

2016 International Concrete Sustainability Conference  
Program

Sunday, May 15, 2016

Note: Speakers in Bold

12:00 – 17:00	NRMCA RES Committee (NRMCA members only) WASHINGTON AB
17:00 - 19:00	Registration Desk Open REGENCY BALLROOM FOYER
18:00 – 19:00	Reception in Exhibit Area REGENCY BALLROOM FOYER

Monday, May 16, 2016

7:00 - 17:00	Registration Desk Open REGENCY BALLROOM FOYER	
7:00 – 8:00	Continental Breakfast in Exhibit Area REGENCY BALLROOM FOYER	
8:00 – 9:30	<b>Plenary Session 1</b> <b>REGENCY BALLROOM</b> Chair: Kamal H. Khayat Co-Chair: Matthew Wood Opening Remarks <b>Ken P. Chong</b> - Infrastructure Materials: Mechanics and Sustainability <b>Chris Drew</b> - The Role of the Concrete Industry in Reducing the Environmental Impact of the Built Environment <b>Olafur H. Wallevik</b> - From Low Binder Self Consolidating Concrete (Eco-SCC) to Vibration Free Stiff Concrete (VFC)	
9:30 – 10:00	Break in Exhibit Area REGENCY BALLROOM FOYER	
10:00 – 12:00	<b>Session D-1: Environmental Impact Reduction</b> <b>WASHINGTON A</b> Recent Advances on the Use of Sustainable Structural Concrete: A Materials Perspective, <b>Leandro Sanchez</b> , <i>Martin Noël</i> , <i>Gholamreza Fathifazl</i> and <i>Bruno Damineli</i> . Design and Application of the Precast Concrete Anchor Blocks for the TRNC Water Supply Project, <b>Aydin Saglik</b> and <i>Emre Ozalp</i> . Sustainability of Rubberized Concrete as Highway Pavement Construction Material, <b>Rui Liu</b> . The Effects of Zeolite as Supplementary Cement Material on Pervious Concrete, <b>Alireza Joshaghani</b> . Optimization of Concrete for Prefabrication and Quantification of its Environmental Impact, <i>Stijn Onghena</i> , <b>Steffen Grünewald</b> and <i>Geert de Schutter</i> . Minimizing Paste Content in Concrete Using Limestone Powders - Demonstration Mixtures, <b>Dale P. Bentz</b> , <i>Scott Z. Jones</i> and <i>Didier Lootens</i> .	<b>Session E-1: Material Science</b> <b>WASHINGTON B</b> Effect of Using ‘Chat’ on Mechanical Properties of Concrete, <i>Goli Nossoni</i> and <b>Feksi Basha</b> . Recycling of Sewage Sludge Ash (SSA) as Construction Materials, <b>Zhen Chen</b> and <i>Chi Sun Poon</i> . Effect of Type of Fibers and Fiber Volume on Flexural Performance of Super-Workable Concrete, <b>Ahmed Abdelrazik</b> and <i>Kamal H. Khayat</i> . Obtaining Optimum Workability using Rice Husk Ash in a Modified Cementitious System, <b>Nsesheye Susan Msinjili</b> , <i>Wolfram Schmidt</i> and <i>Andreas Rogge</i> . Field Trials with Concrete Incorporating Biomass Fly Ash, <b>Ahmed Omran</b> , <i>Ailing Xie</i> , <i>Tatyana Davidenko</i> and <i>Arezki Tagnit-Hamou</i> . Properties and Performance of Ground Glass Fiber as a Pozzolan in Portland Cement Concrete, <i>Prasad Rangaraju</i> , <i>Hassan Rashidian</i> , <i>Gordon Nameni</i> and <b>Godwin Amekuedi</b> .
12:00 – 13:30	Lunch REGENCY BALLROOM	
13:30 – 15:10	<b>Session D-2: Environmental Impact Reduction</b> <b>WASHINGTON A</b> Evaluating the Albedo-induced Radiative Forcing and CO2 Equivalence Savings: A Case Study on Reflective Pavements in Selected U.S. Urban Areas, <b>Xin Xu</b> , <i>Jeremy Gregory</i> and <i>Randolph Kirchain</i> .	<b>Session E-2: Material Science</b> <b>WASHINGTON B</b> Investigation of Rheological Behaviour of Self-Compacting Marbled Paste, <i>F. Messaoudi</i> , <i>O. Haddad</i> , <i>R. Bouras</i> , <b>M. Sonebi</b> and <i>S. Kaci</i> . Effect of Recycled Fine Aggregate on Mortar Properties,

