

DuRSAAM2023 Symposium, 8-10 February 2023, Ghent – Belgium

Detailed programme

Day 1: Wednesday 8 February 2023

08:15 – 08:45	Arrival and registration
08:45 – 09:00	Welcome and opening
09:00 – 09:45	Keynote lecture 1 by Prof. Barbara Lothenbach (EMPA) Topic: “Mix design and microstructure”
09:45 – 10:45	Session 1.1 (focused on “Mix design and microstructure” and “Durability performance”) – Chair: Stijn Matthys
09:45 – 10:00	Influence of temperature on the kinetics of formation of sodium aluminosilicate hydrate gel <i>L. Miranda de Lima, J. L. Provis and G. Ye</i>
10:00 – 10:15	Benzoic acid derivatives as admixtures for low alkaline activated BFS <i>S. Bagheri, T. Luukkonen and J. Yliniemi</i>
10:15 – 10:30	Influence of pre-saturation regime on the scaling resistance of alkali-activated slag concrete <i>O. Bukvić and M. Serdar</i>
10:30 – 10:45	Shrinkage and creep of alkali-activated slag and applicability of the <i>fib</i> MC 2010 <i>R. Caron, R. A. Patel and F. Dehn</i>
10:45 – 11:15	<i>Coffee break</i>
11:15 – 12:15	Session 1.2 (focused on “Mix design and microstructure” and “Durability performance”) – Chair: Luiz Miranda de Lima
11:15 – 11:30	Background for the mix proportioning of alkali-activated materials <i>V. Bílek Jr, J. Koplík, J. Hajzler and B. Kucharczyková</i>
11:30 – 11:45	Effect of water to binder and solution to binder ratio on the hydration kinetics of waterglass activated slag/fly ash blends <i>M. Mutti, S. Joseph and Ö. Cizer</i>
11:45 – 12:00	Chloride ingress and carbonation resistance of ternary blend alkali activated concrete <i>S. Ghorbani and S. Matthys</i>
12:00 – 12:15	Study on the influence of solution composition on shrinkage of low calcium fly ash geopolymers

	<i>M. Hanumananaik and K. V L Subramaniam</i>
12:15 – 13:15	<i>Lunch break</i>
13:15 – 14:00	Keynote lecture 2 by Prof. Aleksandra Radlinska (Pennsylvania State University) Topic: “Durability performance”
14:00 – 15:15	Session 1.3 (focused on “Mix design and microstructure” and “Durability performance”) – Chair: Marijana Serdar
14:00 – 14:15	Reaction of carbonate minerals in alkaline medium <i>R. Firdous and T. Hirsch</i>
14:15 – 14:30	Effect of mixing methods on workability and ultrasound measurements of alkali-activated materials <i>L. Hertwig, B. H. Tekle and K. Holschemacher</i>
14:30 – 14:45	Preparation of precursors for alkali-activated materials by remelting <i>T. Hirsch, A. Buchwald, R. Firdous and D. Stephan</i>
14:45 – 15:00	Preservation of embodied carbon with sustainable resilience corrosion protection systems <i>G. Jones, C. Van Nguyen, P. Mangat and P. Lambert</i>
15:00 – 15:15	Impact of carbonation and other chemical attacks on alkali activated slag materials <i>C. Le Galliard, D. A. Geddes, B. Walkley and J.L. Provis</i>
15:15 – 15:45	<i>Coffee break</i>
15:45 – 17:00	Session 1.4 (focused on “Mix design and microstructure” and “Durability performance”) – Chair: Richard Caron
15:45 – 16:00	The relationship between mixture design and efflorescence formation in geopolymers made of iron ore tailings <i>Rafaela K. R. Silva, Polyana F. F. Martins, Márlon A. Longhi and Fernando S. Lameiras</i>
16:00 – 16:15	Freeze-thaw behaviour of hemp reinforced geopolymer <i>Y. Lu, A. Darby, A. Heath and X. Ke</i>
16:15 – 16:30	Immobilization of Cesium and Strontium-based waste by metakaolin geopolymer: Effect of waste loading and water-binder ratio on the properties of the host matrix <i>E. Mukiza, Quoc Tri Phung, S. Seetharam, L. Frederickx, G. De Schutter</i>
16:30 – 16:45	Influence of zinc sulphate on the setting and rheological properties of alkali activated binders <i>A. Sai Surya Sree Nedunuri and S. Muhammad</i>
16:45 – 17:00	Liquid release from superabsorbent polymer in alkali-activated slag and the mitigation of autogenous shrinkage <i>H. Dong, B. Chen, Z. Li and G. Ye</i>

