



TÜRKÇİMENTO



INTERNATIONAL CONFERENCE ON "CEMENT - BASED MATERIALS TAILORED FOR A SUSTAINABLE FUTURE"

IN HONOUR OF PROF. SURENDRA P. SHAH AND
PROF. TURAN ÖZTURAN

MAY 27-29, 2021

ONLINE



PROGRAM

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INTERNATIONAL CONFERENCE ON
"CEMENT - BASED MATERIALS TAILORED FOR A SUSTAINABLE FUTURE"
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Day 1 - May 27, 2021 (Thursday)

	MAIN HALL A
11:00 - 11:40 (UTC) 14:00 - 14:40 (Istanbul)	Opening Ceremony - Welcome Remarks Surendra Shah, Northwestern University, USA Turan Özturan, Boğaziçi University, Turkey Ravindra Gettu, RILEM President Yavuz Işık, Turkish Ready Mix Concrete Association, President Emre Otay, Boğaziçi University, Civil Engineering Department Head <i>Chair: Nilüfer Özyurt Zihnioğlu</i>
11:40 - 12:20 (UTC) 14:40 - 15:20 (Istanbul)	Keynote Lecture I - Surendra P. Shah, Northwestern University, USA Nanotechnology and Sustainability in Concrete Construction <i>Chair: Turan Özturan</i>
12:20 - 13:00 (UTC) 15:20 - 16:00 (Istanbul)	Keynote Lecture II - Turan Özturan, Boğaziçi University, Turkey Lightweight Fly ash Aggregate Production and its Potential Use in Producing Lightweight Concrete <i>Chair: Hulusi Özkul</i>
13:00 - 13:20 (UTC) 16:00 - 16:20 (Istanbul)	Coffee Break
13:20 - 14:00 (UTC) 16:20 - 17:00 (Istanbul)	Keynote Lecture III - Ravindra Gettu, Indian Institute of Technology Madras on the Structural Design of Textile Reinforced Concrete <i>Chair: Zeynep Başaran Bundur</i>



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Day 1 - May 27, 2021 (Thursday)

	Main Hall A New materials and methods for sustainable structures	Hall B Use of nano-technology in cement-based materials	Hall C New methods for characterization of materials
Session Chairs	Chair: Lisa E. Burris	Chair: Hakan Nuri Atahan	Chair: Mustafa Karagüler
14:00 - 14:15 (UTC) 17:00 - 17:15 (IST)	Effects of combination of retarders on CSA cement systems B.C. Acartürk, L.E. Burris - The Ohio State University, US	Organomodified nanomontmorillonites for quaternary fibre cementitious nanocomposites and mortars - Comparisons and observations S. Papatzani, K. Paine - Hellenic Military Academy Engineering Athens, Greece	Validation of phenolphthalein test method for quantifying carbonation in specialty cementitious systems using TGA and Bayesian statistics G. D. Vasudevan, D. Trejo - Oregon State University, USA
14:15 - 14:30 (UTC) 17:15 - 17:30 (IST)	Effect of phase transition temperatures of the phase change material on hydration and mechanical properties of cement paste O. A. Chaudhari, L. Alkhaffaf, H. Khalil, P. Fontana - Research Institutes of Sweden, Sweden	The effect of sewage sludge nano biochar on mechanical properties of mortar M. Sisman, E. Teomete, J. Yanik, U. Malayoğlu - Dokuz Eylül University, Turkey	Autogenous self-healing assessment in engineered cementitious composites through gas permeability measurements M. Sönmez, G. Yıldırım, O. Öztürk, M. Şahmaran - Hacettepe University, Turkey
14:30 - 14:45 (UTC) 17:30 - 17:45 (IST)	Performance of compacted Mg(OH)₂ after carbonation A. H. Akca, S. Ma, D. Esposito, S. Kawashima - Columbia University, USA	Heating multifunctionality of concrete with nanoadditions and waste materials O. Galao, F.J. Baeza, B. del Moral, C. Farcas, R. Pla, E. Zornoza, J. Vera-Agullo, P. Garces - University of Alicante, Spain	Ultrasound based crack depth estimation in steel-fiber reinforced concrete A.S. Kırlangıç - Bahçeşehir University, Turkey
14:45 - 15:00 (UTC) 17:45 - 18:00 (IST)	Use of activated Swedish clay as supplementary cementitious materials G. Plusquellec, A. Babaahmadi, E. L'Hopital, K. Malaga, U. Mueller - RISE Research Institutes of Sweden, Sweden	Effect of colloidal nano silica on the stress-strain behavior of concrete under compression H.N. Türkmenoğlu, H.N. Atahan - Istanbul Technical University, Turkey	Probabilistic model for flexural strength of cementitious materials containing CNTs M. Ramezani, Y.H. Kim, Z. Sun - University of Louisville, USA
15:00 - 15:15 (UTC) 18:00 - 18:15 (IST)	Performance evaluation of calcium silicate hydrate (CSH) based sustainable hardening accelerator in concrete Saikat Das, Sonalisa Ray, Sudipta Sarkar - Indian Institute of Technology Roorkee, India	Strategies for conductivity enhancement of concrete using waste materials and nano-additions F.J. Baeza, O. Galao, B. del Moral, C. Farcas, R. Pla, E. Zornoza, J. Vera-Agullo, P. Garces - University of Alicante, Spain	Numerical modeling of piezoresistivity of smart concrete under compression A. Mugisha, E. Teomete - Dokuz Eylül University, Turkey

