

PF0010	11:00-11:15	Effect of relative humidity on the carbonation of hardened cement paste particles under atmospheric CO <sub>2</sub> concentration Naohiki Saeki, Luge Cheng and Ippei Maruyama	27
PJ0084	11:15-11:20	Aqueous Carbonation of Recycled Concrete Fines: Towards Higher Efficiency Yi Jiang, Zihan Ma, Peiliang Shen and Chi Sun Poon	28
PJ0076	11:20-11:25	Investigation of Properties of Recycled Fine Aggregate Carbonated by Different Methods in Air or Water Hiroshi Kadota, Yousaku Ikeo, Y. Takeuchi and D. Atarashi	29
PJ0046	11:25-11:30	Investigation on the combined mechanical-carbonated activation of recycled concrete powder C. Wang, B.G. Zhan, P. Gao, K.X. Xiong, Q.J. Yu, Y.T. Chu	30
PJ0082	11:30-11:35	A Study on Mortar Properties Focusing on Water Absorption Ratio of Carbonated Recycled Fine Aggregate Yusaku Inoue, Yousaku Ikeo and Takeshi Iyoda	33
PF0124	11:35-11:40	Effect of forming process on mechanical properties of carbonated steel slag artificial aggregates Mengli Zhang, Yunhua Zhang, Qing Wang and Dafan Huang	34
PF0003	11:40-11:45	Alkaline materials based on pulverized recycled concrete and waste glass Juliana Rodríguez-Morales, Oswaldo Burciaga-Díaz and Jose I. Escalante-García	35
PF0052	11:45-11:50	Enhancing Carbonation of Reactive Magnesium Oxide Cement (RMC)-Based Composites with Cenospheres Xiangyu Wang and Kemal Celik	36
PF0051	11:50-11:55	Preliminary study on the impact of the ratio of r-MgO to Biomass fly ash on Carbonated Reactive Magnesia Cement-based mortars Erick Grünhäuser Soares, João Castro-Gomes and Manuel Magrinho	37
12:35-13:45	Lunch		

13:45-15:30	Oral Presentation – CO <sub>2</sub> Sequestration and Radioactive Waste Encapsulation Chair: Nailia Rakhimova 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall A
			Kiosk#
PJ0100	13:45-14:00	Estimating Lifecycle-based Carbon uptake at building level: insights from a bottom-up approach in two countries Hessam AzariJafari, Ipek B. Manav, Motahareh Rahimi, Elizabeth Moore, Bruno Huet, Christophe Levy, Chetan Hazaree and Randolph Kirchain	1
PF0066	14:00-14:15	CO <sub>2</sub> utilization for ready-mixed concrete production: development, challenges and scale up Sean Monkman and Igor De La Varga	2
PJ0042	14:15-14:30	Relationship between the chemical composition of cementitious materials and their radioactivity Jose A. Suarez-Navarro, Andres Cano, Francisca Puertas and Maria del Mar Alonso	2 (shared)
PA0013	14:30-14:35	Future projection of carbon dioxide emission in calcium carbonate concrete (CCC) production Satoshi Fujimoto, Bui Ngoc Kien, Ryo Kurihara, Ryoma Kitagaki, Takayoshi Masuo, Hikotsugu Hyoudou, Hiroshi Hirao, Manabu Kanematsu, Masato Tsujino, Yasuhiro Kuroda, Haruo Nakazawa, Masaki Tamura, Ippei Maruyama and Takafumi Noguchi	3
PJ0030	14:35-14:40	Effect of carbon dioxide on cement paste during mixing Yali Wang, Wanyou Meng, Hui Wang and Suping Cui	4
PF0064	14:40-14:45	Role of Mixing Temperature on CO <sub>2</sub> Mineralization of Cement-based Materials Won Kyung Kim, Junbom Park and Juhyuk Moon	5
PJ0031	14:45-14:50	Carbonation and hydration kinetics of CO <sub>2</sub> injected ready-mix concrete Suhui Zhang, Qiang Yuan, Jun Ni and Caijun Shi	6
PF0039	14:50-14:55	Mechanical properties of Hardened Cement Paste Containing Amines Xinjie Zhuo, Tan Pan, Dayoung Oh, Ryo Kitagaki, Yogarajah Elakneswaran, Hisanori Senboku, Ryosuke Saito, Keiichi Yano, Yuuya Yoda, Masato Tsujino and Akira Nishida	7
PF0073	14:55-15:00	Amine-CO <sub>2</sub> Treatment of Cement Slurry and its Effect on Portland Cement-Fly Ash-Slag Ternary System Zain A.S. Bairq, Pingping He and Caijun Shi	8
PF0041	15:00-15:05	Further Carbon Capture by Semi-Carbonated Concrete Waste Fines through Wet Carbonation Process Bui Ngoc Kien, Ryo Kurihara, Wei Wang, Takafumi Noguchi and Ippei Maruyama	9
PF0013	15:05-15:10	Physical properties and CO <sub>2</sub> fixation of concrete using carbonated cement slurry Takayuki Hayakawa, Toshinari Anno, Takahito Nozaki and Takafumi Noguchi	10
PJ0065	15:10-15:15	Application of Recycled Cementitious Material from Concrete Waste for UK Nuclear Waste Encapsulation Douglas G. Scammell and Hajime Kinoshita	11
PF0046	15:15-15:20	Use of Geopolymer Cements for the Treatment of Intermediate Level Radioactive Waste Sally Cockburn, Martin Hayes, Gavin Cann and Stephen Farris	12
13:45-15:30	Oral Presentation – Carbonation Curing and Carbonated Systems Chair: Parnthep Julnipitawong 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall B
			Kiosk#
PD0020	13:45-14:00	The Effects of High Limestone Content on the Performance of PC Limestone GGBS Grouts for Encapsulating Nuclear Waste Alexander Potts, Samantha Irving, Gavin Cann and Martin Hayes	13
PI0010	14:00-14:15	Crack reactivity of ultra-high performance fibre reinforced concrete under the flowing impact of geothermal water Maria C. Alonso, Mercedes Gimenez, Maria Criado and Liberato Ferrara	15
PF0036	14:15-14:20	Insights into the Role of Carbonation Curing on Calcium Leaching Behavior of Cement Paste Tiefeng Chen and Xiaojian Gao	16
PF0038	14:20-14:25	Effect of early carbonation curing system on performance of cement mortar Suping Cui and Zhao Guo	17
PF0021	14:30-14:35	Strength development and CO <sub>2</sub> sequestration by carbonation curing of mortar using blast furnace slag fine powder and $\gamma$ -C <sub>2</sub> S Yukiko Nishioka, Daijiro Tsuji and Masaro Kojima	19
PF0108	14:35-14:40	The optimal water conditions for the accelerated carbonation curing of cement-based materials incorporating $\gamma$ -C <sub>2</sub> S Masataka Ushiro, Taiichiro Mori, Misuzu Takase, Katsuya Namiki and Suguru Noda	20
PF0086	14:40-14:45	Effect of CO <sub>2</sub> concentration on amount of carbonation in Mortar Kengo Seki, Kumar Avadh, Mio Sakai, Toshinari Mukai and Takeshi Torichigai	21
PJ0104	14:45-14:50	Recommendations of the French National project FastCarb about accelerated carbonation of recycled concrete Xavier Guillot and Jean-Michel Torrenti	22
PF0034	14:50-14:55	Utilization of carbonated steel slag powder in cementitious materials Ning Li and Cise Unluer	23
PJ0028	14:55-15:00	Effects of pre-hydration time on the mechanical properties of carbonated steel slag-cement products	24
PF0025	15:00-15:05	Experimental study on synergy between CO <sub>2</sub> mineralized steel slag and carbonation-cured steel slag-cement paste Linshan Li, Tiefeng Chen and Xiaojian Gao	25

13:45-15:30	Oral Presentation – Sustainability, Circular Economy and Waste Utilizations		Hall C
	Chair: Smith Songpiriyakij		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PJ0064	13:45-14:00	Developing circular concrete through acid leaching of waste concrete fines Tiejun Ding, Hong Wong, Marcus Yio, Xiuchen Qiao and Chris Cheeseman	26
PJ0066	14:00-14:15	Design and Two Years of Field Experience from an Energy-Harvesting Floor Utilizing Piezoelectric Ceramics Christopher Schiefer, Dongyu Xu, Xin Cheng and Johann Plank	27
PJ0087	14:15-14:30	Eco-toxicity assessment of cement. Bioassays on luminescent bacteria and sea urchin embryogenesis Ana Andres, Jorge Santos, Ana Fernandez-Jimenez, Olga Maltseva, Eva Cifrian and Angel Palomo	28
PJ0053	14:30-14:35	Investigating the effect of superfine recycled rubber powders on the mechanical properties and impact resistance of rubberized mortar Saisai Kang, Qinfei Li, Yongrui Feng, Jinshi Wei and Hai Liu	29
PJ0103	14:35-14:40	Using kaolin mining waste to produce sustainable building materials Marylinda Santos de Franca and Arnaldo M.P. Carneiro	30
PJ0024	14:40-14:45	Influence of Waste Glass Powder and Silica Flour on Compressive Strength and Permeability of Cement Pastes at HTHP Chenzi Geng, Chunyu Wang, Ying Ma, Xiao Yao, Duyou Lu and Jiangtao Xu	31
PJ0035	14:45-14:50	Valorization of Calcium Sulfate Residues by Adding Accelerating Admixture in Portland cement Rayara Pinto Costa, Matheus H. Gomes de Medeiros, Andre Machado Fagundes, Fernando Viero Silveira, Seiiti Suzuki and Ana P. Kirchheim	32
PJ0041	14:50-14:55	Effect of Manganese Sulfate Replacing Gypsum on Properties and Reducing Cr(VI) of Cement Paste Yuan Wang and Zhi Wang	33
PJ0014	14:55-15:00	CDW waste as retardants of ions harmful to cement Raquel Vigil de la Villa, Virginia Rubio, Rosario Garcia-Gimenez, Moises Frias, Sagrario Martinez-Ramirez and Jaime Moreno-Juez	34
PJ0038	15:00-15:05	Effect of calcination temperature on paper mill lime sludge as an activator for GGBFS based cementless UHPC Inigo Vegas-Ramiro	35
PJ0039	15:05-15:10	Utilizing paper mill lime mud as fine aggregate for sustainable high-strength mortar Alemayehu M. Kebede and Sukhoon Pyo	36
PJ0081	15:10-15:15	Use of concrete slurry waste as an accelerator - Effect on early-age strength development and hydration of steam-cured specimen Mari Kobayashi	37
PJ0077	15:15-15:20	Effect of sewage sludge ash on volume deformation of cement-based materials	38
15:30-15:45	Coffee Break		
16:00-17:00	Closing Ceremony		Hall A
	Chair: Thanakorn Pheeraphan and Somnuk Tangtermsirikul		
	<b>Next organizer presentation</b>		
	<b>Organizing Committee Chairman Farewell Speech</b>		

# Poster Sessions

Monday, September 18, 2023

10:45-12:15	Poster Presentation		Kiosk#
	Digital Kiosk #1		
PF0133	10:45-10:55	Case Studies on the Large-Scale use of Low-Carbon Belitic Calcium Sulfoaluminate (BCSA) concrete Theodore Hanein, Julian Calleros and Eric P. Bescher	1
PF0145	10:55-11:05	Comparison of set retarders in CSA and blended CSA/OPC systems Ewa Kapeluszna, Ilona Buchala, Wojciech Szudek and Paulina Szoldra	1
PF0139	11:05-11:15	High-efficient Solidification and Stabilization by Low Carbon Supersulfated Cement J.X. Ban, Jian Xin Lu and C.S. Poon	1
	Digital Kiosk #2		
PD0002	10:45-10:55	The Effects of Supplementary Cementitious Materials on the hydration kinetics of Dyckerhoff G-Oil Cement Martin Palou, R. Novotny, E. Kuzielova, M. Zemlicka, J. Cepcianska and J. Podhorska	2
PD0068	10:55-11:05	Effect of chloride salts on cement hydration: influence of the cation - part II Paolo Forni	2
PC0077	11:05-11:15	The Influence of Aluminum Uptake on the Mechanical Properties of Calcium Silicate Hydrate Zhe Zhang and Guoqing Geng	2
	Digital Kiosk #3		
PE0036	10:45-10:55	Comparison of superabsorbent polymer characterization by filtration test in water and cementitious filtrate Luiza F.M. Souza, Matheus A.R. Fontes and Livia B. Agostinho	3
PE0052	10:55-11:05	Atomic Scale Insight of Hydration Temperature Rise Inhibitors (TRI) Affecting Calcium activity via AIMD Jiale Huang, Hegoi Manzano, Zhangli Hu and Jiaping Liu	3
PE0057	11:05-11:15	Multi-scale model for characterizing thermal conductivity of cement-based materials with nano inclusions Jiahua Liu	3
	Digital Kiosk #4		
PH0031	10:45-10:55	Basic study on estimating porosity of pervious concrete using AI Ridengaoqier E.	4
PK0005	10:55-11:05	A micromechanical modelling approach to study the effect of shape of hydrates on creep properties of cement pastes Amit Kumar and Shashank Bishnoi	4
PH0019	11:05-11:15	New trend line of compressive strength and unit volume weight of cement composites: Lightweight and high-strength at the same time Yeonung Jeong, Jung-Il Suh, Joo Hyung Kim, Youngkeun Cho and Sanghwa Jung	4
	Digital Kiosk #5		
PB0001	10:45-10:55	Prediction of Total Bond Order Density of Cement Crystals using Fermionic Hubbard Model and Bloch and Fermi Surface Natt Makul	5
PI0083	10:55-11:05	Identification of the mass transfer of hydraulic binder panels submitted to a standard fire. Effect of chemical conversion kinetics E. Huby, A. Rojo, D. Giovannacci, J-D. Mertz and Y. Melinge	5
PF0151	11:05-11:15	Influence of slaked lime on hydration kinetics of Portland cement Yu Zeng, Guilherme Munhoz and Guang Ye	5

Tuesday, September 19, 2023

10:45-12:15	Poster Presentation		Kiosk#
	Digital Kiosk #1		
PD0018	10:45-10:55	Industrial Deployment of Calcined Clays Cements Nestor I. Quintero	1
PF0095	10:55-11:05	Effect of Low Temperature Calcination on Pozzolanic Activity of Volcanic Powder Fanyuan Mu, Zhengping Sun, Chunsheng Wang and Xing Yang	1
PD0134	11:05-11:15	Effect of steam curing on the hydration of limestone calcined clay cements (LC3) with low kaolinite content Yuchen Hu and G. Geng	1
	Digital Kiosk #2		
PD0063	10:45-10:55	A Particle Packing Approach for Eco-efficient Ultra High-Performance Concrete (E-UHPC) Bayezid Baten, Hamza Samouh and Nishant Garg	2
PG0025	10:55-11:05	Changes in Rheology and Tensile Properties of UHPC with Silica Fume Content Zemei Wu, Kamal H. Khayat and Caijun Shi	2
PI0001	11:05-11:15	Carbonation and chloride ingress of ultra-high performance concrete (UHPC) after long-term exposure to different conditions	2
	Digital Kiosk #3		
PF0099	10:45-10:55	Comparative Study of Mechanical Properties of Limestone Calcined Clay Cement, Ordinary Portland Cement, and Pozzolana Portland Cement Akash Mishra, Priyanshu Sinha, Amit Kumar and Shashank Bishnoi	3
PH0025	10:55-11:05	Design of Ultra-High Performance Concrete (UHPC) using calcined clay as supplementary cementitious materials Jyotish K. Das, Numair Manhas, Shashank Bishnoi, Sahil Bansal and Abhilash Shukla	3
	Digital Kiosk #4		
PC0070	10:45-10:55	Accelerating mechanism of calcium additives on alkali activated cementitious material Feng Wu, Hui Li and Huimei Zhu	4
PF0040	10:55-11:05	Improved tensile performance of strain-hardening geopolymer composites using treated CBA and polyethylene fiber Suhawn Ju, Minchang Kang and Sukhoon Pyo	4
PH0033	11:05-11:15	Preparation and research of FA-GGBFS based lightweight high strength foamed geopolymer thermal insulation material	4
	Digital Kiosk #5		
PH0023	10:45-10:55	Strength Development Prediction and Mixture Optimization of Concrete Used in the Three Gorges Dam Xiaohang Xu, Zhangli Hu, Jiaping Liu and Wenwei Li	5
PH0007	10:55-11:05	Review of the use of water magnetization in sodium silicate concrete sealer	5
PF0104	11:05-11:15	Suitable solvent extraction method selection and gel structure evolution for alkali activated slag (AAS) pastes at early age Dongdong Jiang, Zuhua Zhang and Caijun Shi	5