Day 2: Thursday 9 February 2023

08:30 – 09:00	Arrival and registration
09:00 – 09:45	Keynote lecture 3 by Dr. Jannie S.J. van Deventer (Zeobond) Topic: “A future low-CO₂ cement industry shaped by industrial experience and research perspectives”
09:45 – 10:45	Session 2.1 (focused on “Mix design and microstructure” and “Durability performance”) – Chair: John Provis
09:45 – 10:00	Air-entraining additive effect on geopolymer mortar workability <i>P. Prochoń, M. Kępnia, K. Załęgowski</i>
10:00 – 10:15	Efficient use of calcium in developing sustainable high-strength geopolymer for in-situ applications <i>K. K. Ramagiri and K. V. L. Subramaniam</i>
10:15 – 10:30	The effect of phosphorus oxide content in precursor on setting time and freeze-thaw resistance of alkaline-activated binders <i>P. Prochoń and D. Stańczak</i>
10:30 – 10:45	Effects of Mg on the reactivity of CaO-MgO-Al ₂ O ₃ -SiO ₂ glasses in the sodium silicate activated system <i>T. Kim, A. Hamdan and A. Hajimohammadi</i>
10:45 – 11:15	<i>Coffee break</i>
11:15 – 12:15	Session 2.2 (focused on “Mix design and microstructure” and “Structural behaviour and design”) – Chair: Laura Rossi
11:15 – 11:30	Mechanical, microstructure and durability properties of alkali-activated mortar based on phosphate mining waste rocks, fly ash and metakaolin raw materials <i>S. Sbi, S. Mansouri, Y. Tamraoui and J. Alami</i>
11:30 – 11:45	Use of lime kiln dust as a waste-based reagent in fly ash Class C-based alkali-activated materials <i>P. Shoaiej, S. Pilehvar and R. Pamies</i>
11:45 – 12:00	Influence of the fibre addition on shrinkage and pull-off bond strength of binary alkali-activated repair mortar made of blast furnace and copper slag <i>I. Krajnović and S. Matthys</i>
12:00 – 12:15	Stress-strain response of FRP-confined rubberised one-part alkali-activated concrete <i>M. Elzeadani, D. V. Bompa and A. Y. Elghazouli</i>
12:15 – 13:15	<i>Lunch break</i>
13:15 – 14:00	Keynote lecture 4 by Prof. José Dinis Silvestre (Universidade de Lisboa) Topic: “Greening concrete with circular practices: environmental, toxicological, and economic benefits and challenges”
14:00 – 15:15	Session 2.3 (focused on “Mix design and microstructure” and “Structural behaviour and design”) – Chair: Frank Dehn