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Day 2 - May 28, 2021 (Friday)

	MAIN HALL A
11:00 - 11:40 (UTC) 14:00 - 14:40 (Istanbul)	Keynote Lecture IV - Nele de Belie, Ghent University, Belgium Durability and sustainability of self-healing concrete <i>Chair: Mustafa Şahmaran</i>
11:40 - 12:20 (UTC) 14:40 - 15:20 (Istanbul)	Keynote Lecture V - Liberato Ferrara, Politecnico di Milano, Italy Advanced cement based materials and the current societal challenges: A holistic vision <i>Chair: Maria Konsta Gdoutos</i>
12:20 - 12:45 (UTC) 15:20 - 15:45 (Istanbul)	Coffee Break



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Day 2 - May 28, 2021 (Friday)

	Main Hall A New materials and methods for sustainable structures	Hall B Materials and mix design for improved durability	Hall C Fresh state performance of cement-based materials
Session Chairs	<i>Chair: Daman Panesar</i>	<i>Chair: Egemen Teomete</i>	<i>Chair: Zeynep Başaran Bundur</i>
12:45 - 13:00 (UTC) 15:45 - 16:00 (IST)	Building code compliance of 3D concrete walls constructed using 3D printing construction technology in the USA M. Ekenel, M. Sanchez, A. Kazemian, B. Khoshnevis - ICC Evaluation Service, US	High temperature exposed recycled aggregate concretes subjected to compression F.B. Varona, F. Baeza-Brotons, A.J. Tebza-Abril, F.J. Baeza, D. Bru - University of Alicante, Spain	Influence of temperature on rheological properties of grout produced from waste volcanic tuff of Cappadocia Region M. Bayram, D. Oktay, N. Yüzer - Yıldız Technical University, Turkey
13:00 - 13:15 (UTC) 16:00 - 16:15 (IST)	Towards tailored cement-based materials with ground calcium carbonates E. Denarie, L. Sofia, P. Gonnon - Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland	Characterization and durability assessment of lime-based grouts D. Oktay, N. Yüzer - Yıldız Technical University, Turkey	Evaluation of the effects of design parameters on the robustness of self-consolidating mixtures by a novel method T.K. Erdem, E. Bilgiç, Z. Kanpara Cıvaş, H.G. Güner, M. Dönmez - İzmir Institute of Technology, Turkey
13:15 - 13:30 (UTC) 16:15 - 16:30 (IST)	Carbonation of concrete containing limestone filler D.K. Panesar, R. Zhang - University of Toronto, Canada	High performance concrete design for mega projects: 1915 Çanakkale bridge project M. Tarhan, B. Karakayalı, E. Örtemiz, G.Aktaş, H. Bulu, M. Çavuşoğlu - Akçansa Cement, Turkey	Design of low-CO2 cement-based binder for additive manufacturing M. Aydın, Z. B. Bundur, N. Özyurt, M.A. Gülgün - Özyeğin University, Turkey
13:30 - 13:45 (UTC) 16:30 - 16:45 (IST)	Very high strength fast-hardening concrete using composite binders V.R. Falikman, O.O. Kalashnikov - Scientific Research Institute for Concrete and Reinforced Concrete - Russia	The effect of amount and type of fines, and size of aggregate on the sorptivity and compressive strength of SCCs S. N. Bıçakçı, I. Altındağ, C. Şengül, H. Hilmioğlu, U. A. Doğan and M. H. Ozkul	An experimental study on the rheological behavior of materials composing liquid phase of fresh self-compacting concrete (SCC) H. Hoornahad, M. Ahmad Vand, A. Ahmad Vand - Aria University of Sciences and Sustainability, Iran
13:45 - 14:00 (UTC) 16:45 - 17:00 (IST)	COFFEE BREAK		