Wednesday, September 20, 2023

10:45-12:15	Poster Presentation		
	Digital Kiosk #1		Kiosk#
PG0071	10:45-10:55	A study on the adsorption and dispersion capability of PCEs with different structures on cement containing montmorillonite	1
		Yihan Ma and Caijun Shi	
PG0072	10:55-11:05	Preparation and performance of EPEG-type PCE and its application in ultra-high performance concrete	1
		Tong Xue, Jie Bai, Wenyong Xu, Zuobao Song, Ting Li, Juan Li and Ruijun Gao	
PG0039	11:05-11:15	Understanding the Effect of Slag Particle Size, Shape, and Morphology on the Flow Characteristics of Portland Cement - Blast Furnace Slag Blends Formulated with a Polycarboxylate Ether Superplasticiser	1
	Digital Kiosk #2		
PG0067	10:45-10:55	On the impact of sulphate source on admixtures in limestone calcined clay cements	2
		Sebastien Dhers, B. Ecker, R. Guggenberger, B. Sachsenhauser and P. Schwesig	
PG0002	10:55-11:05	Effect of alkanolamines in kaolinitic calcined clays pozzolanic reactivity	2
		Imane Koufany, Isabel Santacruz, Maria-Dolores Rodriguez-Ruiz, Eric P. Bescher, Miguel A.G. Aranda and Angeles G. De la Torre	
PD0139	11:05-11:15	Data mining HeidelbergCement database: concrete performance prediction and optimisation with Machine Learning	2
		Alexandre Ouzia and Mohsen Ben Haha	
	Digital Kiosk #3		
PG0057	10:45-10:55	Aluminum sulfate-based accelerators: rheological implications for 3D-printed concretes	3
		Laura Caneda Martinez, Emmanuel Keita, Hela Bessaies-Bay, Myriam Duc, Belen Gonzalez-Fontebao and Nicolas Roussel	
PG0037	10:55-11:05	Rheology of Cement Paste with Mineral Additions	3
		Savio V. Oliveira, Iranilza C. Silva, Leane P.B. Sales, Fabiola L.M. Rocha, Diego P. Bezerra and Aline F. Nobrega	
PE0010	11:05-11:15	A comparative study of tribometer rotor configurations and analytical methods for concrete pumping pressure prediction	3
		Fumin Li, Qiang Yuan and Caijun Shi	
	Digital Kiosk #4		
PG0051	10:45-10:55	Effect of the use of different dispersing molecules on the rheological properties and kinetic hydration of Portland cement pastes	4
		F.F. Danila, Ariane C. Martho, Roberto O. Romano and Rafael G. Pileggi	
PG0011	10:55-11:05	Influence of raw and mechanically activated shale on rheological properties of cement based binder	4
		Thirumalini S., Raghunathan Swaminathan, Shanmuga P. T., Biju Karakkunnummal, Gayathri Chandran and Aswathy Ajayan	
PG0065	11:05-11:15	Effects of different types of shrinkage reducing agents on shrinkage properties of mortars incorporating slag or silica fume	4
		Bei bei Zhou and Caijun Shi	
	Digital Kiosk #5		
PG0074	10:45-10:55	Development of ultra-fine SAP powder for lower-shrinkage and higher-strength cement pastes made with ultra-low water-to-binder ratio	5
PG0050	10:55-11:05	Sacrificial agents for clayey aggregates. An understanding of mortar and concrete scale	5
		Ana C. Gomez, W.A. Echeverri, C.A. Orozco and C.P. Rodriguez	
PG0053	11:05-11:15	Pore structure of polymer-modified dry mix tile adhesive mortars	5
		Marcin Kupinski and Lukasz Kotwica	

## Thursday, September 21, 2023

10:45-12:15	Poster Presentation		Kiosk#
	Digital Kiosk #1		
PD0049	10:45-10:55	Use of machine learning for predicting phase assemblages of supplementary cementitious materials-blended cements Aron B. Degefa, Hokeun Yoon, Jin Yeong Bak and Solmoi Park	1
PD0133	10:55-11:05	Quantitative microstructure analysis of SCM-blended cementitious materials through deep learning-based computer vision methods Yu Yan and Guoqing Geng	1
PD0023	11:05-11:15	Mineralogical analysis of BOF slag with different grinding efficiency Seohyun Kim and Juhyuk Moon	1
	Digital Kiosk #2		
PD0017	10:45-10:55	Effects of Rice Husk Ash and Metakaolin on the Mechanical Properties, Volume Stability and Pore Structure of Mortar Han Wang, Xiaohui Zeng, Cong Tang and Yingying Wei	2
PD0025	10:55-11:05	Improving the interfacial transition zone of high-volume fly ash concrete using response surface methodology Tianyu Xiao and Sen Du	2
PJ0006	11:05-11:15	Characteristics of Cement Mortar containing Pozzolans along the Sichuan-Tibet Region Haixu Wang, G.C. Long and Y.J. Xie	2
	Digital Kiosk #3		
PF0100	10:45-10:55	Synergistic effect of carbonates and metakaolin on the hydration and strength properties of Portland cement Fei Liu, Jiangtao Xu and Duyou Lu	3
PD0079	10:55-11:05	Impact of curing time on carbonation of low-clinker binders Emilie L'Hopital, Ilias Outras and Katarina Malaga	3
PD0052	11:05-11:15	Restraining strength retrogression of silica-cement at high temperature above 200 °C using flint clay and graphite Huiting Liu, Zhendong Zhang, C.Q. Li, Yongjin Yu, Fengzhong Qi and Yangchuan Ke	3
	Digital Kiosk #4		
PI0098	10:45-10:55	Surface effect on chloride diffusion in calcium silicate hydrate Lianyao Xiong and Guoqing Geng	4
PD0021	10:55-11:05	Simulation of sulfate attack on carbonated Portland cement-blast furnace slag binary cement Nahom S. Melaku and Solmoi Park	4
PI0072	11:05-11:15	Resistance of portland-dolomite cement to thaumasite sulfate attack Jiangtao Xu, Duyou Lu and R.D. Hooton	4
	Digital Kiosk #5		
PI0011	10:45-10:55	Structural incorporation pathways of FeIII into zeolite frameworks in cement-relevant environments Bin Ma and Barbara Lothenbach	5
PI0027	10:55-11:05	Influence of negative temperature hardening on hydration and pore structure evolution of Portland cement paste	5
PI0028	11:05-11:15	Sodium $\beta$ -glycerophosphate influence on the carbon steel inhibited behavior in different cations concrete simulated pore solutions Xiaoxian Wang and J.P. Liu	5

## Friday, September 22, 2023

10:45-12:15	Poster Presentation		Kiosk#
	Digital Kiosk #1		
PF0024	10:45-10:55	Development of Carbonation-cured Low-carbon Precast Concrete Products and Evaluation of Avoided CO2 Emissions Seiichi Hoshino, Kazuki Kobayashi, Yoshifumi Ohgi, Masayuki Hashimoto, Yoshifumi Hosokawa, Kouki Ichitubo and Koji Nomura	1
PJ0080	10:55-11:05	Effect of Mix Proportion on CO2 Adsorption in Cement Pastes with Different Cement Types Runa Yahiro, Masaro Kojima and Takeshi Iyoda	1
PF0076	11:05-11:15	Quantitative analysis of carbon dioxide bound by carbonation of belite Yoshifumi Ohgi, Y. Kirino and Yoshifumi Hosokawa	1
	Digital Kiosk #2		
PF0146	10:45-10:55	CO2 mineralization in the limestone calcined clay cement Qing Liu, S. Hu, Y.C. Hu and G.Q. Geng	2
PJ0116	10:55-11:05	Carbonation effects on mechanical performance and microstructure of LWAs produced with hydrated cement paste powder Yanjie Tang, K. Schollbach, W. Chen and H.J.H. Brouwers	2
PF0049	11:05-11:15	Effect of CO2 curing on bonding strength and microstructure in the interfacial transition zone Yan Huang, X. Hu and Caijun Shi	2
	Digital Kiosk #3		
PK0002	10:45-10:55	Cement types and seawater exposure in Europe - implications for infrastructure and its integration into marine habitats Siffr N. Lørup, William B. Feldthus, Nestor R. Padró, Lisbeth N. Ottosen and Wolfgang Kunther	3
PJ0017	10:55-11:05	Increasing circularity and material efficiency using ore sand in concrete - A Brazilian case study Luciano Bento, Mariana F.L. Menezes, Aline C.L. Alves, Marcelo F. Araujo, Guilherme Reis and Rubens J.P. Reis	3
PJ0102	11:05-11:15	Mechanism of solidification at early age of poured earth by addition of hemihydrate and lime Samuel M. Meulenyzer, Elodie Prudhomme, Yves Jorand, Martin Mosquet and Laurent Gremillard	3
	Digital Kiosk #4		
PJ0114	10:45-10:55	Formation of closed pore structure porous glass-ceramics via Fe2O3 modified foaming for thermal insulation Kefeng Jiang and Wei Chen	4
PF0062	10:55-11:05	Incorporation of construction and demolition waste (CDW) in fiber cement submitted to the accelerated carbonation process Daniela O. Lima, Rafael H. Filomeno, Moisés Frias and Holmer Savastano	4
	Digital Kiosk #5		
PE0063	10:45-10:55	Multi-phase and multi-ion modelling of electric current, electric potential and species transport in reinforced concrete during active corrosion process applied to optimization of a patching repair process	5

10:45-12:30	Oral Presentation – New Technologies for Cement Production, Construction and Durability Improvement		Hall C
	Chair: Kritsada Sisomphon		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PB0017	10:45-11:00	Effect of Synthesis Conditions, Zn Doping and Al/Fe Ratio on Calcium [Alumino] Ferrite Structure Cecilia Pesce, Aniruddha Baral, Claire Utton, Hajime Kinoshita, Nicola A. Morley, John L. Provis and Theodore Hanein	27
PB0010	11:00-11:15	Production and Analysis of BYF Clinker Produced via the Combustion of Elemental Sulfur Ammar Elhoweris, Marcus Campbell-Bannerman, Frank Winnefeld, Omnya Abdalla, Roneta Chaliulina and Yousef Alhorr	28
PG0018	11:15-11:30	C-S-H and Pore Structure on Hardened Cement Mixed With Volcanic Glass Fine Powder Masashi Tojo, Masaki Sato, Koshiro Koizumi and Yasuhiro Umemura	29
PJ0051	11:30-11:35	Enhanced adhesion between polymer coatings and cement mortar with early-age CO <sub>2</sub> treatment Yuqing Dai and Qiang Zeng	30
PI0090	11:35-11:40	Study on the Deterioration Mechanism of Cementitious Waterproofing Membrane (Part I: Macroscopic Performance) Jian Wang, W.Y. Li, B. Peng, J.X. Liao, S.X. Wang, Z. Zeng and X. Kong	31
PJ0061	11:40-11:45	Study on the Deterioration Mechanism of Cementitious Waterproofing Membrane (Part II: Microstructural Evolution) Wenyu Li, J. Wang, B. Peng, J.X. Liao, S.X. Wang, Z. Zeng and X.M. Kong	32
PI0040	11:45-11:50	Preparation of (super)hydrophobic cement-based matrix with organosiloxanes and micromodification of the surface Eduarne Erkizia, Juan J. Gaitero and Iñigo Mendikoa	33
PD0119	11:50-11:55	Design of lime-based repair materials for the Ming Great Wall : a scientific understanding based on traditional lime mortar G.D. Qi, D.M. Wang and D. Xu	34
PA0016	11:55-12:00	Constructing solutions using cement-based materials for energy harvesting and storage Jorge S. Dolado	35
PJ0043	12:00-12:05	Effects of post-fire water curing on strength recovery of thermally damaged concrete from 800 °C Haodong Wang, Haitao Liao, Ye Li and Tiejun Liu	36
PH0020	12:05-12:10	Concrete Mix Design for Rigid Pavements Maintenance: Evaluating Compressive Strength Development and Curing Temperature Effect Wei-Chien Wang, Hoang Trung Hieu Duong, Yu-Yang Li and Chia-Yun Huang	37
PI0016	12:10-12:15	Improvement of mechanical strength and waterproof performance by hydrophobic silica fume for concrete service life Huabing Li and Xiaolu Guo	38
12:35-13:45	Lunch		

13:45-15:30	Oral Presentation – 3D-Printing Technology		Hall A
	Chair: Ganchai Tanapomraweekit		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PA0018	13:45-14:00	3D Printed Prefabricated Prefinished Volumetric Construction for Sustainable Construction K. Pongpaisanseree, Passarin Jongvisuttisun, P. Jiramrootapong, K. Meemuk, P. Chaiyapoom and C. Snguanyat	1
PH0004	14:00-14:15	Gradient distribution of slender glass microfibers in 3D printed cementitious filaments Rijiao Yang, Qiang Zeng and Zhendi Wang	2
PG0045	14:15-14:30	Cellulose ether behavior in slag cement-based tile adhesives Yasmine Kaci, Mohend Chaouche and Roberta Alfani	3
PF0070	14:30-14:35	Global Warming and its Consequences for the Construction Industry Johann Plank and Xinyue Wang	4
PA0025	14:35-14:40	3D Printing Mortar and Concrete: Advancement and Application of Laboratory Test Protocol to Evaluate Properties physiochemical and mechanical. Alexandre C. Santos, Fabiano F. Chotoli and Valdecir A. Quarcioni	5
PA0009	14:40-14:45	3D-printable magnesium-silicate-hydrate cement composites: A feasibility study Yiming Peng and Cise Unluer	6
PA0010	14:45-14:50	Evaluation of Internal Cracks and Three-Dimensional Deformation due to Different Nozzle Paths in a Material Extrusion 3D Printer Kota Nakase, Katsufumi Hashimoto, Takafumi Sugiyama and Katsuya Kono	7
PH0029	14:50-14:55	Drying shrinkage and cracks in fresh cement-based materials for 3D printing: an X-Ray Tomograph investigation Emmanuel Keita, Wenqiang Zuo, Laura Caneda-Martinez, Patrick Aïmedieu, Michel Bornert and Nicolas Roussel	8
PE0037	14:55-15:00	Simulation of heat transport in extruded concrete structure Michal Hlobil and D.S. Kammer	9
PA0012	15:00-15:05	Use of volcanic ash in an ECC material for 3D printing Fernando Fernández, Rocío Jarabp, Eloy Asensio and Ana Guerrero	10
PD0034	15:05-15:10	Effect of solid wastes with different activities on the rheological properties of 3D printing low carbon concrete Lutao Jia, Zijian Jia, Zhenzhong Tang and Yamei Zhang	11
PH0027	15:10-15:15	The performance of 3D printing PCM concrete with novel hollow ceramics composite Zhigang Qiao, Wukui Zheng, Fei Wang, Yongle Qi, Yujin Gou and Hui Li	12
PA0023	15:15-15:20	The First 3D Printed 2-storey Building in Thailand Patiphat Jiramrootapong, Passarin Jongvisuttisun, K. Pongpaisanseree, K. Meemuk, P. Chaiyapoom and C. Snguanyat	13

13:45-15:30	Oral Presentation – Durability (ASR)		Hall B
	Chair: Kazuo Yamada		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PI0006	13:45-14:00	Cement use under extreme marine environment–deep sea Keisuke Takahashi, Yuichiro Kawabata, Mitsuyasu Iwanami and Mari Kobayashi	14
PI0057	14:00-14:15	Physicochemical stability of calcium aluminate cement and hemihydrate-based material exposed to deep sea Tetsu Akitou and Keisuke Takahashi	15
PI0056	14:15-14:30	Experimental investigation of expansion and damage due to alkali-silica reaction at low temperature Takashi Kawakami, Yasutaka Sagawa, Yuichiro Kawabata and Kazuo Yamada	16
PI0050	14:30-14:35	Appraisal of the microstructural properties of ASR affected concrete at different moisture conditions using the DRI Olusola D. Olajide, Michelle Nokken and Leandro Sanchez	17
PI0023	14:35-14:40	Effect of Al on the structure and swelling behavior of synthetic ASR gels Miriam E. Krüger, Ludwig Stelzner, Anne Heisig, Harald Hilbig and Alisa Machner	18
PI0067	14:40-14:45	Phase Evolution and Property Development of Alkali-Silica Reaction Gel in Carbonation Arkabrata Sinha and Jianqiang Wei	19
PI0080	14:45-14:50	Controlling Alkali-Silica Reaction (ASR) in mortars and concretes using calcined illitic clay	20
PI0081	14:50-14:55	Alkali-silica reaction in calcium aluminate cement mortars Łukasz Kotwica and Jakub Szydłowski	21

PI0031	14:55-15:00	Alkali-silica reaction resistance of alkali-activated calcined clays using accelerated mortar bar test Shubham Mishra and Sulapha Peethamparan	22
PI0063	15:00-15:05	Alternatives for pore solution extraction (PSE) method to determine available alkalis of cement pastes Ardalan Ghanizadeh and Michael D.A. Thomas	23
PI0017	15:05-15:10	Cold Water Extraction as a method to determine the free alkali content of cementitious binders Maxime Ranger, Marianne T. Hasholt and Ricardo A. Barbosa	24
PI0033	15:10-15:15	Development of a framework to provide cementing mixtures to mitigate ASR-induced deterioration Diego Jesus De Souza, Leandro Sanchez, Alisa Machner, Anne Heisig and Wolfgang Kunther	25
PI0073	15:15-15:20	Towards the Development of Prescriptive-Based Specifications for Non-Traditional SCMs to Prevent Alkali-Silica Reaction Krishna S.T. Chopperla and Jason H. Ideker	26
13:45-15:30	Oral Presentation – Calcined Clay, Sustainability and Waste Utilization Chair: Sakprayut Sinthupinyo 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall C
			Kiosk#
PD0056	13:45-14:00	Sensitivity of Modified Chapelle test for measuring the reactivity of different types of clays calcined under different conditions Mehnaz Dhar and Shashank Bishnoi	27
PC0021	14:00-14:15	Combined effect of sulfate carriers and alkanolamine on the hydration and setting performance of calcined clay cement Zhiwei Liu, Zichen Lu, Liheng Zhang, Haijing Yang and Zhenping Sun	28
PG0042	14:15-14:30	Paste rheology and surface charge of calcined kaolinite Yannick Demeusy, Sandrine Gauffinet and Christophe Labbez	29
PJ0099	14:30-14:35	The Cement Sector and Life Cycle Assessment: Insights from a Systematic Literature Review Madeline C.S. Rihner, Jacob W. Whittle, Natasha B. Mohamad, Mahmoud H.A. Gadelhaq, Brant Walkley and Lenny Koh	30
PJ0010	14:35-14:40	Ultra-green concrete: a technological breakthrough to save 800 Mt of CO <sub>2</sub> per year Franco Zunino, Guillaume Habert and Robert J. Flatt	31
PJ0005	14:40-14:45	Evaluation of environmental technologies for cement production considering multiple environmental categories Yusuke Kirino, Shunichiro Uchida, Tatsuo Shinmi and Kenji Kawai	32
PJ0079	14:45-14:50	Develop new concepts of Two Stage Concretes (TSC) achieving carbon neutral society Takeshi Iyoda and Yoshitaka Kato	33
PJ0040	14:50-14:55	Process compatible desulfurization of NSP cement production: A novel strategy for efficient capture of trace SO <sub>2</sub> and the industrial trial Tongsheng Zhang, Hui Peng, Chang Wu, Yiqun Guo, Jiawei Wang, Xinzhi Chen, Jiangxiong Wei and Qijun Yu	34
PJ0097	14:55-15:00	Research On Multi-Solid Waste Co-Excitation of Lead Smelting Slag to Prepare Green Filling Materials for Mines and Its Performance Wenhuan Liu, Renhao Du, Zhongzhong Zhao, Yongfeng Wan and Hui Li	35
PJ0016	15:00-15:05	Production of a hydraulic material from post treated steelmaking slags Katharina Schraut, Burkart Adamczyk, Christian Adam, D. Stephan, Sebastian Simon, Julia von Werder and Birgit Meng	36
PJ0048	15:05-15:10	Study on MSWI fly ash solidifiers based on product composition design Qing Wang, Qiang Zhang, Xinrui Wang and Zhaoyang Ding	37
PF0110	15:10-15:15	Utilization of biochar as a carbon sink in low carbon concrete Atthapol Kasemsuknimit, Benjaluk Na Lampang, Nipat Puthipad and Sakprayut Sinthupinyo	38
PJ0092	15:15-15:20	Physical Properties of Biochar Enhance the Rheological Behavior of Cement-Based Materials Lyn Zemberecki, Daniel Woo, Emily Pinheiro, Srirama D. Nair and Kenneth C. Hover	39
15:30-15:45	Coffee Break		

