</i>
	12:15-12:30	ID 171 Re-hydration of thermally treated cement pastes containing limestone and metakaolin <i>Konstantinos Sotiriadis</i>	ID 32 Comparative effects of polyethylene and polypropylene-based waste fishing gear fibers on mechanical parameters and porosity of cementitious materials <i>Ali Hussan</i>	ID 144 Influence of lignin-modification on the mechanical properties of bituminous mixtures <i>Aniket Vasantao Kataware</i>
	12:30-12:45	ID 138 Understanding the performance offset of glass powder - cement blends <i>Adrian-Alexandru Pirvan</i>	ID 176 Gypsum as a bloating agent for expanded concrete waste fines LWA <i>Smadar Kedem Elmachily</i>	ID 177 Influence of waste cooking oil on the properties of bituminous mix <i>Keerthy M Simon</i>
	12:45-13:00	ID 70 Use of kunkur fines from quarrying waste in blended cements: thermodynamic modelling and experimental assessment <i>Victor Kiptoo Mutai</i>	ID 52 Exploring sustainable alternatives to OPC: Incorporation of recycled ceramics into limestone calcined clay cement <i>Lucia Ferrari</i>	ID 218 Influence of basalt - flyash filler combinations on moisture induced damage behaviour of asphalt mastic-aggregate system <i>Aditya Kumar Das</i>
	13:00-13:15	ID 67 Formulation of sustainable cements with kenyan volcanic ashes <i>Luca Valentini</i>	ID 101 Mechanical activation of bottom ash from incineration plant for supplementary cementitious materials <i>Tuan Van Truong</i>	
	13:15-13:30	ID 129 A chemometric approach for the optimization of low carbon concrete admixtures with blended cements <i>Clelia Sarta</i>	ID 108 Valorisation of recycled concrete aggregates via calcium carbonate precipitation through urease enzyme extracted from watermelon seeds <i>Snigdha Bhutange</i>	
13:30-14:30 Lunch Break				