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Day 2 - May 28, 2021 (Friday)

	Main Hall A New materials and methods for sustainable structures	Hall B Materials and mix design for improved durability	Hall C Fresh state performance of cement-based materials
Session Chairs	Chair: Aslı Özborra Tarhan	Chair: Özkan Şengül	Chair: Ahmet Onur Pehlivan
14:00 - 14:15 (UTC) 17:00 - 17:15 (IST)	CSC - certification for concrete and its supply chain C. Artelt, M. Scharpf, A. Özborra Tarhan - Heidelberg Cement AG, Germany	The relationship between the steel reinforcement ratio and effective thermal conductivity of reinforced concrete H.L.(Roger) Chen, B.E. Baş, G. Leon, S. Mardmomen - West Virginia University, US	The basic behavior of cement asphalt emulsion composites J. Ouyang, S.P. Shah, Dalian University of Technology, China
14:15 - 14:30 (UTC) 17:15 - 17:30 (IST)	Compressive strength performance of concrete containing calcined laterite as a supplementary cementitious material A.J. Babafemi - Stellenbosch University, South Africa	Effects of concrete properties on the service life of reinforced concrete structures C. Çolak, Ö. Şengül - Istanbul Technical University, Turkey	The buildability performance of construction demolition waste-based geopolymetric binder Oğuzhan Şahin, Anıl Kul, Gürkan Yıldırım, Mustafa Şahmaran - Kırşehir Ahi Evran University, Turkey
14:30 - 14:45 (UTC) 17:30 - 17:45 (IST)	Concrete compatible biogranules: a novel healing agent for bio-based self-healing concrete M. Sönmez, Y.Ç. Erşan - Hacettepe University, Turkey	High performance lightweight concrete (HPLWAC) design using natural sources Z.C. Girgin - Yıldız Technical University, Turkey	Investigating the influence of natural additives on rheology of cement-paste A. G. Gülüdoğan, Z. B. Bundur - Özyeğin University, Turkey
14:45 - 15:00 (UTC) 17:45 - 18:00 (IST)	Use of seawater as the mix water for concrete O. G. Aydoğan, S. Bilici, A. H. Akca, E. Balci, N. Özyurt - Boğaziçi University, Turkey	Life cycle energy assessment of cement-based materials: Case study of a residential building in different climatic regions of Turkey N. Moazzen, M.E. Karagüler, T. Ashrafian, Maltepe University, Turkey	Design of self-compacting concrete used for 1915 Çanakkale Bridge's steel shafts B. Karakayalı, M. Tarhan, E. Örtemiz, İ. Gökalp, Y. Engin, H. Bulu, M. Çavuşoğlu, A.Sepetçi AKÇANSA Cement, Turkey

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Day 3 - May 29, 2021 (Saturday)

	MAIN HALL A
11:00 - 11:40 (UTC) 14:00 - 14:40 (IST)	Keynote Lecture VI - Zongjin Li, University of Macau, China High crack resistant cement-based materials achieved by on-site polymerization Chair: Nabi Yüzer
11:40 - 12:20 (UTC) 14:40 - 15:20 (IST)	Keynote Lecture VII - Viktor Mechtcherine, TU Dresden, Germany Integrating Reinforcement in 3D Concrete Printing: State-of-the-Art and Classification Framework Chair: Nilüfer Özyurt Zihnioğlu
12:20 - 12:45 (UTC) 15:20 - 15:45 (IST)	Coffee Break



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Day 3 - May 29, 2021 (Saturday)