15:45-18:00	Oral Presentation – Durability (Chloride-Induced Corrosion) Chair: Miguel Angel Sanjuán 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall A
			Kiosk#
PI0004	15:45-16:00	Durability of low-carbon cements exposed to chemically aggressive environments Marie Giroudon, Arthur Duchemin, Camille Ferry, Xavier Hardy, Claire Llobet, Alicia Lopez, Melissa Mille, Eva Ourliac, Lilian Pages, Mathilde Poey, Eva Taillade, Florent Tressières, Emma Tucoulet, Vanessa Sonois, Cédric Roosz and Alexandra Bertron	1
PI0047	16:00-16:15	Chloride ingress resistance of Ca(OH) <sub>2</sub> activated GGBFS: Impact of curing temperature and additional activators Qi Zhai and Kiyofumi Kurumisawa	2
PE0039	16:15-16:30	Luminescent-based method for monitoring pH and chloride ingress in cementitious systems Isabel Galan, Cyrill Grengg, Iris Zögl, Marlene Sakopamig, Florian Mittermayr, Joachim Juhart, Bernard Müller, Karl L. Sterz and Torsten Mayr	3
PI0044	16:30-16:35	Corrosion kinetics of steel in artificial carbonated pore solutions under the effect of stirring and bicarbonate ions Cristhiana Albert, Shishir Mundra, O. Burkan Isgor and Ueli Angst	4
PI0042	16:35-16:40	Insight on Chloride Ions Solidification Mechanism in Layered Double Hydroxides Designed with Different Cations both from First Principles Calculation and Experimental Work	5
PI0060	16:40-16:45	Resistance against chloride and carbonation of binary and ternary binder with GGBS or/and limestone Matthieu Bertin, Céline Bacquie, Yoann Jainin, Ersa Myrtja, Roberta Alfani, Laurent Frouin and Martin Cyr	6
PI0062	16:45-16:50	Influence of carbonation on chloride resistance of low clinker cements Bharati, Lupesh Lupesh and Shashank Bishnoi	7
PI0066	16:50-16:55	The square root law with an offset applied to chloride diffusion in slowly reacting blended cement pastes William Wilson, Fabien Georget and Karen L. Scrivener	8
PI0061	16:55-17:00	The fate of ferrous ions in corroding steel reinforced concretes Shishir Mundra, Jan Tits, Erich Wieland and Ueli M. Angst	8 (shared)
PI0068	17:00-17:05	L-Ascorbic Acid used as green corrosion inhibitor in chloride-bearing steel reinforced cement mortars Cristina Argiz, Celia Arroyo, Astrid Bravo, Amparo Moragues, Carmen Andrade and Fabio Bolzoni	9
PI0076	17:05-17:10	Chloride transport mechanism for Metakaolin-Quartz-Limestone blended cementitious materials Shiyu Sui, Y.L. Shan, S.C. Li, F.J. Wang and J.Y. Jiang	9 (shared)
PI0077	17:10-17:15	Influence of elevated environmental temperatures on passivation and corrosion risk of steel reinforcement Chandra S. Das, Zheng Haibing and Jian Guo Dai	10
PI0079	17:15-17:20	Chloride-related electrochemical behavior of steel rebar in seawater sea sand concrete with low water-to-binder ratio	10 (shared)
PF0092	17:20-17:25	Chloride Diffusion and Migration into Concrete Made with Ternary Cements (Clinker, Blast-furnace Slag and Coal Fly Ash)	11

		Miguel A. Sanjuán, Rosa A. Rivera, Domingo A. Martín and Esteban Estévez	
PI0005	17:25-17:30	Anti-corrosion mechanism of LDHs-VB3- for rebar: insights from experiments and DFT simulations	11 (shared)
		Ende Zhuang, Yumei Nong, Mosong Luo, Zheng Chen, Bo Yu and Jing Li	
PI0007	17:30-17:35	Chloride adsorption does not retard chloride ingress in concrete	12
		Tsuneki Ichikawa, Kazuo Yamada and Kazuko Haga	
PI0008	17:35-17:40	Roles of slag on corrosion electrochemical measurement in carbonated mortar	12 (shared)
		Luge Cheng and Ippai Maruyama	
PI0013	17:40-17:45	Study on the ion corrosion resistance of Portland cement clinker with the high Fe/Al ratio of ferrite phase	13
		Yulin Shao, Xiaolei Lu, Yiran Dong, Lina Zhang, Xiang Zhang and Xin Cheng	
15:45-18:00	Oral Presentation – Durability (2)		Hall B
	Chair: Raktipong Sahamitmongkol		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PA0021	15:45-16:00	Assessment of early-age drying induced microstructural changes in 3D printed cement mortar	14
		A.V. Rahul, Manu K. Mohan, Kim Van Tittleboom and Geert De Schutter	
PI0024	16:00-16:15	Drying shrinkage of cement paste during the first drying-resaturation cycle	15
		Jianhao Yin, Wenyu Li and Xiangming Kong	
PF0123	16:15-16:30	Optimization of Hybrid Portland Cement – Metakaolin Concrete	16
		Chloé Monin, Leandro F.M. Sanchez and Susan A. Bernal	
PI0002	16:30-16:35	Various fundamental factors affecting the ion penetration in concrete	17
		Kazuo Yamada, Ippai Maruyama, Tsuneki Ichikawa, Hideyuki Hokoara, Sayuri Tomita, Yasumasa Tojo, Kazutoshi Shibuya, Kazuko Haga, Yoshifumi Hosokawa and Go Igarashi	
PI0003	16:35-16:40	Experimental study on ion penetration in concrete under the condition of competitive adsorption	18
		Kazuo Yamada, Keita Himori, Sayuri Tomita, Haruka Aihara, Kazutoshi Shibuya, Yasumasa Tojo, Go Igarashi and Ippai Maruyama	
PI0088	16:40-16:45	Durability of Marine Exposed Concrete - Data from Field Stations	19
		Malene T. Pedersen, Klaartje De Weerd, Mette R. Geiker, Bård Pedersen, Eva Rodum, Karla Hornbostel and Øyvind Bjøntegaard	
PI0091	16:45-16:50	Impact of an evolving microstructure on the square-root law for chloride ingress	20
		Fabien Georget, William Wilson, Karen Scrivener and Thomas Matschei	
PI0092	16:50-16:55	Formation Factor as a Non-Destructive Measure of Chloride Diffusion Coefficient	21
		Sakib Hasnat, Syed Rafiuzzaman, Alim Chowdhury, Bayezid Baten and Tanvir Manzur	
PE0054	16:55-17:00	A Multi-scale Model of Reinforcement Bars Corrosion Based on the Concentrated Electrolyte Theory and Three Dimensional Hierarchical Structure of Concrete	22
		Krzysztof Szyszkiewicz-Warzecha, Jan Deja, Andrzej Lewenstam, Artur Łagosz, Jan Migdalski, Jakub Stec, Anna Górska and Robert Filipiek	
PI0045	17:00-17:05	Sulphate Attack of Concrete in Sewer System	23
		Harald Justnes	
PI0048	17:05-17:10	A new unidirectional testing approach for sulfate resistance on cement mortars	23 (shared)
		Qiao Wang, William Wilson and Karen Scrivener	
PI0029	17:10-17:15	Effect of Sulfate Attack on the Cement Mortars and Pastes with Different Replacement Levels of Limestone at a Low Temperature	24
		Seung-tae Lee, J.P. Kim, D.G. Kim and S.W. Ha	
PJ0027	17:15-17:20	Sulfate Resistance of Mortar Containing Low-Grade Calcined Clay	24 (shared)
		Yue Wang and Hongjian Du	
PF0094	17:20-17:25	Effect of Limestone Powder on the Resistance of AACM to Sulfate Attack	25
		Ting Wang, Yang Li, Jian Ma, Zhuqing Yu and Xiaodong Shen	
PI0036	17:25-17:30	Changes in the cement paste due to pyrrhotite reaction during accelerated mortar bar testing	25 (shared)
		Mahsa Bagheri, J. Lindgård, Barbara Lothenbach, M.K. Haugen, T. Danner, B.J. Wigum, T.F. Rønningdum, B. Pedersen and K.D. Weerd	
PI0020	17:30-17:35	Understanding the behavior of magnesium potassium phosphate cements under leaching	26
		Laura Diaz Caselles, Céline Cau Dit Coumes, Pascal Antonucci, Angélique Rousselet, Adel Mesbah and Valérie Montouillout	
PI0034	17:35-17:40	Research on the leaching mechanism of C-S-H : experiments and molecular dynamics simulations study	27
		Yuefeng Ma, Ming Jin, Jiale Huang and Jiaping Liu	
PK0004	17:40-17:45	Effect of water content on fluorescence intensities of cement-based materials	27 (shared)
		Jusung Yang and Juhyuk Moon	
15:45-18:00	Oral Presentation – SCMs and Low-CO2 Binders		Hall C
	Chair: Warangkana Saengsoy		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PD0043	15:45-16:00	New Insights on the Use of Sewage Sludge Ashes as Supplementary Cementitious Materials	28
		Danah Shehadeh, Alexandre Govin, Laetitia Bessette, Hichem Krour, Gonzague Ziegler and Philippe Grosseau	
PJ0069	16:00-16:15	Upcycling of Bio-Waste Ashes into Additive for Concrete	29
		Mateusz Wyrzykowski, Sadegh Ghourchian, Nikolajs Toropovs, Sakprayut Sinthupinyo, Kritsada Sisomphon and Pietro Lura	
PF0017	16:15-16:30	High-performance eco-cement synthesized from municipal solid waste incineration bottom ash and recycled concrete fine	30
		Shipeng Zhang, Hanxiong Lyu and Chi-sun Poon	
PK0001	16:30-16:35	Study for New Japanese Industrial Standards: "Volcanic Glass Powder for Use in Concrete"	31
		Atshushi Tomoyose, Takafumi Noguchi and Kenichi Sodeyama	
PD0016	16:35-16:40	Study on preparation of low calcium supplementary cementitious material for solidification of heavy metal zinc	32
		Zimo Li, Yali Wang, Suping Cui and Wanyou Meng	
PD0105	16:40-16:45	Supplementary cementitious materials based on CO <sub>2</sub> -Capturing periwinkle shell	33
		Ebtisam Saeed, M.B. Ogundiran, G. Goracci, C. Aymonier and J.S. Dolado	
PD0092	16:45-16:50	Use of synthetic-SCMs in blended cements and hybrid alkaline cements	34
		Ana M. Fernandez-Jimenez, Pablo Martín-Rodríguez, Lucía Fernández-Carrasco, Angel Palomo and Inés García-Lodeiro	
PD0062	16:50-16:55	How siderite (FeCO <sub>3</sub> ) might be a future low-CO <sub>2</sub> reactive binder component for composite cements	35
		Florian R. Steindl, Marlene Sakopamig, Lukas Briendl, Isabel Galan and Florian Mittermayr	
PD0085	16:55-17:00	Effects of three-dimensional graphene-CNT on the mechanical and microstructure of cement paste	36
		Jintao Liu, Yu Zhuo, Xin Zhao and Deyu Kong	



PD0028	17:00-17:05	Behavior of zeolitized rocks as supplementary cementitious material	36 (shared)
		Roxana Lemma, Silvina Zito, Cristina Castellano, Viviana Bonavetti, Francisco Locati, Fabián Irassar, Silvina Marfil and Viviana Rahhal	
PD0072	17:05-17:10	Assessing The Viability of Incorporating Granite Dust As A Partial Cement Replacement In Concrete	37
		Janina P. Kanjee, Thompho Netshivhera, Yunus Ballim and Claudia Polese	
PD0014	17:10-17:15	Dune sand powders characterization for their use in cement-based materials	37 (shared)
		Jinghang Niu and Zhi Wang	
PD0077	17:15-17:20	Transformation of Bauxite Residue into a Reactive Supplementary Cementitious Material	38
		Michiel Giels, Tobias Hertel and Yiannis Pontikes	
PD0104	17:20-17:25	Bauxite residue as a new source of SCM: its impact on cement hydration and interaction with fly ash	38 (shared)
		Luana M.V. Silveira, Roberto C.O. Romano, Rafael G. Pileggi and Maria A. Cincotto	
PD0007	17:25-17:30	Study of filler effect of VGP on cement hydration	39
		Yuqi Ren, Atsushi Tomoyose, Ryo Kurihara and Ippei Maruyama	
PD0087	17:30-17:35	A novel self-hardening cement by the self-activation of glass powder	39 (shared)
PD0107	17:35-17:40	Utilization of red mud as mineral admixtures in low carbon cement: microstructure and properties	40
		Dongmin Wang, Zhonghua Fang and Jixiang Wang	
PF0119	17:40-17:45	Synthesis and Characterization of Red Mud Based Low-Carbon Cementitious Materials	40 (shared)
		Dongmin Wang, Guangqi Cheng, Jixiang Wang and Lili Feng	

## Friday, September 22, 2023

08:30-09:30	Keynote Lecture: Sustainability, circular economy, waste processing and recycling	Hall A
	Chair: Somnuk Tantermsirikul	
08:30-09:00	Total Recycling of Concrete Waste using Accelerated Carbonation	
	Chi Sun Poon	
09:00-09:30	Recycled Concrete	
	Narong Wonggasem	
09:30-10:30	Keynote Lecture: Standardisation of cement and concrete	Hall A
	Chair: Somnuk Tantermsirikul	
09:30-10:00	Progress toward sustainability through performance-based standards and specifications	
	Larry Sutter and Doug Hooton	
10:00-10:30	How standards support decarbonization and resource efficiency of cement and concrete in Europe	
	Christoph Mueller	
10:30-10:45	Coffee Break	

10:45-12:30	Oral Presentation – Waste, Recycled and Carbonated Binders	Hall A	
	Chair: Hong S. Wong		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PJ0083	10:45-11:00	Effect of Conditions on Pore structure of silica gel in Wet Carbonated Recycled Cement Paste Powder Yuguang Mao, Pingping He, Sarra Drissi, Xiang Hu and Caijun Shi	1
PJ0001	11:00-11:15	Preparation of reactive urchin-like recycled concrete aggregate by wet carbonation: towards improving the bonding capability Peiliang Shen, Yi Jiang, Zihan Ma and Chi Sun Poon	2
PJ0011	11:15-11:30	Structure and Reactivity of Aqueous Carbonated Blended Cement Pastes Fabio M. Maia Neto, Ruben Snellings and Jørgen Skibsted	3
PJ0049	11:30-11:35	Construction and demolition wastes as supplementary cementing materials in eco-friendly concrete Silvina V. Zito, Edgardo F. Irassar and Viviana F. Rahhal	4
PJ0044	11:35-11:40	Potential Use of Recycled Fine Aggregate in Cement Composite S.R. Islam and Rupak Mutsuddy	5
PJ0089	11:40-11:45	Towards Increased Use of Recycled Sands and Aggregates in Concrete Nikola Mikanovic, Encarnacion Vargas-Serrano and Jan Skocek	6
PJ0090	11:45-11:50	Influence of low carbon cement and recycled aggregates on mortar fresh state and early hydration Lucia Ferrari, Viliam Bortolotti, Nikola Mikanovic, Mohsen Ben-Haha and Elisa Franzoni	7
PJ0085	11:50-11:55	Study on the Use of Recycled Aggregates for the Production of Cementless Pervious Concrete Wei-Ting Lin, Lukáš Fiala, Martina Záleská and An Cheng	8
PF0028	11:55-12:00	Carbonation of iron (Fe)-rich phases in cement/concrete matrices: where are we now? Lucy R. Ellwood, Ruben Snellings and Theodore Hanein	9
PF0093	12:00-12:05	The study of relationship between capability of CO <sub>2</sub> absorption and strength and pore structure using blast furnace slag cement Erika Ishikawa, Yukiko Nishioka and Takeshi Iyoda	10
PF0069	12:05-12:10	Promoting Carbonization of Hardened Cement Paste by Wet-Dry Cycle Dayoung Oh, Zhiwei Zhao, Yuzhe Wang, Ryoma Kitagaki, Takayoshi Masuo and Takafumi Noguchi	11
PI0087	12:10-12:15	Investigation of the Carbonation Behavior of Natural Hydraulic Lime Paste with Addition of GGBFS	12
10:45-12:30	Oral Presentation – CO <sub>2</sub> Sequestration and Recycled Concrete, Mortars and Pastes	Hall B	
	Chair: Warangkana Saengsoy		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PD0044	10:45-11:00	Impact of Ca/Si and Al/Si ratio on the alumina-silica gel formed by wet carbonation of synthesized C-S-H phases Jiayi Song, Maciej Zajac, Mohsen Ben-Haha and Jørgen Skibsted	13
PF0060	11:00-11:15	Carbon Dioxide Absorption by Amine Mediated Calcium-Silicate-Hydrate (C-S-H) Kirushnapillai Kopitha, Y. Elakneswaran, R. Kitagaki, H. Senboku, Y. Yoda, R. Saito, M. Tsujino and A. Nishida	14
PF0103	11:15-11:30	Influence of acetate on the carbonation of brucite (Mg(OH) <sub>2</sub> ) Nirupama Kamala Ilango, Hoang Nguyen, Frank Winnefeld and Päivö Kinnunen	15
PJ0054	11:30-11:35	Strength performance of recycled aggregate concretes with different qualities of recycled aggregates	16
PF0029	11:35-11:40	Enhancement of the properties of recycled concrete aggregates in different mediums Ning Li and Cise Unluer	17
PF0015	11:40-11:45	Influence of elevated heating temperature on the mechanical performance of carbonated belite pastes Jiahui Ou, Yu Wang, Fengjuan Zeng, Zhongtao Luo, Youqi Li, Guotian Ye and Yuandong Mu	18
PJ0070	11:45-11:50	Influence of Hardened Cement Paste (HCP) Particle Size on Their Reuse in Fresh Cement Paste S.R. Yahaya, H. Zhao, N. Vallo, T. Hanein and H. Kinoshita	19
PJ0067	11:50-11:55	Investigation on the effect of recycled powders from demolished concrete on the rheological properties of cement paste Jingzhe Li, Binggen Zhan, Li Hu, Peng Gao and Qijun Yu	20
PF0065	11:55-12:00	Evolution of products in CO <sub>2</sub> surface treated cement Pingping He, Xiang Hu and Caijun Shi	21
PJ0074	12:00-12:05	Development of a CO <sub>2</sub> mineralization technology for concrete wash water upcycling Sean Monkman, Yogiraj Sargam and Alex Hanmore	22
PF0106	12:05-12:10	CO <sub>2</sub> mineralization of silicate minerals and the potential inhibiting effect of amorphous silica-rich surface layers Kumaran Coopamootoo and C.E. White	23
PF0063	12:10-12:15	Enzymatic Carbon Sequestration in Cementitious Materials Xiulin Chen, Zhidong Zhang and Ueli Angst	24
PF0050	12:15-12:20	Accelerated Carbonation of Brucite Recovered from Desalination Reject Brine for Construction Applications Inderjeet Singh, Rotana Hay and Kemal Celik	25
10:45-12:30	Oral Presentation – Carbonated Concrete, Aggregates and Binders	Hall C	
	Chair: Krittiya Kaewmanee		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PF0071	10:45-11:00	Investigating the influence of addition of $\gamma$ -C <sub>2</sub> S and Carbon Dioxide on concrete performance and CO <sub>2</sub> absorption Kumar Avadh, Yuma Yoshida, Kengo Seki, Toshinari Mukai and Takeshi Torichigai	26