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	<p>Approximation Assessment of Photocatalytic Air Cleaning Pavements, <b>James E. Alleman, Joel K. Sikkema, Peter C. Taylor.</b></p> <p>Going Green on Campus with Pervious Concrete Pavement, <b>Marleisa Arocho and Sangchul Hwang.</b></p> <p>Multi-Functional Concrete Inlays for Pavement Preservation and Sustainability, <b>Sushobhan Sen, Daniel King and Jeffery Roesler.</b></p> <p>Microbial Challenges for Long-lived Concrete Formulations, <b>Don Satchell.</b></p>	<p><i>Xinsheng Wu, Yue Hou, <b>Zhi Ge</b> and Renjuan Sun.</i></p> <p>Mechanical Properties of Pumpable Steel Fiber Reinforced Lightweight Concrete for Application in Load-bearing Walls, <b>Florian Junker, Torsten Mueller, Hubertus Kieslich and Klaus Holschemacher.</b></p> <p>Effect of Fibres on High Volume Fly Ash Self Compacting Concrete, <b>Chetan Modhera and Ujjaval Shah.</b></p> <p>The Effects of Cellulose Ether Admixture on Fresh Cement Pastes Submitted to a Hydraulic Gradient, <b>Alexandre Pierre, Arnaud Perrot and Vincent Picandet.</b></p>
<b>15:10 – 15:40</b>	<b>Break in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>15:40 – 17:20</b>	<p><b>Session D-3: Environmental Impact Reduction WASHINGTON A</b></p> <p>Recycling of End of Life Concrete to New Concrete, <b>Francesco Di Maio, Somayeh Lotfi, Peter Rem, Han Xia, Maarten Bakker and Mingming Hu.</b></p> <p>Material Flow Analysis of the Concrete Chain in the Netherlands, <b>Mingming Hu, René Kleijn, Jeroen Guinée and Francesco Di Maio.</b></p> <p>Behavior of Confined Recycled Aggregate Concrete, <b>Mohamed Mahgoub.</b></p> <p>SEACON – A New Research Project Towards the Sustainability of Concrete, <b>Antonio Nanni.</b></p> <p>Strength Performance and Life Cycle Assessment of Recycled Aggregate Concrete with Class C Fly Ash, <b>Austin Dada.</b></p>	<p><b>Session E-3: Material Science WASHINGTON B</b></p> <p>Self-sensing Cementitious Composites with Graphene Nanoplatelets, <b>Radhika Pavgi, Zhangfan Jiang, Andrei Ramniceanu, Osman E. Ozbulut and Devin K. Harris.</b></p> <p>Managing Returned Concrete – A new ASTM Specification, <b>Colin Lobo.</b></p> <p>Early-Age Expansion of Wastepaper Sludge Ash: Reduction and Benefits, <b>Ahmed Omran, Majid Jerban, Arezki Tagnet-Hamou.</b></p> <p>Jobsite Experiences from a Tunnel Restoration with Freeze-Thaw-Resistant SCC, <b>Florian V. Mueller.</b></p> <p>In-situ Production of Nano/Micro Particles in Fresh Concrete, <b>Jialai Wang and Xin Qian.</b></p>
<b>17:20 – 19:30</b>	<b>Poster Session and Reception in Exhibit Area REGENCY BALLROOM FOYER</b>	

**Tuesday, May 17, 2016**

<b>7:00 - 17:00</b>	<b>Registration Desk Open REGENCY BALLROOM FOYER</b>	
<b>7:00 – 8:00</b>	<b>Continental Breakfast in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>8:00 – 9:30</b>	<p><b>Plenary Session 2 REGENCY BALLROOM</b></p> <p>Chair: Surendra P. Shah Co-Chair: Tien Peng  <b>Henry Green</b> - Building Resilient Communities  <b>Nicolas Roussel</b> - New Trends in Rheology Driven by Sustainable SCC  <b>Surendra P. Shah</b> - Constructability, Sustainability, and Nanotechnology</p>	
<b>9:30 – 10:00</b>	<b>Break in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>10:00 – 12:00</b>	<p><b>Session D-4: Resilience and Durability WASHINGTON A</b></p> <p>Assessment of Resilience and Sustainability of Cement Based Facades for Mid-rise Commercial Buildings Exposed to Coastal and Seismic Hazards, <b>Gonzalo Barluenga, Oluwateniola Ladipo, Georg Reichard and Roberto T. Leon.</b></p> <p>Context-dependence of Hazard Mitigation Strategies: Building</p>	<p><b>Session E-4: Material Science WASHINGTON B</b></p> <p>Microstructural Characteristic of Alkali-activated Fly Ash Exposed to CO<sub>2</sub>-rich Environment, <b>S.M. Park, J.G. Jang, G.M. Kim and H.K. Lee.</b></p> <p>How Concrete Quality Impacts Sustainability, <b>Karthik Obla.</b></p>