	Main Hall A Fiber-reinforcement in advanced materials	Hall B Assesment and repair of concrete structures	Hall C Geopolymer mortars
Session Chairs	Chair: Abdullah H. Akca	Chair: Surendra K. Manjrekar	Chair: Anıl Niş
12:45 - 13:00 (UTC) 15:45 - 16:00 (IST)	Development of deflection-hardening hybrid fiber-reinforced concretes with large share of coarse aggregates H. İlcan, G. Yıldırım, O. Öztürk, M. Şahmaran – Hacettepe University, Turkey	Assessment and repair of concrete structures - sustainability considerations P.C. Stivaros - GEI Consultants - US	Utilization of basalt powder as geopolymeric binder B. Aktürk, A.B. Kızılkanaç, N. Kabay, V. Akyüncü - Istanbul Bilgi University, Turkey
13:00 - 13:15 (UTC) 16:00 - 16:15 (IST)	The influence of synthetic fibers on chloride migration coefficient U. Alparslan, İ. İzmit, M. Tarhan, B.C. Karakayalı, E. Örtemiz, B. Erdal - Kordsa Teknik Tekstil A.Ş., Turkey	The use of 4th generation integral corrosion inhibiting admixture and the experience of a decade in various elements of precast, RCC and PSC elements in large size case studies. S.K. Manjrekar - Sunanda Specialty Coatings PVT. LTD.	Compressive strength development of alkali activated concretes under ambient and delayed oven curing conditions A. Niş, E. Kalaycıklı, U. Keklik - Istanbul Gelişim University, Turkey
13:15 - 13:30 (UTC) 16:15 - 16:30 (IST)	Advanced cement-based materials tailored for glass reinforced concrete M. Maraslı, Ö. Akalın, S. Güntepe - Fibrobeton A.Ş., Turkey	Case Study of 800 Buildings for Corrosion & Residual Life A.Nakhawa - Structural Engineers and Project Consultants - India	Production and utilization of geopolymer concrete K. Kılınç, Ş. Aldemir - Kırklareli University, Turkey
13:30 - 13:45 (UTC) 16:30 - 16:45 (IST)	Nanomodified cementitious composites: advanced dispersion and adhesion characterization and investigation of critical properties K. Mendu, R. M. Rosa, D. J. Corr, M. S. Konsta Gdoutos, S. P. Shah	Strategies to optimally valorise recycled concrete aggregates from destroyed buildings in Syria A. Rashwani, B. Kadan, S. Seyedian Choubi, Y. Alhammoudi, M. Guadagnini, T.Hanein, J. Provis, C. Meral Akgul - International Sham University, Syria	Binary use of F-Class fly-ash with different aluminosilicates for the improved mechanical properties of ambient-cured geopolymer mortars O. Öztürk - Konya Technical University, Turkey
13:45 - 14:00 (UTC) 16:45 - 17:00 (IST)	Sorptivity and mechanical properties of micro-fibrillated cellulose reinforced cementitious composites O. Öztürk, M. Stefanidou - Konya Technical University, Turkey	Recommendations for rehabilitation of old Durgadee Bridge across Ulhas River in Kalyan, Maharashtra, India S.S. Bhonge, S.K. Manjrekar, V. P. Ramgude, R.T. Patil, P. Dalwi, J.K. Kulkarni	Usage of fiber reinforcement for concrete pavement applications and implication of fiber reinforcement to the thickness design O. Öztürk, F. Menekşe, N. Özyurt - Boğaziçi University, Turkey
14:00 - 14:15 (UTC) 17:00 - 17:15 (IST)	COFFEE BREAK		



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Day 3 - May 29, 2021 (Saturday)

	Main Hall A Waste materials for sustainable concrete production
	Chair: Nihat Kabay
14:15 - 14:30 (UTC) 17:15 - 17:30 (IST)	A comparative assessment of waste use in concrete I. Sanrı Karapınar, A. E. Özsoy Özbay - Maltepe University, Turkey
14:30 - 14:45 (UTC) 17:30 - 17:45 (IST)	Ternary blended cement and sustainable concrete made from solid waste pozzolans J.T. Kolawole, K.O. Olusola, A.J. Babafemi - Obafemi Awolowo University, Nigeria
14:45 - 15:00 (UTC) 17:45 - 18:00 (IST)	The utilization of washing aggregate sludge waste in cement mortar N. Kabay, H. Özkan, S. Musaoğulları - Yıldız Technical University, Turkey
15:00 - 15:10 (UTC) 18:00 - 18:15 (IST)	Use of wood ash and glass sand wastes for sustainable concrete production S.C. Bostancı - European University of Lefke, Northern Cyprus
15:15 - 15:30 (UTC) 18:15 - 18:30 (IST)	Use of industrial wastes as an alternative binder to cement for better sustainable building construction E. Aydın - European University of Lefke, North Cyprus
15:30 - 15:45 (UTC) 18:30 - 18:45 (IST)	CLOSING REMARKS

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