## Wednesday, September 20, 2023

08:30-09:30	Keynote Lecture: New low carbon cements and carbonatable binders Chair: Thanakorn Pheeraphan	Hall A
08:30-09:00	Mechanisms of CO <sub>2</sub> mineralization by cementitious materials and of their reactivity in new cement formulations Maciej Zajac and Ipeei Maruyama	
09:00-09:30	Carbonatable binders: Historic Developments and Perspectives Caijun Shi Recent Progress on Carbonatable Binders Fazhou Wang	
09:30-10:30	Keynote Lecture: New findings in admixture & rheology Chair: Thanakorn Pheeraphan	Hall A
09:30-10:00	Chemical Admixtures: Basic Principles and Blended Cements Robert Flatt	
10:00-10:30	Rheophysics of fresh cement-based materials: recent advances and new open debates Nicolas Roussel	
10:30-10:45	Coffee Break	

10:00-17:00	Technical Visit: Site A Siam City Cement Public Company Limited (SCCC) Cement Plant, Saraburi Province	
10:00	Registered delegates/students meet at the meeting point (Registration desk)	Meeting Point
10:15-12:30	Depart from Centara Grand Hotel to SCCC	
12:30-13:15	Lunch at canteen of SCCC cement plant	
13:15-14:45	Visit SCCC cement plant	
14:45-17:00	Depart from SCCC to Centara Grand Hotel	

10:00-17:00	Technical Visit: Site B Siam Cement Group (SCG) Cement Plant, Kaeng Khoi, Saraburi Province	
10:00	Registered delegates/students meet at the meeting point (Registration desk)	Meeting Point
10:15-12:30	Depart from Centara Grand Hotel to SCG cement plant, Kaeng Khoi	
12:30-13:15	Lunch at the guest house of SCG cement plant, Kaeng Khoi,	
13:15-14:45	Visit SCG cement plant, Kaeng Khoi	
14:45-17:00	Depart from SCG to Centara Grand Hotel	

10:15-17:00	Technical Visit: Site D SCG Ultra High-Performance Concrete Bridge at SCG Head Office and CPAC Concrete Technology Center at CPAC Riverside	
10:15	Registered delegates/students meet at the meeting point (Registration desk)	Meeting Point
10:30-11:00	Depart from Centara Grand Hotel to SCG Head Office, Bangkok	
11:00-11:40	SCG Ultra High-Performance Concrete Presentation	
11:40-11:50	Walk from the meeting room to the bridge in front of the King Rama VI monument	
11:50-12:30	Visit SCG UHPC bridge and group photo	
12:30-13:15	Lunch at the SCG cafeteria	
13:30-13:50	Depart from SCG Head Office to CPAC Concrete Technology Center, Bangkok	
13:50-15:30	Visit CPAC Concrete Technology Center for Concrete Innovation	
14:45-17:00	Depart from CPAC Concrete Technology Center to Centara Grand Hotel	

10:45-12:30	Oral Presentation – Admixtures and Superplasticizers Chair: Denise Silva	Hall A	
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PA0008	10:45-11:00	Comparison of the mode of action of a shotcrete accelerator in a slag cement and an OPC cement Ursula Pott, Tobias Dom, Cordula Jakob and Jürgen Neubauer	1
PD0011	11:00-11:15	Monitoring The Impact of Accelerators On The Reactivity of Model Blended Cements Laura Gonzalez-Panicello, Isabel Sobrados, Jean-Baptiste d'Espinose de Lacaillerie, Paul Bowen, Francisca Puertas, Robert J. Flatt and Marta Palacios	2
PC0006	11:15-11:30	Effect of Temperature on Performance of Calcium Aluminate Cement Based Accelerator Armesh Das, Jean Noel Bousseau, Nicolas Maach and Robert J. Flatt	3
PG0046	11:30-11:35	Influence of key synthetic factors on the molecular characteristics of polycarboxylate superplasticizers Jin Yuan, Qing Shen, Zhenping Sun, Haijing Yang, Weigang Zhu, Qiong Luo, Xuejun Shu and Doudou Shu	4
PG0019	11:35-11:40	Synthesis of polycarboxylate ether (PCE) polymer superplasticizers and the study of their interaction with cement's crystalline phases Aitor Barquero, Alejandro Herranz, Sara Beldarrain, Inaki Emaldi, Eurne Erkizia, Jorge S. Dolado and Jose Ramon Leizaola	5
PG0040	11:40-11:45	Influence of pH value and temperature on the dispersion ability of PCEs containing ethyl acrylate and diethyl maleate segments and its mechanism study Shuang Zou, Zhenping Sun, Haijing Yang, Weigang Zhu, Qiong Luo, Xuejun Shu and Doudou Shu	6
PG0016	11:45-11:50	Effect of the microstructure of polycarboxylate ether (PCE) superplasticizers on the hydration kinetics of OPC Aitor Barquero, Sara Beldarrain, Guido Goracci, Jorge S. Dolado and Jose Ramon Leizaola	7
PG0031	11:50-11:55	On the CO <sub>2</sub> Footprint of Polycarboxylate Superplasticizers (PCEs) and its Impact on the Eco Balance of Concrete Christopher Schiefer, Jiaxin Chen, ShihChieh Wang and Johann Plank	8
PD0036	11:55-12:00	The effect of ionic environment of cement pore solution on the PCE's molecular conformation, adsorption and performance Bin Li, Ling Wang and Zhendi Wang	9
PG0052	12:00-12:05	Synergy effect of TEA as cement additive and PCE on rheological and hydration kinetics of limestone cementitious materials Ariane C. Martho, Danila F. Ferraz, Gustavo C.M. Carvalho, Roberto C.O. Romano and Rafael G. Pileggi	10
PG0001	12:05-12:10	Utilisation of Polycarboxylate Superplasticiser in Seawater Blended Cementitious Materials: Effect of Superplasticiser Molecular Structure and Salinity Jun Ren, Shuo Yan, Shengye Xu and Yunhui Fang	11
PG0005	12:10-12:15	Functionalized transition metal doped silicate hydrate/PCE nanocomposites an innovative hardening accelerator Fabio Castiglioni, Clelia Sarta, Anthony Biancardi, Anna Bravo, Gilberto Artioli, Mariachiara Dalconi, Gregorio dal Sasso and Giorgio Ferrari	12
PG0028	12:15-12:20	Influences of Accelerators on Compressive Strength of Clinker-Efficient Composite Cements with Slag and Limestone Jens Herrmann and Jörg Rickert	13
10:45-12:30	Oral Presentation – Admixtures, Superplasticizers and Rheology Chair: Cheng Yu	Hall B	
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		

			Kiosk#
PG0060	10:45-11:00	Complexation Enthalpies of Organic Admixtures: Measurement Method Development and Application to Calcium Complexes	15
		Roland Käser, Céline Hartmann, Patrick Juilland and Robert J. Flatt	
PG0033	11:00-11:15	Optimization of molecular structure of allylether-based PCEs with enhanced clay tolerance	14
		Yue Zhang, Yi Liu, Lei Lei and Johann Plank	
PG0017	11:15-11:30	Reactivity and Microstructure of De-chlorinated Ti-Extracted Residues	16
		Shuping Wang, Jingxiong Zhong, Yuntao Xin, Xuewei Lv and Guanwu Zeng	
PG0030	11:30-11:35	Novel PCE Superplasticizers for Low Carbon and Zero Clinker Binders	17
		Lei Lei and Johann Plank	
PD0051	11:35-11:40	PCE Superplasticizers for a Green Binder Containing Calcined Clay	18
		Ran Li, Jie Shi, Tongbo Sui and Karl-Christian Thienel	
PG0024	11:40-11:45	A New Class of Admixtures for Low Carbon Concrete	19
		Giorgio Ferrari and Marco Squinzi	
PG0032	11:45-11:50	Investigation into A Novel Starch-based Superplasticizer for Alkali-activated Slag	20
		Na Miao, Yue Zhang, Lei Lei and Johann Plank	
PG0029	11:50-11:55	Chemical Admixtures Used in 3D Printing	21
		Johann Plank and Hsien-Keng Chan	
PG0056	11:55-12:00	The Effect of Crystalline Morphology on the Rheology of Ettringite Suspensions in Presence of Admixtures	22
		Anna Szabo, Julien Chapelat, Emmanuel Gallucci and Patrick Juilland	
PG0038	12:00-12:05	Rheology of superplasticized limestone calcined clay cements	23
		M. Palacios, S. Real, F. Puertas, A. Pachon-Montaño, M. Roig-Flores, M.C.Alonso, and M. Lanzón	
PG0043	12:05-12:10	Rheological properties of belite-calcium sulfoaluminate cement	24
		Maruša Mrak, Ana Brunčič and Sabina Dolencec	
PG0014	12:10-12:15	Influence and Strategies of Plug Flow on The Measured Rheological Properties of Cement-Based Materials	25
		Zhisong Xu, Wen Sun and Jiaping Liu	
PG0012	12:15-12:20	Interpretation of rheological property of steel slag powder blended cement paste: from interparticle force to physico-chemical parameters	26
		Zedi Zhang and Yamei Zhang	
10:45-12:30		Oral Presentation – Admixtures and Additives	Hall C
		Chair: Sakprayut Sinthupinyo	
		30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone	
			Kiosk#
PC0061	10:45-11:00	Organic additive's influence on M-S-H formation	27
		C.R. Ruiz-Agudo and M. Marsiske	
PD0061	11:00-11:15	Novel strength enhancing cement additives to enable production of low-clinker cements	28
		Jeffrey J. Thomas, Richard G. Sibbick, Joshua F. Detellis and Josephine H. Cheung	
PG0007	11:15-11:20	Inhibition and recovery of cement hydration	29
		Zhen Chen, Ziming Wang and Suping Cui	
PG0061	11:20-11:25	Agglomeration Kinetics of The C-S-H During Rehydration	30
		Thiago Ricardo Santos Nobre, Lucas de S.F. Gesta, Jose A. Mesquita, Valdir M. Pereira, Antonio C. Vieira-Coelho and Sérgio C. Angulo	
PG0041	11:25-11:30	The Purer the Better: How Monomer Purity Affects the Effectiveness of Phosphate Type Superplasticizers in Cement Paste	31
		Olivia Rindle and Torben Gädt	
PG0013	11:30-11:35	A migrating and reactive admixture with coupled functions of water reducer and new/old concrete interfacial agent	32
		Xiongfai Song, Haoliang Huang, Xuemin Song, Juan Wu, Hao Liu, Shengli Chen, Jie Hu, Jiangxiong Wei and Qijun Yu	
PG0059	11:35-11:40	Non-adsorbing polymers and depletion forces in cement pastes	33
		Xiaohan Yu, Hela Bessaies-Bey, Xin Liu, Xin Shu, Jiaping Liu and Nicolas Roussel	
PG0055	11:40-11:45	Microscopic tracking of superplasticizer adsorption in alkali activated materials	34
		Denis Kosenko, Alexander Wetzel and B. Middendorf	
PG0015	11:45-11:50	Investigation on the sensitive setting performance of cement paste in the presence of triethanolamine: Effect of mixing speed	35
PG0003	11:50-11:55	Study to improve vibration flowability of fresh concrete by controlling flocculation state of cement particles	36
		Kohei Shimada, Hiroyuki Kawakami, Yuto Nagoshi and Keiichirou Sagawa	
PG0004	11:55-12:00	How does the alternating current field affect the yield stress of fresh cement paste?	37
		Qiyuan Xiao, Yuxin Cai, Xiaohui Zeng and Guangcheng Long	
PG0035	12:00-12:05	A novel formulation concept for fast OPC based tile adhesives	38
		Joachim Dengler, Joerg Nehring, Xuerun Li and Fabian Niedermair	
12:35-13:45		Lunch	
13:00-17:00		Technical Visit: Site C Pink Line Monorail Construction	
	13:00	Registered delegates/students meet at the meeting point (Registration desk)	Meeting Point
	13:00-14:00	Depart from Centara Grand Hotel to Pink line site office, Min Buri	
	14:00-15:00	Meeting with designer & construction teams to update about the design technique and construction progress	
	15:00-15:30	Flying by Pink line monorail to spur line construction site	
	15:30-16:30	Site visit and group photos	
	16:30-17:00	Depart from spur line construction to Centara Grand Hotel	
13:45-15:05		Oral Presentation – Durability (1)	Hall A
		Chair: Suvimol Sajjavanich	
		30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone	
			Kiosk#
PH0003	13:45-14:00	Thermal Crack Resistance and DEF Suppression Effect of Concrete Using Fly Ash Cement	1
		Yuji Mitani, Akira Yoneyama, Masao Ishida, Takuya Ohno, Joseph S.H. Lim, Logendran Doraipandian and Somnuk Tangtermsirikul	
PI0032	14:00-14:05	Investigation on the durability evolution of high belite cement subjected to thermal fatigue	2
		Haoyu Zeng, M. Jin and J.P. Liu	
PI0070	14:05-14:10	Carbonation of Concrete with SCMs: a data analysis by RILEM TC 281-CCC	3
		Anya Vollpracht, Charlotte Thiel, Zengfeng Zhao, Villagrán Zaccardi, Gisela P. Corboda, Gregor J.G. Gluth, Hanne Vanoutrive, Elke Gruyaert, Antonios Kanellopoulos, Renjie Mi and Ne De Belie	
PI0038	14:10-14:15	Assessing the Behaviour of Eco-Efficient Concrete Proportioned through Particle Packing Models (PPMs) against Carbonation	4
		Mayra T. De Grazia, Leandro F.M. Sanchez and Andreas Leemann	
PI0069	14:15-14:20	Carbonation of Na <sub>2</sub> SO <sub>4</sub> -activated slag cement: new insights into reaction mechanism, phase evolution and pore structure	5