14:00 – 14:15	Performance of alkali-activated metakaolin at high H ₂ O/Na ₂ O ratios <i>F. Souayfan, E. Rozière, C. Justino, M. Paris, D. Deneele, A. Loukili</i>
14:15 – 14:30	Effects of activator compositions on the rheology of alkali-activated slag concrete <i>Y. Sun, G. Ye, G. De Schutter</i>
14:30 – 14:45	Behavior of alkali-activated slag mortar incorporated with other supplementary cementitious materials <i>S. Tavasoli, A. W. Sadeed and W. Breit</i>
14:45 – 15:00	Seismic Retrofitting of clay-brick masonry walls with AAM-TRM <i>L. D. Azdejkovic, T. C. Triantafillou and C. G. Papanicolaou</i>
15:00 – 15:15	Experimental investigation on long-term flexural behaviour of prestressed alkali-activated concrete (AAC) girders with cast-in-situ AAC topping <i>Z. Qian, G. Ye, S. Matthys and M. Luković</i>
15:15 – 15:45	<i>Coffee break</i>
15:45 – 17:00	Session 2.4 (focused on “Mix design and microstructure” and “Service life and life cycle assessment”) – Chair: Cassandre Le Galliard
15:45 – 16:00	Calcined clay minerals as precursors for geopolymers and the influence of solubility on mixing ratios <i>N. Werling, F. Dathe, F. Dehn and K. Emmerich</i>
16:00 – 16:15	Chloride transport in alkali-activated slag paste under the exposure of wetting and drying cycles <i>Z. Xu and G. Ye</i>
16:15 – 16:30	Novel findings of pore shapes for hardened 3D printed concrete with silica fume by X-CT scanning <i>Y. Chen and H. Rahier</i>
16:30 – 16:45	Sensitivity analysis for a probabilistic service life prediction of alkali-activated concrete <i>T. J. Chidiac, N. Ukrainczyk, D. P. Prentice, Z. Zhang, T. Soetens, B. Van Belleghem and J.L. Provis</i>
16:45 – 17:00	The environmental impacts of alkali activated concretes: examining contribution of variability in constituents and of service life time to the uncertainty of LCA <i>A. Komkova, T.J. Chidiac, J.L. Provis and G. Habert</i>
19:15 – 22:30	Symposium dinner

Day 3: Friday 10 February 2023

08:30 – 09:00	Arrival and registration
09:00 – 09:45	Keynote lecture 5 by Dr. Vilma Ducman (ZAG) Topic: “Industry perspective and application cases”
09:45 – 10:45	Session 3.1 (focused on “Durability” and “Industry perspective and application cases”) – Chair: Guillaume Habert
09:45 – 10:00	Degradation of alkali activated slag mortars subjected to accelerated leaching <i>T. N. Nguyen, Q. T. Phung, L. Frederickx, D. Jacques, A. Dauzeres, J. Elsen, Y. Pontikes</i>
10:00 – 10:15	Design and tendering experiences of a geopolymer concrete bridge <i>C.B.M. Blom, W.D. Schutte, A.P. Allaart and J.L.M. van Leeuwen</i>
10:15 – 10:30	Removal of ammonium from wastewater with metakaolin based-geopolymer sorbents <i>M. Otero, L. Freire, S. Gómez-Cuervo and P. Villar</i>
10:30 – 10:45	Additive manufacturing of geopolymer-stones to replicate natural sandstones with low availability <i>S. Partschefeld, A. Tatal and A. Osburg</i>
10:45 – 11:15	<i>Coffee break</i>
11:15 – 12:15	Session 3.2 (focused on “Structural behaviour and design” and “Industry perspective and application cases”) – Chair: Anastasija Komkova
11:15 – 11:30	Alkali-activated slag-based concrete incorporating single and multiple hooked-end steel fibers: mechanical behaviour and limitations to field applications <i>L. Rossi and F. Dehn</i>
11:30 – 11:45	Performance at load-bearing reinforced concrete with treated Cu slag as cement replacement <i>P. Sivakumar, M. A. Yaqub and S. Matthys</i>
11:45 – 12:00	Self-compacting alkali-activated concrete (AAC) for precast prestressed bridge girders - from lab research to industrial production <i>S. Zhang, M. Luković, Y. Yang, H. Herder, A. Scharringa and G. Ye</i>
12:00 – 12:15	URBCON - By-products for sustainable concrete in the urban environment <i>W. Crijs</i>
12:15 – 12:30	Closure and intro to site visit
12:30 – 13:30	<i>Goodbye lunch</i>
13:30 – 15:00	Site visit to City of Ghent "Zonnepoort" pilot