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	<p>Case Studies Around the US, <b>Reed Miller, Jeremy Gregory and Randolph Kirchain.</b></p> <p>Post-impact Assessment of Reinforced Concrete Plate Load Capacity, <b>Gilberto Nery, Falk Hille and Andreas Rogge.</b></p> <p>Design of Sustainable and Resilient Concrete Mixtures via Multi-objective Optimization, <b>Wil V. Srubar III and Joseph R. Kasprzyk.</b></p> <p>Pavement Management Under Uncertainty: A Heuristic Approach, <b>Omar Sweit, Jeremy Gregory and Randolph Kirchain.</b></p> <p>Is the Concrete Profession Ready for Performance Specifications that Provide an Alternative to Prescriptive w/c and Air Content Requirements?, <b>Jason Weiss.</b></p>	<p>The Characteristics Of Boron Modified Active Belite (BAB) Cement And Its Utilization In Concrete Technology, <b>Aydin Saglik.</b></p> <p>Micro-proportioning of SCC with Crushed Aggregate: PART I Filler Particle Characterization and Properties, <b>Rolands Cepuritis, Stefan Jacobsen, Sverre Smeplass, Ernst Mørtzell and Børge J. Wigum.</b></p> <p>Performance of Calcium-Sulphoaluminate Cement for Concrete Pavements Applications: A Numerical and Experimental Investigation, <b>Sergio Tortelli, Adriano Reggia, Giovanni Plizzari and Maurizio Marchi.</b></p> <p>Internal Curing using Perforated Cenospheres, <b>Fengjuan Liu and Jialai Wang.</b></p>
<p><b>12:00 – 13:30</b></p>	<p><b>Lunch</b> <b>REGENCY BALLROOM</b></p> <p>Panel Discussion: Build with Strength for a Sustainable Future.</p> <p>This panel discussion will feature renowned experts in the field of resilience and green building to discuss <i>Build with Strength for A Sustainable Future: How Concrete's Strength Equals Sustainable Projects.</i></p>	
<p><b>13:30 – 15:10</b></p>	<p><b>Session D-5: Resilience and Durability</b> <b>WASHINGTON A</b></p> <p>Super Absorbing Polymers Increasing the Frost-thaw Resistance of Concrete Roads, <b>Bart Craeye, Gilles De Brabander, Joop Bovend'Eerd and Geert Cockaert.</b></p> <p>New Permeability Reducing Admixture for Sustainable Concrete, <b>Giorgio Ferrari, Vincenzo Russo, Danilo Passalacqua, Gilberto Artoli and Luca Valentini.</b></p> <p>Sustainability and Durability of Concrete Placed in Cold Weather, <b>Nash Hasan.</b></p> <p>An Engineering Approach for Permeability Assessment of Virtual Cement-based Materials, <b>Kai Li, Piet Stroeven, Martijn Stroeven and Bert Sluys.</b></p> <p>The Influence of Pore Size and Freezing Rate on Ice Formation in Concrete, <b>H. S. Esmaeli, Y. Farnam, D. P. Bentz, P. D. Zavattieri and J. Weiss. Prannoy Suraneni.</b></p>	<p><b>Session E-5: Life Cycle Assessment</b> <b>WASHINGTON B</b></p> <p>Streamlined Building Life Cycle Assessment, <b>Josh Hester, Reed Miller, Jeremy Gregory and Randy Kirchain.</b></p> <p>Comparing Concrete EPDs: Motivation, Challenges and Next Steps, <b>Kathrina Simonen and Barbara Rodriguez Droguett.</b></p> <p>Factors Affecting Embodied Carbon Comparison of Timber and Concrete, <b>Frances Yang, Hans-Erik Blomgren and Lauren Wingo.</b></p> <p>CO<sub>2</sub>-binding by Concrete Carbonation into LCA and EPD of Concrete Products, <b>Anne Rønning, Kari-Anne Lyng and Christian J. Engelsen.</b></p> <p>The New Industry Average Slag Cement EPD Provides a Basis for Assessing Effect of Slag Cement on the Environmental Impact of Concrete Mixtures and Structures, <b>Jamie Meil and John Melander.</b></p>
<p><b>15:10 – 15:40</b></p>	<p><b>Break in Exhibit Area</b> <b>REGENCY BALLROOM FOYER</b></p>	
<p><b>15:40 – 17:20</b></p>	<p><b>Session D-6: Resilience and Durability</b> <b>WASHINGTON A</b></p> <p>Drying Shrinkage of Alkali Activated Cements and the Influence of Curing Conditions, <b>Maryam Hojati, Farshad Rajabipour and Aleksandra Radlinska.</b></p> <p>The Durability of Concrete Produced Using CO<sub>2</sub> as an Accelerating Admixture, <b>Sean Monkman, Mark MacDonald and Doug Hooton.</b></p> <p>Effect of Recycled Concrete Aggregates Properties on Long Term Shrinkage and Cracking, <b>Ahmed Z. Bendimerad, Hamza Samouh, Emmanuel Roziere and Ahmed Loukili.</b></p> <p>Study on the Effect of Expansive Additive on Autogenous Deformation in Early Age, <b>Atsushi Teramoto, Kazuhiro Hotta, Takaaki Ohkubo and Ippei Maruyama.</b></p> <p>Mitigating Drying Shrinkage of Alkali-activated Slag: A Closer</p>	<p><b>Session E-6: Environmental Impact Reduction</b> <b>WASHINGTON B</b></p> <p>Using Eco-Friendly Cementitious Materials for Sustainable Concrete, <b>Fadel AbuShaaban.</b></p> <p>Life Cycle Approach to Green Concrete, <b>Lionel Lemay.</b></p> <p>Ecocrete-Xtreme : Holistic Solution for Concrete Sustainability, <b>Olafur Wallevik, Thordur Kristjansson, Wassim Mansour and Fouad Yazbeck.</b></p> <p>Case Study: Successful Market Place Implementation of More Sustainable Ready-Mixed Concrete using Portland-Limestone Cement, <b>Tim Cost and Mark Stovall.</b></p> <p>Statistical Mixture Design to Optimize Eco-efficient Binder for Infrastructure Construction, <b>Syedhamed Sadati and Kamal H. Khayat.</b></p>