PI0049	14:20-14:25	A Comparative Assessment of Different Additives To Reduce Carbonation Degradations of Alkali-Activated Slag Using In-Situ FTIR Technique	6
		Nithya Nair, M.I. Haque and Warda Ashraf	
PI0059	14:25-14:30	Improvement of the resistance to calcium-leaching of concrete by optimizing gradations of binders and coarse aggregates	7
		Yuting Chu, Peng Gao, Binggen Zhan, Shuaizhi Dong, Yanbo Hu and Qijun Yu	
PI0065	14:30-14:35	Effect of waterproofing chemicals on carbonation in Low clinker cement with pore structure analysis	8
		Lav Singh and Shashank Bishnoi	
PI0053	14:35-14:40	Effects and mechanisms of water-absorption of SAP in colloidal silica sol on properties of the cement-based materials with low water cement ratio	9
		Deyu Kong, Kun Fang, Fajun Zeng, Jiale Cai, Jintao Liu and Yurong Zhang	
PI0055	14:40-14:45	Effects of Mixed salt in Saline Soil on the Microstructural Evolution of Cement Paste	10
		Haitao Liao, Haodong Wang, Ye Li and Tiejun Liu	
PI0025	14:45-14:50	Geochemical interactions between cementitious materials and water in the context of drinking water supply	11
		Maël Desoteux, Alexandra Bertron, Laurie Lacarriere, Cédric Roosz and Adrien Robin	
PI0026	14:50-14:55	Restraint effect of steel bar on cement-based materials at early age : A full cross section study	12
		Hao Wang, Zhangli Hu and Jiaping Liu	
15:05-15:30	Coffee Break		
13:45-15:05	Oral Presentation – SCMs and Durability		Hall B
	Chair: Pakawat Sancharoen		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PI0035	13:45-14:00	The deterioration process of alkali activated slag exposed to sulfate attack and calcium leaching	13
		Zijian Jia and Yamei Zhang	
PI0064	14:00-14:15	Effect of nitrate and nitrite on the dissolution kinetics of iron sulfides in alkaline solutions	14
		Zhanzhao Li, Angelica Hunt, Gopakumar Kaladharan and Aleksandra Radlinska	
PF0136	14:15-14:20	Investigation of the effects of supplementary cementitious materials in mitigating alkali-silica reaction using thermodynamic modelling	15
		Haoliang Jin, Sam Ghazizadeh and John Provis	
PI0022	14:20-14:25	Durability of concrete with low temperature belite binder (LTBB)	17
		Bettina I.E. Kraft, Sophie Unbehau, Matthias Müller and Horst-Michael Ludwig	
PI0052	14:25-14:30	Chemical change and structural evolution of calcium sodium aluminosilicate hydrate (C-N-A-S-H) gels subjected to water immersion	18
		Chen Liu, Shuai Nie, Zhenming Li and Guang Ye	
PI0043	14:30-14:35	Effect of Mg-bearing water on the chemical and mechanical properties of a low C/S industrial cement paste	19
		Charlotte Dewitte, Laurie Lacarriere, Alexandra Bertron, Mejdi Neji and Alexandre Dauzeres	
PD0111	14:35-14:40	Use Of Supplementary Cementitious Materials for Composite Cements: An Overview	20
		Anwesa Satapathy and Shashank Bishnoi	
PD0080	14:40-14:45	Effect of Admixture for Slag on the Hydration and the Durability of Cement blend containing Cement, Slag, and Calcium Carbonate	21
		Rosyad Mohammad, Reiko Yasuda, Hironobu Nishi and Takeshi Torichigai	
PD0125	14:45-14:50	Feasibility of using volcanic debris from the island of La Palma as building materials	22
		Mar Alonso, Jose L. Costa-Kramer, Mathew J. Pankhurst, Francisca Puertas, Andres Cano and Jose A. Suarez-Navarro	
PD0108	14:50-14:55	Development of supplementary cementitious materials using weathered volcanic eject	23
		Yuta Fukushima, Takavasu Ito, Masashi Osaki and T. Saito	
PD0099	14:55-15:00	Functionalization of Metakaolin with Non-Ionic Surfactants: Swelling and Pozzolanic Reactivity	24
		Dayou Luo and Jianqiang Wei	
15:05-15:30	Coffee Break		
13:45-15:05	Oral Presentation – Pozzolans		Hall C
	Chair: Chuchai Sujivorakul		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PD0075	13:45-14:00	Performance Evaluation and Beneficiation of Fly Ash Co-mingled with Flue Gas Desulfurization Products for Use in Concrete	25
		Gopakumar Kaladharan and Farshad Rajabipour	
PF0129	14:00-14:15	Transforming lignite fly ash into a carbon negative SCM through mineral carbonation	26
		Christian C. Felten, Henning Kruppa, Anya Vollpracht and Thomas Matschei	
PD0078 (no present)	14:15-14:20	Scientific dosage of self-compacting concretes containing ternary cement mixtures	27
		Mara M.L. Pereira, Valdirene M.S. Capuzzo, Rodrigo M. Lameiras and Arthur A.P. Silva	
PD0088	14:20-14:25	Reducing the clinker factor in vitrified bauxite residue-containing ternary blended cements	28
		Tobias Hertel, Michiel Giels, Afsar Muhammad and Yiannis Pontikes	
PD0027	14:25-14:30	Valorization of industrial waste in ternary cement design	29
		Gabriel Medina, Isabel F. Saez del Bosque, Jose M. Medina, Moises Frias, Maria I. Sanchez de Rojas and Cesar Medina	
PJ0078	14:30-14:35	Influence of Rice Husk on the Thermal Activation and Pozzolanic Activity of Tropical Soils	31
		Francisco D. Cabrera-Poloche, Ary A. Hoyos-Montilla, Jorge I. Tobon, Andres C. Diaz-Garcia, Mauled Echeverri-Aguirre and Daniela Gonzalez Betancur	
PF0121	14:35-14:40	Composition-Reactivity Relationship of Indian Biomass Ash	32
		Nilakanmani Manimaran, Manu Santhanam and Piyush Chaunsali	
PD0100 (no present)	14:40-14:45	Influence of dregs and grits on the hydration of Portland cement pastes	33
		Yasmine S. Oliveira and Eliane B.C. Costa	
PA0035	14:45-14:50	Carbon neutral concrete based on a sea snail shell: a green solution for the urban heat island	34
		Guido Goracci, Mary B. Ogundiran, Ebtisam T. Saeed and Jorge S. Dolado	
PJ0012	14:50-14:55	Cement-Based Radiative Coolers for Photovoltaics: Towards a Practical Design	35
		Matteo Cagnoni, Pietro Testa, Jorge S. Dolado and Federica Cappelluti	
PJ0022	14:55-15:00	Preparation and characterization of cementitious materials containing phase change microcapsules	36
		Jikun Ma, Dawei Sun and Suping Cui	
15:05-15:30	Coffee Break		

18:00-23:00	Congress Dinner (Chao Phraya Room, 2 <sup>nd</sup> Floor)		Royal Thai Navy Convention
		Registered delegates/students/accompanying persons meet at the 1 <sup>st</sup> Floor meeting point for departure	
	17:00-18:00	Depart by buses from Centara Grand & Bangkok Convention Centre to Royal Thai Navy Convention	
	18:00-18:30	Registration and outdoor photo shootout	
	18:30-19:00	Live music by Royal Thai Navy Band Department	
	19:00	Thai buffet dinner and drinks	
	19:05-19:10	Greeting from the Chairman of the Organizing Committee	
	19:15-19:25	Contemporary Thai Dance	
	20:00-20:15	Next ICCC Host Announcement	
	20:30-20:45	Central Thai classical dance performance	
	20:45-22:30	Live music by Royal Thai Navy Band Department	
	22:45	Depart by buses to Centara Grand & Bangkok Convention Centre	

## Thursday, September 21, 2023

08:30-09:30	Keynote Lecture: New technology for quality concrete (incl. AI)		Hall A
	Chair: Thanakorn Pheeraphan		
08:30-09:00	Digital Tools + New Technologies in the Concrete Industry		
	Stacia Van Zetten		
09:00-09:30	The digitization work of smart cement plants in China		
	Sui Tongbo & Tong Rui		
09:30-10:30	Keynote Lecture: Durability & reactive transport		Hall A
	Chair: Somnuk Tangtermsirikul		
09:30-10:00	Steel corrosion in concrete – Achilles' heel for sustainable concrete?		
	Ueli Angst		
10:00-10:30	Understanding chloride ingress in concrete		
	Fabien Georget		
10:30-10:45	Coffee Break		

10:45-12:30	Oral Presentation – CO <sub>2</sub> Reduction by Carbonation, Self-Healing Concrete and Low Heat Concrete		Hall A
	Chair: Sakkarin Luangkamchorn		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PA0031	10:45-11:00	Outline of NEDO Moonshot Project “Calcium Carbonate Circulation System in Construction” Takafumi Noguchi, Ippei Maruyama, Ryoma Kitagaki, Manabu Kanematsu, Masaki Tamura, Satoshi Fujimoto, Masato Tshujino, Haruo Nakazawa, Yasuhiro Kuroda, Hiroshi Hirao, Hikotsugu Hyoudo and Takayoshi Masuo	1
PF0054	11:00-11:15	Shrinkage in carbonatable binders: Are the cementitious standards applicable for non-hydraulic lime-cement systems? Guilherme da Silva Munhoz and Guang Ye	2
PK0006	11:15-11:30	Recent advances on European cement standards prepared by CEN TC51 for more sustainable products Xavier Guillot, Filip Van Rickstal and Martin Schneider	3
PA0003	11:30-11:35	Self-healing concrete using special biological materials	4
PD0109	11:35-11:40	Fit-for-Purpose Self-Healing Cements Carlos A. Fernandez, Chao Zeng and Lirong Zhong	5
PH0012	11:40-11:45	Multifunctional Concrete with Integrated Self-sensing and Self-Healing Capacities Using Carbon Black and Slaked Lime Yipu Guo, Wenkui Dong and Wengui Li	6
PH0013	11:45-11:50	Preliminary Study of Cementitious Composite As a Self-Healing Material In Some Concrete Structures Mehmet E. Uyanik and Huseyin Demir	7
PH0024	11:50-11:55	Inorganic Capsule Based on MgO Expansive Agent for Self-healing Concrete Jinglu Li, X.C. Guan	8
PA0020	11:55-12:00	Use of biomass ash in the fabrication of Self-healing engineered cementitious composites (ECC) Fernando Fernández, Gloria Pérez and Ana Guerrero	9
PH0030	12:00-12:05	Effect of self-healing on surface morphology in cracked reactive powder concrete Sailong Hou, Caijun Shi, Kai Li and Xiang Hu	10
PA0017	12:05-12:10	Thermal evaluation of the use of liquid nitrogen as a pre-cooling methodology for mass concrete for use in onshore wind tower W.K.D. Silva, L.A. Silva, A.E.B. Cabral, M.S. Medeiros Júnior and G.M. Pinheiro	11
PD0065	12:10-12:15	Production of Low-Heat Cement from Industrial Waste G.V.P. Bhagath Singh	12
PE0051	12:15-12:20	Simulation of Concrete Thermal Stress Based on Temperature-stress Test G.V.P. Bhagath Singh, Zhifang Zhao, Zhe Wang, Yanming Liu and Zhigang Zhao	13
PJ0034	12:20-12:25	Pretreatments processes of alkaline recycled concrete aggregates to maximize CO <sub>2</sub> capture in accelerated carbonation processes J. Moreno-Juez, I. Vegas-Ramiro, M. Frias, S. Martínez-Ramírez and R. García-Giménez	13 (shared)
10:45-12:30	Oral Presentation – Future and New Technologies		Hall B
	Chair: Passarin Jongvisuttisun		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PJ0029	10:45-11:00	The role of C12A7, $\alpha$ H-C2S and dehydrated amorphous nesosilicate in rehydration of recycled cement Lei Xu, Junjie Wang, Kefei Li, Zhe Li and Le Li	14
PC0015	11:00-11:15	Hydration mechanism of wollastonite-blended magnesium potassium phosphate cements Biwan Xu, Barbara Lothenbach and Frank Winnefeld	15
PH0011	11:15-11:30	Preliminary Investigation of 0-3 Lead Zirconate Titanate – Limestone Calcined Clay Cement Composites Aktham Alchaar and Kemal Celik	16
PH0002	11:30-11:35	A novel power ultrasound assisted mixing technology to prepare cement paste: Effect on hydration process and compressive strength Guangqi Xiong and Chong Wang	17
PA0015	11:35-11:40	Novel Soluble Boron Compounds to Improve Shielding of Cement Systems Ashish D. Patel, Jerry M. Paris, Christopher C. Ferraro, Kyle A. Riding, Eric R. Giannini and Brian R. Strazisar	18
PH0005	11:40-11:45	Effect of hydrophobically modified hollow glass microspheres on the flow behavior of lightweight high-performance concrete Jingwei Yang, Dongho Jeon, Hyunuk Kang and Juhyuk Moon	19
PH0009	11:45-11:50	Ohmic heating curing for cement-based materials: A promising new technology with enhanced fabrication efficiency Weichen Tian, Yushi Liiu and Wei Wang	20
PB0004	11:50-11:55	Piezoresistive performance of deformable cement-based materials with in-situ polymerization Nanxi Dang, Qiang Zeng and Weijian Zhao	21
PI0084	11:55-12:00	AAM – oil composite: a new highly durable material with a negative carbon footprint Florian Mittermayr, Ognjen Rudic, Marcella R.M. Saade, Cyrill Grengg	22
PA0001	12:00-12:05	Effect on Graphene Oxide and Silica Fume on the Performance of Concrete under Standard Curing Conditions Changjiang Liu, Shuting Fang, Weicheng Su, Weihua Ye and Y.J. Deng	23
PA0005	12:05-12:10	Electrocatalytic Reduction of CO <sub>2</sub> to useful chemicals with 3D structure of Cu <sub>2</sub> O/Cu Xiao Liu, Yurui Xu, Minghui Jiang, Jin Guo and Suping Cui	24
PD0124	12:10-12:15	Power ultrasound assisted production of sustainable concrete Ricardo Remus, Christiane Rößler, Paul Hesse, Swamy Nune and Horst-Michael Ludwig	25
PH0041	12:15-12:20	Preparing energy conservation self-levelling mortar via fly ash cenospheres/paraffin using in floor radiant heating	26
PH0037	10:55-11:05	Sprayable Glass Bubble Insulation for Sustainable and Energy Efficient Building Insulation Friedbert Scharfe, Thorsten Gerdes, Andreas Rosin and Stefan Zelder	26 (shared)

## Tuesday, September 19, 2023

08:30-09:30	Keynote Lecture: Enhancing clinker substitution / Supplementary Cementitious Materials		Hall A
	Chair: Thanakorn Pheeraphan		
08:30-09:00	Low clinker systems: towards a rational and efficient use of SCMs for optimal performance		
	Bruno Huet and Mohsen Ben Haha		
09:00-09:30	Future and Emerging Supplementary Cementitious Materials		
	Ruben Snellings		
09:30-10:30	Keynote Lecture: Advances in characterisation methods & modelling (incl. AI)		Hall A
	Chair: Thanakorn Pheeraphan		
09:30-10:30	Advances in Imaging, Scattering, Spectroscopy, and Machine Learning-Aided Approaches for Multiscale Characterization of Cementitious Systems		
	Kimberly Kurtis and Paulo Monteiro		
10:30-10:45	Coffee Break		

10:45-12:30	Oral Presentation – Calcined Clay and LC3 (1)		Hall A
	Chair: Martin Palou		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PD0004	10:45-11:00	Challenges and opportunities of limestone calcined clays cements with less than 50% clinker	1
	Franco Zunino, Jinfeng Sun and Karen L. Scrivener		
PD0060	11:00-11:15	Comparison and optimization of calcination processes towards using clays as Supplementary Cementitious Materials	2
	Anastasia Koutsouradi, Anne Juul Damo, Mariana Canut, Wilson Ricardo Leal da Silva and Peter Arendt Jensen		
PJ0095	11:15-11:30	Optimization of low clinker limestone calcined clay cement (LC3) concrete mixes as further carbon footprint reduction strategy	3
	Beatrice Malchiodi, Hisham Hafez and Karen Scrivener		
PC0002	11:30-11:35	Recent advances in understanding the hydration of limestone calcined clay cements (LC3)	4
	Franco Zunino and Karen L. Scrivener		
PD0071	11:35-11:40	Preliminary Selection Criteria of Clays for Limestone Calcined Clay Cement	5
	Aastha Singh and Shashank Bishnoi		
PD0054	11:40-11:45	Influence of mineralogical composition on the calcinability of shales	6
	Karel Dvorak, Simona Ravaszová, Andrea Janciku and Ondrej Šrámek		
PD0003	11:45-11:50	The effect of iron phases on the performance of calcined clays in calcined clay-limestone cement	7
	Tafadzwa Ronald Muzenda, F. Georget and T. Matschei		
PD0131	11:50-11:55	Relationship between reactive alumina content of Calcined Clays and fresh cement pastes behaviour	8
	César Pedrajas, V. Rahhal, C. Aramburo and R. Talero		
PG0022	11:55-12:00	Early-age workability loss in LC3 systems	9
	Luca Michel, F. Zunino, R.J. Flatt and D.S. Kammer		
PG0058	12:00-12:05	Influence of Kaolinite Content on the Fresh Properties of LC3 Systems	10
	Ashirbad Satapathy and Shashank Bishnoi		
PD0005	12:05-12:10	Dilution Effects in Cementitious Matrices By Using Calcined Clay and Limestone for Reduced Clinker Factors	11
	A.H. Ahmed, S. Nune, M. Liebscher, V. Mechtcherine		
PD0006	12:10-12:15	Study on Calcined Clay-Recycled Concrete Powder Composite as Supplementary Cementitious Material	12
	Shusen Li, Jiaping Liu, Zhen Li, Cheng Yu and Weixiao Xie		
PF0102	12:15-12:20	Suitability of Low purity Limestone for Limestone Calcined Clay Cement (LC3) Production	13
	Lupesh Dudi and Shashank Bishnoi		

10:45-12:30	Oral Presentation – Calcined Clay and LC3 (2)		Hall B
	Chair: Jörg Rickert		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PJ0071	10:45-11:00	Decarbonizing UAE Cement Industry with Limestone Calcined Clay Cement (LC3)	14
	Farah Shahbaz, Rotana Hay and Kemal Celik		
PD0066	11:00-11:15	Modelling of clay calcination: Rotary kiln versus flash calciner	15
	Simone Elisabeth Schulze, K. Fleiger, M. Feiss and J. Rickert		
PC0004	11:15-11:30	Effects of different calcined kaolinite clays on the sulfate demand of LC3 cements	16
	Lucas G. Py, Jose da Silva Andrade Neto, Márlon Longhi and Ana Paula Kirchheim		
PD0110	11:30-11:35	Beyond kaolinite content: untangling the influence of other clay properties on the reactivity of calcined clays	17
	Alastair T.M. Marsh, Yuvaraj Dhandapani, Sreejith Krishnan, Suraj Rahmon, Maria C.G. Juenger and Susan A. Bernal		
PD0067	11:35-11:40	Hydration of ternary blended cements comprising co-calcined bauxite residue and kaolinitic clay	18
	Natalia Pires-Martins, Arne Peys, Yury Villagrán-Zaccardi and Ruben Snellings		
PD0040	11:40-11:45	Performance of calcined anthill clay as a supplementary cementitious material	19
	Joseph Onah Ukpata, Desmond Enya Ewa and Roland Okiemute Ogirigbo		
PD0106	11:45-11:50	Performance of concretes with ternary blended cements containing limestone filler and calcined illitic clay	20
	Edgardo F. Irassar, Viviana L. Bonavetti, Gisela P. Cordoba, Claudia C. Castellano, Horacio Donza and Viviana F. Rahhal		
PD0013	11:50-11:55	Using Calcined Clay and Calcium Chloride to Enable Aluminum Reinforced Concrete	21
PD0097	11:55-12:00	Application of LC3 in Non-Structural Concrete	22
	Narendra Kumar, Lupesh Dudi, Lav Singh and Shashank Bishnoi		
PD0094	12:00-12:05	Influence of burning level on calcined clay reactivity - Experience from a rotary field trial up to RMX application	23
	Claudia Rodriguez, C.A. Orozco and A.C. Gómez		
PD0098	12:05-12:10	A tailored supplementary cementitious material based on Calcined Clay technology for Ready Mix production	24
	Ana Cristina Gómez, C.P. Rodriguez, C.A. Orozco and W.E. Echeverri		
PD0064	12:10-12:15	Electrification of Calcined Clay Systems in the Cement Industry – Technical, Economic and Environmental Potentials	25
	M. Nakhaei, Longzhen Hu, W.R. Leal da Silva, B. Laurini, Y. Zong and C. Træholt		
PD0082	12:15-12:20	Effect of temperature on the heat of hydration and compressive strength of ternary blends	26
	Natechanok Chitvoranund, Gilles Plusquellec, Emilie L'Hôpital, Natalia L. Dedousi, Urs Mueller and Katarina Malaga		

10:45-12:30	Oral Presentation – Calcined Clay and LC3 (3)		Hall C
	Chair: Duncan Herfort		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		



			Kiosk#
PD0009	10:45-11:00	Activation of LC3 low-carbon cements by C-S-H seeding Alejandro Morales-Cantero, Angeles G. De la Torre, Ana Cuesta, Isabel Santacruz, Oliver Mazanec, Alessandro Dalla-Libera, Sebastien Dhers, Peter Schwesig, Pere Borralleras and Miguel A.G. Aranda	27
PD0081	11:00-11:15	Refinement of activation methods for increased reactivity of kaolinitic and illitic clays Gilles Plusquellec, Ojas Arun Chaudari, Emilie L'Hôpital and Katarina Malaga	28
PD0118	11:15-11:30	Improving early-age strength of limestone-calcined clay cement by using finer cement and cement kiln dust Vootukuri Charitha, Meenakshi Sharma and Karen Scrivener	29
PD0095	11:30-11:35	Impact of calcination technology on the properties of a low kaolinite calcined clay C.P. Rodriguez, C.A. Orozco and A.C. Gómez	30
PF0008	11:35-11:40	Processing and hydration activation of limestone calcined clay belite-rich cements Cinthya Redondo-Soto, Noelia Fernández-Pérez, Ana Cuesta, Isabel Santacruz, Daniela Gastaldi, Fulvio Canonico and Miguel A.G. Aranda	31
PD0059	11:40-11:45	Reduce OPC content in limestone calcined clay cement (LC3) with C-S-H seeding Xuerun Li, Joachim Dengler and Christoph Hesse	32
PF0083	11:45-11:50	Limitations of isothermal calorimetry for sulfate optimization of Limestone Calcined Clay Cements (LC3)	33
PD0114	11:50-11:55	Determination of calcined clay minerals impact on strength and carbonation of Portland cement mortars using k-value concept Jakub Paweł Szydłowski and Lukasz Jan Kotwica	34
PD0026	11:55-12:00	Cement Hydration Kinetics of LC3 Paste Synthesized with Biologically Architected CaCO <sub>3</sub> Nicolas D. Dowdy, Jie Ren, Danielle N. Beatty and Wil V. Srubar III	35
PD0033	12:00-12:05	Variation of Fluidity of Calcined Clay Limestone Cements by Power Ultrasound and Gypsum Addition Christiane Rößler, Jackson Robert Kocis, Melanie Heinemann, Florian Kleiner, Thomas Sowoidnich and Horst-Michael Ludwig	36
PF0138	12:05-12:10	Utilization of dolomitic limestone waste for manufacturing of Limestone Calcined Clay Cemen Arunachala Sadangi and Pranav Desai	37
PD0038	12:10-12:15	On the synergies among supplementary cementitious materials Daniela Gastaldi, Valentino Merlo, Fulvio Canonico, Enrico Boccaleri and Geo Paul	38
PD0127	12:15-12:20	Blended systems with OPC-Pozzolan-High limestone filler Priscillia Lanieste, Tania Gutsalenko, Thomas Watzet, Roberta Alfani, Laurent Frouin, Mohend Chaouche and Martin Cyr	39
12:35-13:45	Lunch		

13:45-15:30	Oral Presentation – Hydration Chemistry and Alkali-Activated Binders Chair: Smith Songpiriyakij		Hall A
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PC0005	13:45-14:00	Monitoring of nucleation and growth of C-S-H phases by analytical ultracentrifugation and ICP-OES Thomas Sowoidnich, Christiane Rößler, Horst-Michael Ludwig and Helmut Cölfen	1
PC0042	14:00-14:15	Sodium sites and hydration state in C-S-H phases synthesized under alkaline conditions from <sup>1</sup> H and <sup>23</sup> Na MAS NMR experiments Sheng-Yu Yang and Jørgen Skibsted	2
PC0022	14:15-14:30	Synthesis and characterization of Iron and Aluminium-containing AFm phases Aurore Lechevallier, Mohend Chaouche, Jerome Souhier, Evelyne Prat and Guillaume Renaudin	3
PF0016	14:30-14:35	Fresh Properties and Compressive Strength of Alkali Activated Mortar with Different Powder Composition Benson Kipkemboi, Niito Aoyagi, Shingo Miyazawa, Minoru Hata and Hideki Igawa	4
PD0091	14:35-14:40	Alkali-activation and chemical stabilization of incineration fly ash using slag for dangerous waste storage Timothée Jalloux, Sylvian Meille, Elodie Prud'homme and Jean-Yves Richard	5
PF0020	14:40-14:45	The modification of ultra fines on the rheological properties of alkali-activated ternary paste Cuifang Lu, Zuhua Zhang and Caijun Shi	6
PF0055	14:45-14:50	Compressive strength, pore structure and hydration of alkali-activated slag-waste ceramic powder-silica fume ternary system Yulin Deng, Zuhua Zhang and Caijun Shi	7
PF0030	14:50-14:55	Reaction Kinetics and Mechanical Properties of Alkali-Activated Metakaolin-Limestone Cements Jie Ren, Nicolas D. Dowdy, Danielle N. Beatty and Wil V. Srubar III	8
PF0081	14:55-15:00	Evaluation of iron ore tailing in alkali-activated cement Tainá Varela Melo, Filipe Soares Faria, Naguisa Tokudome and Marlon Augusto Longhi	9
PF0080	15:00-15:05	Alkali-activated cements derived from natural and designed blends of clay and calcium(magnesium) carbonate sources Nailia Rakhimova and Ravil Rakhimov	10
PG0008	15:05-15:10	The challenges of combining alkali activation and workability in low carbon binders: a molecular approach Clara Paillard, Nicolas Sanson, Jean-Baptiste d'Espinose de Lacaillerie, Marta Palacios, Pascal Boustingorry, Marie Jachiet, Claire Giraudeau and Vanessa Kocaba	11
PF0085	15:10-15:15	An alkali-activated cement factory in Brazil: quantification of CO <sub>2</sub> emissions for a class of cements Thainá Faria Oliveira, Nicole Benato Justen, Tainá Varela Melo and Márlon Augusto Longhi	12
PH0022	15:15-15:20	Concrete performance with alkali-activated cement based on industrial side streams from Brazil Filipe Soares Faria, Naguisa Tokudome, Thainá Faria Oliveira and Nicole Benato Justen	13
13:45-15:30	Oral Presentation – Characterization Methods and Techniques (1) Chair: Pakorn Oparakosit		Hall B
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PE0004	13:45-14:00	Characterization of siliceous hydrogarnet (Ca <sub>3</sub> Al <sub>2</sub> (SiO <sub>4</sub> ) <sub>x</sub> (OH) <sub>12-4x</sub> ) by solid-state NMR spectroscopy Shuai Nie and Jørgen Skibsted	14
PE0007	14:00-14:15	Multiscale investigation on the thermal stability of synthetic C-S-H pastes according to Ca/Si ratios Sumin Im and Sungchul Bae	15
PE0038	14:15-14:30	Determination of amorphous silica and alumina fractions in metakaolin using X-ray diffraction and PONKCS method Camilo Rosero-Chicaiza, Diana Londono-Zuluaga and Jorge Ivan Tobón	16
PC0036	14:30-14:35	Evaluation of cement matrix hydration products with X-ray microtomography images Arthur Aviz Palma e Silva, Valdirene Maria Silva Capuzzo, Mara Monaliza Pereira and André Maués Brabo Pereira	17
PE0003	14:35-14:40	Combined use of laboratory X-ray diffraction and microtomography in early age cement hydration Ana Cuesta, Shiva Shirani, Angeles G. De la Torre, Isabel Santacruz, Alejandro Morales-Cantero, Imane Koufany, Cinthya Redondo-Soto, Ines R. Salcedo, Laura Leon-Reina and Miguel A.G. Aranda	18
PC0031	14:40-14:45	A Combined Calorimetry and XRD Study of The First 15 Minutes of Portland Cement Hydration Tobias Lange, Daniel Axthammer, Daniel Jansen and Torben Gädt	19

PE0033	14:45-14:50	Microstructure quantification of blended cement pastes by using the conventional EDS images Lihui Li and Jian Yang	20
PJ0056	14:50-14:55	Mineralogical Characterization of Waste to Energy (WTE) Ashes - Insights from Raman Imaging Hamza Samouh, Vikram Kumar and Nishant Garg	21
PE0019	14:55-15:00	Mineralogical Investigation of Coal Fly Ash using Combined SEM-EDS and Raman Spectroscopy Andrew Christopher Witte and Nishant Garg	22
PF0059	15:00-15:05	Spatial and Temporal Analysis of Carbonation Depth via Raman Spectroscopy and Imaging Sudharsan Rathna Kumar, Sonali Srivastava and Nishant Garg	23
PE0002	15:05-15:10	Relationship between rate of hydration and physical and chemical characteristics of Portland cement Aydin Saglik	24
PE0035	15:10-15:15	Correlation Between Kinetic Behavior and Compressive Strength of Alkaline Activation Mauled Yesenia Echeverri Aguirre, Juan Sebastián Rudas, Jarol Molina, Ary Alain Hoyos-Montilla, Jorge Iván Tobón and Natalia Betancur-Granados	25
PI0021	15:15-15:20	Investigation on Water-vapor Permeability Compared to Nitrogen-gas under Isothermal Steady-state Flow within Cementitious Materials	26
13:45-15:30 Oral Presentation – Characterization Methods and Techniques (2) Chair: Paiboon Sreearunothai 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone			Hall C
			Kiosk#
PC0027	13:45-14:00	In Situ X-ray Total Scattering Study on the Impact of Gypsum in C3S-Metakaolin-Limestone Systems Hyeonseok Jee, Chirayu Kothari and Nishant Garg	27
PE0014	14:00-14:15	Micromechanical properties of C-A-S-H based on nanoindentation Jiawei Wang, Zhangli Hu and Jiaping Liu	28
PE0030	14:15-14:30	C-S-H sorption under temperature and relative humidity changes Fatima Masara, Tulio Honorio and Farid Benboudjema	29
PE0056	14:30-14:35	Application of fluorophores for cement hydration monitoring	30
PE0050	14:35-14:40	Experimental thermodynamic study of selected cement clinker phases Chancel Mawalala Moundounga, Theodore Hanein and Alexander Pisch	31
PE0015	14:40-14:45	Methods for measuring internal stress and expansion deformation of fresh concrete during steam curing Yu Xiang, Kai Yang, Yingjie Li, Wenrui Xu and Youjun Xie	32
PE0023	14:45-14:50	Assessment of Radiation-Induced Degradation in a Siliceous Rock via Correlative Characterization Krishna Chaitanya Polavaram and Nishant Garg	33
PE0026	14:50-14:55	Low-Cost and Reliable Contact Angle Goniometry for Cementitious Materials Hossein Kabir and Nishant Garg	34
PE0042	14:55-15:00	In situ monitoring of microstructure evolution of C3A –gypsum system by low field NMR A.M. She, G. Li, K. Ma, G. Liao, and J.Q. Zuo	35
PE0016	15:00-15:05	Composition and chain length of Alkali-activated Ground Bottom Ash gels using NMR Roshan Sandaruwan Muththa Arachchige and Sulapha Peethamparan	36
PE0024	15:05-15:10	Solid state NMR study of the hydration of a fast-setting ternary binder added with lithium carbonate or trisodium-citrate R. Sassi, Franck Fayon, Erwan Chesneau and Valerie Montouillout	37
PE0009	15:10-15:15	Investigation of Selective Dissolution Method for Separation of Ferrite Phase in Cement and Characterization Tetsunari Mizuno and Tomoyuki Hayakawa	38
15:30-15:45	Coffee Break		

15:45-18:00 Oral Presentation – Alkali-Activated Systems and Geopolymer Chair: Maria Juenger 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone			Hall A
			Kiosk#
PD0070	15:45-16:00	Correlating initial chemistry, reaction degree and phase assemblage in alkali-activated systems Luiz Miranda de Lim, John Provis and Guang Ye	1
PF0068	16:00-16:15	Experience of a real precast and site-cast application of alkali-activated GGBS based binder concrete Artur Kiiashko, Francois Cussigh, Laurent Frouin, Roberta Alfani, Diane Achard and Mohend Chaouche	2
PG0009	16:15-16:30	Inefficiency of naphthalene superplasticizer in alkali-activated slag pastes: an investigation from the physical and chemical stability	3
PF0122	16:30-16:35	Understanding Reaction Mechanisms, Kinetics, and Structural Evolution in Alkali-Activated Slag Cement Ella Cliff, Daniel Geddes, John Provis and Brant Walkley	4
PJ0002	16:35-16:40	Physical and mechanical characterization of Alkali-Activated slag cement in presence of ion-exchange resins Maria Criado and María Jimena de Hita	5
PC0020	16:40-16:45	Influence of ferronickel slag on the early hydration and microstructure of alkali-activated ground granulated blast furnace slag Ruilin Cao and Yamei Zhang	6
PC0009	16:45-16:50	Effect of mixing conditions on the rheology and microstructure of silicate-activated slag mixtures Yubo Sun, Yaxin Tao, G. Ye and Geert De Schutter	7
PF0032	16:50-16:55	Microstructure of Alkali-activated Slag Paste Modified by Superabsorbent Polymers Jingbin Yang, Didier Snoeck, Nele De Belie and Zhenping Sun	8
PI0086	16:55-17:00	Coefficient of thermal expansion of alkali-activated slag concrete Zhenming Li, Xuhui Liang, Chen Liu and Guang Ye	8 (shared)
PF0113	17:00-17:05	Reactivity of novel artificial precursors for alkali-activated materials made from industrial residues Rafia Firdous, Tamino Hirsch, Gunnar Hovestadt, Bernd Friedrich, Christoph Kemper, Tobias Schür, Dietmar Stephan and Anja Buchwald	9
PF0116	17:05-17:10	'A Tale of Two Cations': the influence of interlayer chemistry on the behaviour of montmorillonite clay alkali-activated cements Sreejith Krishnan, Alastair T.M. Marsh and Susan A. Bernal	10
PD0090	17:10-17:15	Alkali-carbonate activated waste glass-based cements Simon Blotvogel, Louise Lemesre, Falak Milki, Celine Bacquie, Thomas Watzel, Martin Cyr and Rachida Idir	10 (shared)
PF0012	17:15-17:20	Microstructural modifications of alkali-activated fly ash cement pastes by the presence of calcium hydroxide Ary Alain Hoyos-Montilla, Jorge Ivan Tobon and Francisca Puertas	11
PD0122	17:20-17:25	Alkali-activated fly ash synthesized with pre-polymerized suspension combined with ultrafine fly ash at ambient temperature Huimei Zhu, X.Z. Wu, Y.W. Zhang and H. Li	11 (shared)
PD0057	17:25-17:30	Use of alkaline salts to improve the reactivity of cements with high fly ash content: hybrid alkaline cements	12