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	Look at the Influence of Curing Condition and Expansive Reaction, <b>Hailong Ye and Aleksandra Radlinska.</b>	
<b>17:20 – 18:00</b>	<b>BREAK</b>	
<b>18:00 – 19:00</b>	<b>Reception in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>19:00 – 21:00</b>	<b>Banquet REGENCY BALLROOM</b>	

**Wednesday, May 18, 2016**

<b>7:00 – 12:30</b>	<b>Registration Desk Open REGENCY BALLROOM FOYER</b>	
<b>7:00 – 8:00</b>	<b>Continental Breakfast in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>8:00 – 10:00</b>	<p><b>Session D-7: Resilience and Durability WASHINGTON A</b></p> <p>Improving Concrete Sustainability through Design for Durability, <b>R. Douglas Hooton and Majella Anson-Cartwright.</b></p> <p>Efficacy of Bacteria Encapsulated Self-healing Concrete Exposed to Salt Water and Freeze-Thaw Cycling, <b>Goli Nossoni, Daniel Hussey and Marisa Budziszewski.</b></p> <p>Effect of using Mineral Admixture on the Efficiency of Bacteria Encapsulated Self-healing Concrete, <b>Goli Nossoni and Daniel Hussey.</b></p> <p>Tensile Behaviour of Distinct Hooked End Steel Fibre Shape and Geometry on Material Properties of Self-compacting Concrete, <b>A O Okeh, David W Begg, Stephanie J Barnett, Nikos Nanos.</b></p> <p>Innovative Sample Design for Corrosion Rate Measurements in Carbonated Blended Concrete, <b>Matteo Stefanoni, Ueli Angst and Bernhard Elsener.</b></p> <p>Comparing the Mechanical and Fracture Properties of Concrete Made using Ordinary Portland Cement (OPC) and Calcium Silicate Cement (CSC), <b>Andrew Wiese, Jitendra Jain, and Jason Weiss.</b></p>	<p><b>Session E-7: Environmental Impact Reduction WASHINGTON B</b></p> <p>Responsible Sourcing Certification for Concrete, <b>James Bogdan.</b></p> <p>What's Your Biodiversity KPI?, <b>Margaret O'Gorman.</b></p> <p>Guide to Material Ingredient Disclosure for Concrete, <b>Tien Peng.</b></p> <p>ProScale: A Life-Cycle Approach to Hazard, Risk and Exposure Assessment for the Construction Industry, <b>David Green.</b></p> <p>Theory and Reality: EDPs and Low Carbon Concrete in Construction, <b>David Walsh.</b></p> <p>Green Chemistry of Concrete Recycling, <b>Jialai Wang, Liang Wang and Peiyuan Chen.</b></p>
<b>10:00 – 10:30</b>	<b>Break in Exhibit Area REGENCY BALLROOM FOYER</b>	
<b>10:30 – 12:30</b>	<p><b>Plenary Session 3 REGENCY BALLROOM</b></p> <p>Chair: Lionel Lemay Co-Chair: Olafur H. Wallevik</p> <p><b>Geert De Schutter</b> - Vision for Future Advancement of SCC Industry</p> <p><b>Cajun Shi</b> - Innovative Uses of CO2 for Sustainable Concretes</p> <p><b>Kamal H. Khayat</b> - Fiber-Reinforced SCC in Infrastructure Rehabilitation</p> <p><b>Robert Flatt</b> - Digital Fabrication and Concrete: Opportunities and Challenges</p> <p>Closing Remarks</p>	