		Filipe Almeida, Ana Fernández-Jiménez, Castorina Silva Vieira, Nuno Cristelo and Maria Lurdes Lopes	
PG0063	17:30-17:35	Rheology of ultra-high geopolymer concrete: Influences of activator types and silica fume	12 (shared)
		Yiwei Liu and Caijun Shi	
PF0118	17:35-17:40	Rheological properties of self-compacting geopolymer concrete based on response surface methodology (RSM)	13
15:45-18:00	Oral Presentation – Geopolymer		Hall B
	Chair: Wilmar Echeverri		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PJ0018	15:45-16:00	Capability of traditional and geopolymer cementitious systems for the immobilization of a thermally treated ion exchange resin	14
		Pedro Perez-Cortes, Ines Garcia-Lodeiro, Elena Torres, Maria Cruz Alonso and Francisca Puertas	
PJ0033	16:00-16:15	Assessment of the Microstructure and Mass Transfer in Strontium-Loaded Geopolymer Cement Wasteforms	15
		Charlotte Nevin, Daniel A. Geddes, John L. Provis and Brant Walkley	
PI0015	16:15-16:30	Antimicrobial performance of ZnO-modified geopolymer against microbial corrosion	16
		Xiaojuan Kang and Hailong Ye	
PF0018	16:30-16:35	Effects of Sodium Silicate on the Mechanical Properties and Setting Time of Geopolymer	17
		Yuying Tan, Li Hong, B.G. Zhan and Q.J. Yu	
PJ0059	16:35-16:40	Effect of strontium salts on the kinetics and mechanisms of geopolymer cement formation	18
		Kyle O'Donoghue, Daniel A. Geddes, John L. Provis and Brant Walkley	
PI0012	16:40-16:45	Assessment of influence of cation type of sulphate ions on early age strength, and microstructure of geopolymer concrete	19
		Maradani Leela Sai Rangarao and Bulu Pradhan	
PF0002	16:45-16:50	Effects of Magnesium Ion on Retardation Mechanism of Non-calcium Metakaolin Geopolymer	20
		Shuaibin Wang, Shishun Zhang and Xu Chen	
PG0062	16:50-16:55	A study on early strength development of fly ash-GGBS geopolymer concrete admixed with inhibiting admixtures	21
		Shehnazdeep Shehnazdeep and Bulu Pradhan	
PF0130	16:55-17:00	Synthesis, characterization and solubility of sodium aluminosilicate hydrate (N-A-S-H) gel	22
		Yun Chen, Luiz Miranda de Lima, Zhenming Li, Bin Ma, Barbara Lothenbach, Suhong Yin, Qijun Yu and Guang Ye	
PI0082	17:00-17:05	Development of Seawater Sea-sand Engineered Geopolymer Composites (SS-EGC)	23
		Tao Wang, Jing Yu and Jian-Guo Dai	
PF0011	17:05-17:10	Optimizing calcined clay geopolymer production	24
		Isabel Pol Segura, Peter Arendt Jensen, Anne Jul Damo, Mariana Canut and Lars Skaarup Jensen	
PF0090	17:10-17:15	The Utilisation of Rice Husk Ash Leachates for the Synthesis of Eco-friendly Geopolymers	24 (shared)
		Maria Kaka Etete Enoh, Aniedi Okon Ette, Emmanuel Udam Odeh and Cynthia Samuel Abima	
PF0044	17:15-17:20	Hydration and Shrinkage Behavior of Copper Slag Activated by Sodium Silicate at Different Na <sub>2</sub> O Equivalents	25
		Zhuhua Yan, Zhenping Sun, Haijing Yang, Xuejun Shu, Doudou Shu, Weigang Zhu and Qiong Luo	
PH0034	17:20-17:25	Sustainable Geopolymer Concrete for Thermoelectric Energy Harvesting	25 (shared)
		Mohamad Barzegar, Guido Goracci, Pavel Martauz and Jorge S. Dolado	
PJ0094	17:25-17:30	Geopolymer Concrete for High-Temperature Thermal Energy Storage: A Sustainable and Circular Approach	26
		Mohammad Rahjoo, Guido Goracci, Juan J. Gaitero, Pavel Martauz, Esther Rojas and Jorge S. Dolado	
PE0029	17:30-17:35	MD study of radiocesium immobilization in the geopolymer matrix	27
		Eduardo Duque-Redondo, Kazuo Yamada, Enrico Masoero, Jorge Bañuelos and Hegoí Manzano	
PJ0062	17:35-17:40	Developing Pickering emulsion routes towards oil immobilisation in geopolymers	27 (shared)
		Jess McWilliams, B. Walkley and J.L. Provis	
15:45-18:00	Oral Presentation – UHPC and SCM (Blast-Furnace Slag and Slag Cement)		Hall C
	Chair: Thatchavee Leelawat		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
			Kiosk#
PD0120	15:45-16:00	A preliminary study on pozzolanic activity and reaction kinetics of coal gasification slag	28
		Kuizhen Fang, Dongmin Wang and Fangyuan Li	
PJ0026	16:00-16:15	Durability properties of composite cement including engineered scrap based EAF-slag as novel SCM	29
		Tim Schade, Frank Bullerjahn, Zhenguo Shi and Gerd Bolte	
PD0076	16:15-16:30	Pozzolanic Reactivity and Characterization of Natural Pozzolans	30
		Krishna Siva Teja Chopperla, Keshav Bharadwaj, Gopakumar Kaladharan, Sivakumar Ramanathan, O. Burkan Isgor and W. Jason Weiss	
PJ0098	16:30-16:35	Modification and mechanism of steel slag on geopolymer UHPC	31
PD0029	16:35-16:40	Effect of silica fume on long-term hydration and compressive strength of UHPC under different curing regimes	32
		Disheng Xu, Jinhui Tang, Cheng Yu and Jiaping Liu	
PH0006	16:40-16:45	Mechanical strength and toughness of rapid hardening ultra-high performance concrete (RH-UHPC)	33
		Kai Yang, Guangcheng Long, Yu Xiang, Yingjie Li, Zhuo Tang and Youjun Xie	
PJ0020	16:45-16:50	Influence of sisal fiber on mechanical, shrinkage and high temperature performance of UHPC	34
		Xiaojuan Gao and Guosheng Ren	
PH0028	16:50-16:55	Thermal stability of UHPC based on alkali-activated slag and metakaolin	35
		Alexander Wetzel, J. Link and B. Middendorf	
PD0001	16:55-17:00	New steel production processes and their consequences for slag utilization in cement	36
		Andreas Ehrenberg and David Algermissen	
PD0115	17:00-17:05	Effects of Blast Furnace Slag Fineness on Cement Physical, Mechanical and Chemical Properties	36 (shared)
		Ugur Ersen Senbil	
PF0043	17:05-17:10	Preparation and hydration of steel slag-based cementitious material	37
PD0024	17:10-17:15	Critical Investigations on Two-Stage Mixing to Increase Early Strength of Cements with Slag and Limestone	37 (shared)
		Jens Herrmann and Jörg Rickert	
PC0063	17:15-17:20	Directly Indication of Structure of Blast Furnace Slag	38
PD0096	17:20-17:25	Fresh and hardened state properties of ternary slag cement concrete with high filler content	38 (shared)
		Matthew Cruickshank, Erisa Myrtija, Roberta Alfani, Laurent Frouin and Mohend Chauouche	
PD0032	17:25-17:30	Using blast furnace slag from iron ore "green briquette" on cements – Part 1: chemical and mineralogical characterization	39
		Fabiano Ferreira Chotoli, Mariana F.L. De Menezes, Marlon Longui, Felipe Pimenta, Valdirene Resende, Fabricio Parreira and Rafael F.C. Santos	

PD0041	17:30-17:35	Using blast furnace slag from iron ore "green briquette" on cements - Part 2: physical-mechanical characterization	39 (shared)
		Rafael F.C. Santos, Mariana F.L. De Menezes, Marlon Longhi, Felipe Pimenta, Valdirene Resende, Fabricio Parreira and Fabiano Ferreira Chotoli	
PJ0093	17:35-17:40	The reactivity of hydrothermally activated basic oxygen furnace slag	40
		Jonathan Zepper, K. Schollbach, S.R. van der Laan and H.J.H. Brouwers	
PD0058	17:40-17:45	Impact of C-S-H seeding on hydration and strength of slag blended cement	40 (shared)
		Xuerun Li and Christoph Hesse	

# Monday, September 18, 2023

08:00-08:15	Opening Ceremony	Hall A
	Chair: Kriengsak Panuwatwanich	
	Thanakom Pheeraphan	
	Organizing Committee Chairman, Thailand Concrete Association	
	Somnuk Tangtermsirikul	
	Scientific Committee Chairman, Sirindhorn International Institute of Technology	
	Chana Poomee	
	Chairman, Thai Cement Manufacturers Association	

08:15-08:45	Keynote Lecture: Future of the construction	Hall A
	Chair: Kriengsak Panuwatwanich	
	All keynote lectures 25 minutes + 5 minutes discussion	
08:15-08:45	Inspiration from construction engineers and designers	
	Stuart Smith	
08:45-09:45	Keynote Lecture: New dimensions in clinker production	Hall A
	Chair: Somnuk Tangtermsirikul	
08:45-09:15	Clinkers for low CO <sub>2</sub> cements: thermodynamic aspects and process implications	
	Alexander Pisch	
09:15-09:45	Cement plants of tomorrow	
	Martin Schneider	
09:45-10:45	Keynote Lecture: Advances in hydration chemistry	Hall A
	Chair: Kedsarin Pimraksa	
09:45-10:45	Advances in Understanding Cement Hydration and Thermodynamics of Hydrated Systems	
	Karen Scrivener and Thomas Matschei	
10:45-11:00	Coffee Break	

11:00-12:35	Oral Presentation – Cement Hydration	Hall A	
	Chair: Carlos Augusto Orozco		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PD0022	11:00-11:15	A Study on Hydration Properties of Cement Matrix according to Limestone Content for Portland Cement	1
		Ingyu Kang, Sangchul Shin, and Jinman Kim	
PF0026	11:15-11:30	Hydration of cementitious binders based on magnesium oxide / hydromagnesite blends	2
		F. Winnefeld, A. German, P. Lura, D. Rentsch and B. Lothenbach	
PG0036	11:30-11:45	Hydration and Viscoelastic Properties of Tricalcium Aluminate Pastes Influenced by Soluble Sodium Salts	3
		Daniel Axthammer, Tobias Lange, Joachim Dengler, and Torben Gädt	
PC0058	11:45-11:50	Hydration of Calcium [Alumino] Ferrite with Limestone	4
		Aniruddha Baral, Cecilia Pesce, Claire Utton, Hajime Kinoshita, Nicola A. Morley, John L. Provis and Theodore Hanein	
PC0045	11:50-11:55	Activation of prehydrated CAC during curing at 20 °C using micro-sized CaCO <sub>3</sub>	5
		Songzhu Chu, Yuandong Mu, Zhongzhuang Zhang, Jinyan Zeng, Xuejun Xiong, and Guotian Ye	
PC0018	11:55-12:00	Effect of Formulation Process of An Alkali-free Liquid Accelerator on Hydration and Properties of Portland Cement	6
		Yifei Wang, Lei Lei, and Cajun Shi	
PC0024	12:00-12:05	Effect of titanium dioxide nanoparticles on hydration and mechanical properties of mortar based on a ternary binder system	7
		Duc Manh Le, Marie Michel, Elodie Prud'homme, and Thouraya Nouri Baranger	
PC0057	12:05-12:10	Effect of Zn retention in alite on the hydration of cementitious systems	8
		A. Teixeira and K. Scrivener	
PC0049	12:10-12:15	An insight on the effect of KAIO <sub>2</sub> on hydration kinetics and mechanical properties of ternesite	9
		Xue Ren, Lei Liu, Jiayuan Ye, Zhongtao Luo, and Wensheng Zhang	
PJ0055	12:15-12:20	Influence of sulfuric acid on the early hydration kinetics and phase assemblage in a stabilization/solidification context	10
		Wolfgang Kunther	
PC0068	12:20-12:25	Effect of C4A3S-CS on hydration property and volumetric stability of Portland cement	11
		Tianrui Pei, Yali Wang, Weili Zhao, Jianfeng Wang, Suping Cui, and Zhifeng Chen	
PJ0052	12:25-12:30	Effect of copper tailing powder on the hydration and mechanical properties of concrete under low atmospheric pressures	12
		Yuanbo Du, Zhigang Wu, and Yong Ge	
PC0069	12:30-12:35	Modifications on the early hydration stages of a Portland cement paste induced by polydimethylsiloxane (PDMS)	13
		Nuria Husillos-Rodríguez, Maria Teresa Blanco-Varela, Sagrario Martínez-Ramírez, and Ines Garcia-Lodeiro	
11:00-12:30	Oral Presentation – Cement Hydration	Hall B	
	Chair: Jason Ideker		
	30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		
		Kiosk#	
PC0025	11:00-11:15	Role of Gypsum on Early Age Hydration of Alite Polymorphs (TI and TIII): A Temporal X-ray PDF Analysis	14
		Chirayu Kothari, Hyeonseok Jee, and Nishant Garg	
PC0046	11:15-11:30	Early hydration and rheological behavior of the calcium aluminates mixtures in the presence of gypsum	15
(no present)		Waleska Barbosa, Eliane Betânia C. Costa, and Kleber F. Portella	
PF0079	11:30-11:45	Early hydration of low-energy cements from clinkers doped with combination of dopants	16
		Martin Boháč, Dana Kubátová, and Theodor Stanek	
PC0016	11:45-11:50	Effect of temperature rise inhibitor on heat evolution of cement-quartz system	17
		Yichuan Zhou, Cheng Yu, Yu Yan, Wenbin Wang, Yuan Qin, Jiaping Liu, and K.C. Wang	
PC0029	11:50-11:55	Hydration of CAC pastes at high temperature	18
		Alicia Pachón Montaña, M.M. Alonso-López, Salma Chhaiba, Queralb B. Marzal-García, José Antonio Jimenez, Irene Llorente, and M.T. Blanco-Valera	
PC0054	11:55-12:00	Identification of Phases in Cementitious Materials at Critical Elevated Temperatures	19
		Lyn Zemberekeci, Maria C.G. Juenger, and Srirama Duddukuri Nair	
PC0037	12:00-12:05	Comparative study of the hydration kinetics of oil well cement and model cement retarded by tartaric acid at elevated temperatures	20
		Fang Sun, Xueyu Pang, Jing Zeng, and Shenglai Guo	
PC0051	12:05-12:10	Study on the hydration and properties of oil well cement slurry with sodium and potassium chlorides	21

PC0030	12:10-12:15	Hydration of Blended Pastes at Later Age under Different Curing Conditions: Insights into the Rate Limiting Mechanism Liming Huang, Luping Tang, and Zhenghong Yang	22
PC0039	12:15-12:20	Hydration of tricalcium aluminate-sulphate systems in presence of alkanolamines Matteo Magistri, Maria Chiara Dalconi, Morgana Monti, and Luca Valentini	23
PC0055	12:20-12:25	Time resolved synchrotron X-ray diffraction investigations of LC3 hydration in the presence of hydroxyethyl methyl cellulose ethers	24
PJ0091	12:25-12:30	Rehydration of ettringite: microstructure and mechanical properties Antonia Alana Lima Pacheco, Natacha Cristina Nascimento Faria, Antonio Carlos Vieira Coelho, and Sérgio Cirelli Angulo	25
11:00-12:35	Oral Presentation – Hydration, Kinetics & Reaction of Cement and Blended Cements Chair: Kedsarin Pimraksa 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall C
			Kiosk#
PD0046	11:00-11:15	Determining the reaction kinetics of supplementary cementitious materials for input into thermodynamic-kinetic models Tongren Zhu, O. Burkan Isgor, Maria Juenger, and Lynn Katz	26
PC0019	11:15-11:30	Kinetics of Al uptake in synthetic calcium silicate hydrate (C-S-H) Yiru Yan, Ellina Bernard, Karen Scrivener, and Barbara Lothenbach	27
(no present)			
PI0039	11:30-11:45	Kinetics of iron (hydr)oxide precipitation in cementitious materials Fabio Enrico Furcas, Shishir Mundra, Barbara Lothenbach, O. Burkan Isgor, and Ueli M. Angst	28
PC0026	11:45-11:50	Adsorption of Ca <sup>2+</sup> at the Interface and Its Effect on the Particle Interaction, C-S-H Formation and Adhesion Xiaowei Ouyang, C. Lin, S. Xu, J. Li, L. Wang, Y. Ma, and J. Fu	29
PC0010	11:50-11:55	Ion uptake in C-S-H Barbara Lothenbach, Yiru Yan, Sonya Barzgar, Rosa Ester Guidone, Andrea Mancini, G. Dan Miron, Erich Wieland, and Dmitrii Kulik	30
(no present)			
PC0048	11:55-12:00	Elucidation of hydration reaction of blended OPC by the utilization of alkanolamine-base grinding agent Sungjin Jung, Hyunuk Kang, and Juhyuk Moon	31
PC0059	12:00-12:05	Deciphering the defects of alite particles at the single-atom level Qi Zheng, Chengyao Liang, Jinyang Jiang, and Shaofan Li	32
PC0050	12:05-12:10	Synthesis of sodium iron silicate hydrate (N-F-S-H) Minggen Zhang, Ellina Bernard, Marcus Yio, Chris Cheeseman, and Rupert Myers	33
PC0062	12:10-12:15	Sintering Flue Gas Desulphurization Ash-Steel Slag Cementitious Materials: Hydration Improvement and Application R. Sun, D.M. Wang, and X. Li	34
PC0040	12:15-12:20	Thermogravimetric analysis on the effect of SAP addition on the microstructure of cement based materials Livia Borba Agostinho, Eugênia F. Silva, and Valdirene Maria S. Capuzzo	35
PC0003	12:20-12:25	Microstructural mechanism involved in the expansion generated in cementitious materials with expansive agent type K José Luis García Calvo, Pedro Carballosa, Filipe Pedrosa, and David Revuelta	36
PC0043	12:25-12:30	Effect of irradiation on Portland cement pastes: impact on mineralogy, mechanical properties, and microstructure Rémy Hoarau Belkhir, Stéphane Poyet, Mejdi Neji, Elisa Leoni, Stéphane Esnouf, Alexandre Dauzères, and Thibault Charpentier	37
PC0064	12:30-12:35	NHL preparation and the influence of B <sub>2</sub> O <sub>3</sub> on this process	38
12:35-13:45	Lunch		

13:45-15:30	Oral Presentation – Magnesium-based Low CO <sub>2</sub> Cement Chair: Rafael G. Pileggi 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall A
			Kiosk#
PF0096	13:45-14:00	Chemical and structural evolution of magnesium silicate hydrate Marco Simoni, Chun Long Woo, Han Zhao, Dinu Iuga, Petr Svora, Theodore Hanein, Hajime Kinoshita and Brant Walkley	1
PF0006	14:00-14:15	Hierarchical Structures in Magnesium Silicate Hydrates Dylan Singh, Trinh Thao My Nguyen, Evann Bustamantes, Abdul Wahab, Ahmad Hamzah Yousaf, Ian Shortt, Maria Konsta-Gdoutos, Frank Jr.W. Foss, Sang Soo Lee and Erika La Plante	2
PF0019	14:15-14:30	Formation and stability of magnesium silicate hydrate and hydromagnesite Elina Bernard, Barbara Lothenbach, Hoang Nguyen, Raphael Kuhn and Frank Winnefeld	3
PF0075	14:30-14:35	Investigating Carbonation and Hydration of Reactive Magnesia Cement using Advanced Characterization Methods N.Z. Elmesalami and K. Celik	4
PF0007	14:35-14:40	Lightweight reactive magnesia cement (RMC) and biochar-based CO <sub>2</sub> -reducing composites Yihong Tang and Jishen Qiu	5
PF0022	14:40-14:45	Valorization of A Low-Grade Magnesia As A Precursor In The Preparation of MKPCs I.Garcia-Lodeiro, N. Husillos-Rodriguez, A. Palomo and H. Kinoshita	6
PF0058	14:45-14:50	Development of Magnesium Silicate Hydrates from Brucite and Silica Fume Padmaja Krishnan, Inderjeet Singh and Kemal Celik	7
PF0004	14:50-14:55	Effect of further water curing on properties of carbonated reactive MgO cement Zhen Li and Jueshi Qian	8
PF0111	14:55-15:00	Effect of carbonated phases on the performance of different MgO-based formulations Sanapala Sai Krishna Dinakar and G.V.P. Bhagath Singh	9
PF0117	15:00-15:05	Phase formation and CO <sub>2</sub> absorption of reactive magnesium oxide (MgO) cement (RMC) with additive under various curing regimes Rotana Hay, Lydia Gkoura, Asif Eqbal and Kemal Celik	10
PJ0105	15:05-15:10	Effects of phosphate salts on the interfacial bonding between magnesium phosphate cement and steel fiber Xin Wang, Caijun Shi and Xiang Hu	11
PF0057	15:10-15:15	Hydration, microstructure and macro-properties of high belite MgO expansive cement Chen Lyu, Cheng Yu and Jiaping Liu	12
PF0098	15:15-15:20	Development of plaster-like materials from magnesium carbonates Kanwal Shahid, Hoang Nguyen, Cise Unluer and Paivo Kinnunen	13
13:45-15:30	Oral Presentation – Clinker Technology Chair: Frank Winnefeld 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall B
			Kiosk#
PE0006	13:45-14:00	Influence of MgO on formation of clinker with different alumina modulus based on big data Jiayuan Ye, Zhengbin Luan, Wensheng Zhang, Xuehong Ren and Hongtao Zhang	14
PJ0050	14:00-14:15	An Experimental Study of Sulfur and Chlorine Stripping from Cement Hot Meal Anne Juul Damo, Xiaozan Wang, Giovanni Cafaggi, Tobias Echberg Nielsen, Morten Nedergaard Pedersen, Flemming Jappe Frandsen, Peter Arendt Jensen and Hao Wu	15

PB0015	14:15-14:30	Effect of cooling rates on the properties of Portland cement clinkers in the presence of Mg element Zhili Ren, Fabien Georget, John Provis, Alexander Pisch, Thomas Matschei and Theodore Hanein	16
PB0002	14:30-14:35	Digitalization in cement production: prediction of free lime content in clinker production Wilson Ricardo Leal da Silva, Javier Pingazo Merino and Anders Noe Dam	17
PB0003	14:35-14:40	Method of Intensifying Cement Clinker Production Theodor Stanek, Ingrid Khongová, Anežka Zezulová, Alexandra Rybová and Martin Boháč	18
PB0008	14:40-14:45	Determination of Clinker Performance with Chemical Additives by use of XRF, QXRD and Microscopy Analysis Richard G. Sibbick, Jeffrey J. Thomas and Josephine H. Cheung	19
PB0009	14:45-14:50	Preparation and Characterization of Portland cement Clinker by High Magnesium Limestone and Iron Tailings Tao Lu, Chao Zhu, Zhuqing Yu, Liwu Mo and Xiaodong Shen	20
PB0011	14:50-14:55	Controlling soluble Cr(VI) in Portland cement containing high content of ferrite phase Bo Li, Liang Zhao and Wei Chen	21
PB0016	14:55-15:00	Effect of chlorides on the clinkering and reactivity of ye'elime Vaishnav Kumar Shenbagam and Theodore Hanein	22
PJ0068	15:00-15:05	Evaluating the potential of Steel slags as alternative raw materials for Portland cement clinker production Dilip Makhija, Manoj Rustagi, Jagabandhu Kole, J. Suresh, Priyapratim Patra and Vamsidhar Reddy	23
PC0056	15:05-15:10	Mineral dissolution mechanism of different polymorphs of alite from ReaxFF molecular dynamics simulation Haoyi Li, Zhizong Tian, Qianqian Wang and Xiaodong Shen	24
PC0052	15:10-15:15	Nucleation of C-S-H from Molecular Dynamics Xabier M. Aretxabaleta, Jon Lopez-Zorrilla, Iñigo Etxebarria and Hegoi Manzano	25
PC0044	15:15-15:20	Influence of TiO <sub>2</sub> on the kinetic reaction of white Portland cement suspensions Sérgio R.A. Dantas, Marcel H. Maciel, Roberto C.O. Romano, Rafael G. Pileggi and Leandro F.M. Sanchez	26
13:45-15:30	Oral Presentation – Pozzolanic Reactivity Assessment and Evaluation Techniques Chair: Wanchai Yodsudjai 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall C
			Kiosk#
PI0009	13:45-14:00	Evaluation of transport properties in ITZ with coupled CT image analysis and simulation Yingyao Tan, Takafumi Sugiyama and Katsufumi Hashimoto	27
PI0041	14:00-14:15	Assessment of the ion diffusivity of cement-based materials using QXRD and micro-CT based random walk simulation Junil Pae and Juhyuk Moon	28
PI0074	14:15-14:30	Elucidating the carbonation front in blended calcined kaolinite clays binders using analytical techniques Yuvaraj Dhandapani, L. Black, M.C.G. Junger and S.A. Bernal	29
PE0018	14:30-14:35	Determining the degree of reaction of SCMs in hydrated cement pastes Pamela Zuschlag, Klaarteje De Weerd, Mette R. Geiker, Harald Justnes, Knut O. Kjellsen, Alisa Machner, Pawel Durdzinski, Maciej Zajac and Mohsen B. Haha	30
PD0035	14:35-14:40	Assessing the activity of potential SCM's using the R3 test method Maciej Batog, Artur Golda, Damian Dziuk, Barbara Batog and Katarzyna Synowiec	31
PD0042	14:40-14:45	Reactivity of alternative SCMs from Nordic Countries – Input for the R3 test Tobias Danner, Harald Justnes and K.O. Kjellsen	32
PD0008	14:45-14:50	Reactivity of alternative supplementary cementitious materials assessed by the R3 method Maxime Ranger and Josée Duchesne	33
PD0101	14:50-14:55	Reactivity (R3) and hydration products of Fe(II)-rich slags: from CaO-FeOx-SiO <sub>2</sub> to CaO-Al <sub>2</sub> O <sub>3</sub> -Na <sub>2</sub> O-FeOx-SiO <sub>2</sub> Vincent Hallet, Michiel Giels, Jorn Van De Sande, Roberto Eduardo Murillo Alarcón and Yiannis Pontikes	34
PD0102	14:55-15:00	The Assessment of SCMs Reactivity in Thailand Suthinee Chanatippakorn, Kunruethai Faisadcha and Surachai Vangrattanaachai	35
PD0123	15:00-15:05	A unified method for efficient and reliable determination of pozzolanic reaction degree of SCMs in blended cement pastes Tiao Wang, S. Medepalli, Y. Zheng and T. Ishida	36
PD0055	15:05-15:10	A New Soluble Alkali Test to Predict the Alkali Contribution of SCMs to Concrete Pore Solution Mohammadreza Sharbaf and Farshad Rajabipour	37
PD0117	15:10-15:15	Orthogonal analysis of technological conditions of autoclaved aerated concrete based on red mud	38
PJ0013	15:15-15:20	Statistical modelling and optimization of strength in hybrid binders based on volcanic pumice, environmental and cost analysis Jesus López-Salas, Lauren Y. Gomez-Zamorano and J. I. Escalante-García	39
15:30-15:45	Coffee Break		
15:45-18:00	Oral Presentation – Low-Carbon Cements and Binders (1) Chair: Nattapong Makaratat 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall A
			Kiosk#
PD0048	15:45-16:00	Characterization of (A/F) H3 Phase Microstructure with Different Al/(Fe+Al) Ratios based on Calcium Sulfoaluminate Cement Jiangchun Li, Jun Chang, Tian Zeng and Zhiqi Hu	1
PF0120	16:00-16:15	Development of Calcium Sulfoaluminate-Belite Cement Using Low-Grade Limestone Bipina Thaivalappil and Piyush Chaunsali	2
PJ0101	16:15-16:30	Calcium sulfoaluminate clinker production from sulfidic mine tailings Natalia Pires-Martins, Ruben Snellings and Guillaume Habert	3
PF0014	16:30-16:35	Cement and Synthetic SCM with Low-CO <sub>2</sub> Footprint Padmaja Parakala, S. Quinn, J. Bryant, A. Kumar, S. Sahu and R. Hill	4
PD0039	16:35-16:40	Comparison of composite cements with limestone filler, fly ash, and calcined clays Lucia Montani, Alejandra Tironi, Viviana L. Bonavetti and Edgardo Fabian Irassar	5
PF0047	16:40-16:45	Low CO <sub>2</sub> footprint and high circular cementitious binders based on mineralized RCF and LF steel slags under synergistic approach Asier Oleaga, Veronica Garcia, Inigo Vegas and M. Frías	6
PB0007	16:45-16:50	Research on the preparation of low-calcium Portland cement Yuwei Li, Ying Ma and Xiaodong Shen	7
PF0107	16:50-16:55	Two-Step Synthesis of Low-Lime Cement and its Hydration Raimundas Siauciunas, Anatolijus Eisinias, Dovile Rubinaite and Inga Gedekė	8
PD0012	16:55-17:00	Nucleation Effects of Biologically Architected Calcium Carbonate in Portland Limestone Cements Danielle N. Beatty and Wil V. Sruhar	8 (shared)
PF0088	17:00-17:05	Fundamental understanding of carbonation mechanism of aluminosilicate based material: A state-of-the art review F.Z. Xie, C. Li, Q. Ren, W.B. Gao and Z. W. Jiang	9
PF0127	17:05-17:10	Evaluation of the properties of completely recyclable mortar Yunpeng Liu, Yingying Cui, Chao Yang and Ming Zhu	9 (shared)

PF0091	17:10-17:15	Preservation of $\alpha'$ Dicalcium Silicate (C2S) under SO <sub>2</sub> -Containing Atmosphere Omnya Abdalla, Christiane Rößler, Marcus Campbell-Bannerman, Roneta Chaliulina and Ammar Elhoweris	10
PF0027	17:15-17:20	Effect of organic ligands in AAM binders Juho Yliniemi, Rajewari Ramaswamy, Sepideh Bagheri and Mahtab Akbarzadeh Khoei	10 (shared)
PF0048	17:20-17:25	Understanding the role of carbon nanotubes in low-carbon concrete: from experiment to molecular dynamics Kai Cui and Jun Chang	11
PF0042	17:25-17:30	Fracture properties of in-situ polymerization modified cementitious materials Chengji Xu and Qiang Zeng	11 (shared)
PD0045	17:30-17:35	About The Effect of Portland Cement Activation On Supersulfated Cements Properties Ludovic André, Céline Bacquie, Thomas Wattez, Cédric Patapy and Martin Cyr	12
PD0116	17:35-17:40	Reactivity of synthesized aluminosilicates in supersulfated cement (SSC) systems J.X. Wang, D.M. Wang and Z. Liu	12 (shared)
PF0114	17:40-17:45	Belitic calcium sulfoaluminate (BCSA) cements and the current durability standards: What are we testing? Jack Ambrose, Vaishnav Kumar Shenbagam, John Provis and Theodore Hanein	13
15:45-18:00	Oral Presentation – Low-Carbon Cements and Binders (2) Chair: Taweechai Sumranwanich 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall B
			Kiosk#
PF0082	15:45-16:00	Synthesis of Giorgiosite [Mg <sub>5</sub> (CO <sub>3</sub> ) <sub>4</sub> (OH) <sub>2</sub> ·5–6H <sub>2</sub> O], further light on a new hydrated magnesium carbonate for MgO-based cement Hoang Nguyen, Ellina Bernard, Frank Winnefeld, Barbara Lothenbach and Paivo Kinnunen	14
PF0023	16:00-16:15	Microstructure of MgO-Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> binders Marcus Yio, Ellina Bernard, H. Chen and Rupert Myers	15
PJ0075	16:15-16:30	Properties of A Magnesium-Silicate-Hydrate Cement Paste Prepared Using Magnesium Hydroxide Mercedes Baxter Chinery, Hong Wong, Christopher Cheeseman and L.J. Vandeperre	16
PC0001	16:30-16:35	Hydration and conversion reactions of Calcium Aluminate Cement with reactive Calcite at variable temperatures Julian Goergens and Friedlinde Goetz-Neunhoeffer	17
PF0112	16:35-16:40	Leaching-Induced Mass Loss Characterisation of Calcium Sulfoaluminate Binders Using Acid Titrimetry Tom Damion and Piyush Chaunsali	18
PC0011	16:40-16:45	The influence of free water removal approaches on the composition and morphologies of CAC hydrates cured at different temperatures Jinyan Zeng, Zhongzhuang Zhang, Songzhu Chu, Yuandong Mu, Anguo Zhang and Guotian Ye	19
PF0115	16:45-16:50	Early-Age Hydration Characteristics of Ye'elimite in the Presence of Calcium Sulfate and Alkalis Bipina Thaivalappil, Vaishnav Kumar Shenbagam and Piyush Chaunsali	20
PD0019	16:50-16:55	Pore structure refinement of calcium-sulfate-aluminate-Portland cement mortars by early-age CO <sub>2</sub> curing Yan Lan, Q. Zeng and Z.D. Zhang	21
PG0049	16:55-17:00	Influence of retarders on the hydration and rheology of calcium sulfo aluminate cement Manu K. Mohan, A.V. Rahul, Kim Van Tittelboom and Geert De Schutter	22
PD0047	17:00-17:05	Microstructure characterization of (A/F) H <sub>3</sub> phases with different alkali concentrations based on calcium sulfoaluminate cement Jiangchuan Li and Jun Chang	23
PA0028	17:05-17:10	The Role of Belitic Calcium Sulfoaluminate Cement in Achieving Net-zero Theodore Hanein, Jose Luis Gálvez-Martos and Éric Bescher	23 (shared)
PC0008	17:10-17:15	Effect of DEIPA on hydration and mechanical properties of calcium sulfoaluminate-belite cement Yan Wang, Jianfeng Wang, Hui Liu, Lei Chang, Yali Wang and Suping Cui	24
PF0105	17:15-17:20	Synthesis of Calcium Sulfoaluminate-Belite Cement from Lignite Bottom Ash Using Clinkerization and Hydrothermal-Calcination Maneerat Thala, Pitiwat Wattanachai, Supaporn Wansom, Naruemon Setthaya, Frank Winnefeld, Prinya Chindaprasit and Kedsarin Pimraksa	24 (shared)
PC0053	17:20-17:25	Study of early age hydration behavior of sulfate-rich belite sulfoaluminate cements with anhydrite and gypsum Xuehong Ren, Lixue Cao, Jiayuan Ye, Hongtao Zhang and Wensheng Zhang	25
PF0089	17:25-17:30	Alkali-Silica Reactivity in Belitic Calcium Sulfoaluminate (BCSA) Faisal Qadri and Nishant Garg	25 (shared)
PG0027	17:30-17:35	Impact of C-S-H Seeds on Cementitious Hydration Kinetics, Pore Structure, and Strength Faisal Qadri and Nishant Garg	26
PG0044	17:35-17:40	Early-age elasticity in structuration of highly cohesive concrete with added pozzolanic diatomaceous earth Ana Bruncic, Katarina Ster	27
PG0047	17:40-17:45	Hydration Accelerating Effect and Strength Characteristics of blended Cement by C-S-H Accelerating Agent Denise A. Silva, Rafael G. Pileggi, Markus S. Rebmann, A.J. Aldykiewicz Jr., J.G. Hemrick and W.Y. Tsai	27 (shared)
15:45-18:00	Oral Presentation – Characterization and Modelling Chair: Shashank Bishnoi 30 min discussion follows after the presentation at the assigned digital kiosks in the Exhibition Zone		Hall C
			Kiosk#
PE0013	15:45-16:00	Numerical Model for Growth and Porosity of C-S-H Structures in Cement Hydration Long Nguyen-Tuan, Christiane Rößler, Etzold Merlin and Horst-Michael Ludwig	28
PE0053	16:00-16:15	Impact of autoclaving on the phase assemblage of Portland cement: Experiment and thermodynamic modelling Tamino Hirsch, Marieke Voigt, Christian Lehmann, Birgit Meng and Barbara Lothenbach	29
PD0113	16:15-16:30	Application of Interparticle Spacing Model to Maximize Filler Content in Cementitious Pastes Denise A. Silva, Rafael G. Pileggi, Markus S. Rebmann, A.J. Aldykiewicz Jr., J.G. Hemrick and W.Y. Tsai	30
PE0045	16:30-16:35	Thermodynamic modelling of Portland cement clinkers Wahab Abdul, Christiane Rößler, Chancel Mawalala, Alexander Pisch, Theodore Hanein and Marcus N. Bannerman	31
PE0020	16:35-16:40	Study of alite and belite dissolution by kinetic Monte Carlo simulations and its effect in cement hydration Pablo Martin, Hego Manzano and Mohammad Javad Abdohosseini Qomi	32
PE0032	16:40-16:45	Behavior of water in C-S-H Tulio Honorio, Fatima Masara and Farid Benboudjema	33
PE0048	16:45-16:50	Calcium Silicate Hydrate Surface Ziga Casar, Paul Bowen, Aslam Kunhi Mohamed and Karen Scrivener	34
PE0008	16:50-16:55	Molecular Dynamics On The Pressure Exerted By Water Molecules Confined In Microporous C-S-H Shota Takinami, Ryo Yoshida and Ryo Kobayashi	35
PE0025	16:55-17:00	Exploring C-S-H clusters with evolutionary Xabier M. Aretxabaleta, J. López-Zorrilla, I. Etxebarria and H. Manzano	36
PE0027	17:00-17:05	Structure and mechanical properties of calcium silicate hydrate and calcium carbonate nano composites resolved by reactive molecular dynamics simulations Rongjia Wen, Qiang Zeng and Boqing Gao	36 (shared)



PE0022	17:05-17:10	Machine Learning atomic potential for C-S-H Jon López-Zorrilla, Xabier M. Aretxabaleta, Iñigo Etxebarria and Hegoi Manzano	37
PE0011	17:10-17:15	Microstructural analysis of the effect of clinker phase distribution on cement hydration using computer-based approaches Sang-Yeop Chung, Seo-Eun Oh and Su-Sung Jo	38
PE0012	17:15-17:20	Application of artificial intelligence on reconstruction of multi-phase cement paste microstructures Sung-Wook Hong, Donghwi Eum and Tong-Seok Han	38 (shared)
PE0049	17:20-17:25	Reacquainting the rate value and predicting BYT clinker compressive strength by the Random Forest algorithm	39
PE0031	17:25-17:30	Modelling of the Flocculated Polydisperse Microstructure of Fresh Cement Paste Yaqi Zhao, Michal Hlobil and David Simon Kammer	39 (shared)
PE0021	17:30-17:35	DEM insights into the effect of coarse aggregate properties on the creep behaviors of concrete Gang Ma, Youjun Xie, Guangcheng Long, Zhuo Tang and Xiang Zhuo	40
PI0078	17:35-17:40	Cementitious materials for oil-well abandonment and numerical simulations of cement durability at oil well conditions Sheng-Yu Yang, Wolfgang Kunther, Alexander Michel and Jørgen Skibsted	40 (shared)