

TRANSCEND FINAL CONFERENCE
Water Transport in Cementitious materials

3-6 November, Radisson Blu Edwardian Hotel Guildford, UK

Programme

Sunday November 3, 2013					
	17:00			Registration	
	19:00			<i>Dinner at the hotel</i>	
Monday November 4, 2013					
Session General					
	Starting time	Duration presentation (in minutes)	Duration Discussion (in minutes)	Title	Speaker(s)
	08:30	20		Welcome introduction TRANSCEND& outreach projects	K. Scrivener (EPFL), P. McDonald (Univ. Surrey)
Session Water Transport in cement at nanoscale level					
	08:50	35	10	Invited talk: Water transport: Diffusion and reaction	Y. Song (Schlumberger Doll Research)
	09:35	30	10	Study of the nano-structure of C-S-H using Nuclear Magnetic Resonance	A. Muller (EPFL)-A. Gajewicz (Univ. Surrey)
	10:15	30		<i>Break</i>	
	10:45	30	10	Atomistic Modelling of Water Transport Dynamics in Cements	N. Howlett-J. Bhatt-S.-H. Cachia (Univ. Surrey)
	11:25	15	5	C-S-H Globules Clustering on Nano-scale Simulated by Discrete Element Method for Pore Structure Exploration	K. Li (Univ. Delft)
	11:45	15	5	Model Sheet Structures for C-S-H	M. Etzold (Univ. Cambridge)
		from 12:15		<i>Lunch</i>	
Session Modelling water transport in cement at mesoscale level and validation					
	13:45	35	10	Invited talk: Modelling Drops on Micropatterned Surfaces	J. Yeomans (Univ. Oxford)
	14:30	15	5	TRANSCENDING the Pore Structure of a Cement Paste with the Lattice-Boltzmann Method	M. Zalzale (EPFL)
	14:50	15	5	Application of pore scale modelling approach for long term durability assessment of concrete	R. A. Patel (Belgian Nuclear Research Centre (SCK•CEN), Mol, Belgium)
	15:10	15	5	Estimation of transport properties of model cement microstructures.	A. Mc Creanor (Univ. Cambridge)
	15:30	30		<i>Break</i>	
	16:00	15	5	Lattice Modelling of the Micro-Structure of Porous Materials for Water Transport	I. Athanasiadis (Univ. Glasgow)
	16:20	15	5	Cryoporometry characterization for cement based materials	M. Wu (DTU) - V. Yermakou (Lafarge- Univ. Surrey)
	16:40	15	5	Modeling water transport in concrete at early age	M. Wyrzykowski (EMPA)
	17:00	60		Poster session	
	18:00			END DAY 1	
	from 19:30			<i>Conference Dinner</i>	

Programme

Tuesday November 5, 2013

Session Sorption Hysteresis and validation

Starting time	Duration presentation (in minutes)	Duration Discussion (in minutes)	Title	Speaker(s)
08:30	35	10	Invited talk: Moisture dynamics in built structures: the role of evaporative pumping	Ch. Hall (Univ. Edinburgh)
09:15	15	5	Evidence for Non-Fickian Sorption in Cement Based Materials	L Wadsö (Univ. Lund)
09:35	15	5	Comparison of Different Methods to Evaluate Moisture Transport Coefficient in Cement Based Materials	M. Saiedpour (Univ. Lund)
09:55	15	5	Modelling of Drying-Wetting Effects on Moisture Transport within Cementitious Materials	Z. Zhang (IFSTTAR)
10:15	30		Break	
10:45	15	5	Measurement of the permeability of cement paste by GARField magnetic resonance profiling	S. Zamani-R. Kowalczyk (Univ. Surrey)
11:05	15	5	Drying of Cementitious Materials: A Comparison Between Plain Mixtures and Mixtures Containing Shrinkage-Reducing-Admixtures	C. Villani (Purdue Univ.)
11:25	15	5	Hysteresis and Percolation In Continuum Modelling of Water Transport in Cementitious Materials	M. B. Pinson (MIT)
11:45	15	5	Effect of the Drying Technique on the Sorption Properties in Cementitious Materials	D. Snoeck (Ghent Univ.)
	from 12:15		Lunch	

Session Solid phases

13:45	35	10	Invited talk: Ion transport dynamics in porous media	L. Pel (Eindhoven University of Technology)
14:30	15	5	Comparison of morphology and chemical structure of C-S-H synthesized by silica-lime reaction and by the controlled hydration of C3S	E. Tajuelo (Univ. Leeds)
14:50	15	5	Impact of water activity on the volume stability of cement hydrates	L. Baquerizo (Holcim-EPFL)
15:10	15	5	Aluminium substitution in C-S-H: ab initio calculations	L. Pegado (PSI)
15:30	30		Break	
16:00	15	5	Aluminium Uptake in Calcium Silicate Hydrate	E. L'Hôpital (EMPA)
16:20	15	5	Study on the Pore Structured Model Considering Water Diffusion Depending on Pore Diameter	K. Ohtsuki (Chuo University)
17:00	60		Poster Session (cont.)	
18:00			END DAY 2	

from 19:30

Social event - Dinner in town - Elstead

Programme

Wednesday November 6, 2013

Session Water Transport at concrete level and influence of cracks

	Starting time	Duration presentation (in minutes)	Duration Discussion (in minutes)	Title	Speaker(s)
	08:30	35	10	Invited talk: Saturated Water Permeability: of Interest, but of Relevance for Assessing Durability?	D. Hooton (Univ. Toronto)
	09:15	25	5	Characterisation of Microcracks and their Influence on Transport Properties of Cementitious Materials	M. Mac - Z. Wu (Imperial College)
	09:45	15	5	Modelling the Transport Properties of Concrete from Three-Dimensional Mesostructure	S. Dehghanpoor Abyaneh (Imperial College)
	10:05	30		Break	
	10:35	15	5	Influence of Microcracking on Air Permeability and Water Absorption of Reinforced Concrete Beams under Sustained Lateral Loads	S . Nanukuttan (Queen's University)
	10:55	15	5	Effect of Water Migration on Self-Healing of Cracks Due to Further Hydration of Unhydrated Cement	H. Huang (Univ. Delft)
	11:15	15	5	Validation of Water Transport Tests By 1H Magnetic Resonance Profiling	N. Fischer (HeidelbergCement-Univ. Surrey)
	11:35	15	5	Assessing Early Age Properties of Cementitious Systems by Water- Isopropanol Replacement	X. Wang (Sika)
	11:55	15	5	Experimental Research on the Moisture Behavior around a Crack of Concrete under Unsaturated Condition	N. Tuchiya (Building Research Institute, Japan)
		from 12:15		Lunch and closure	
				END DAY 3 - END CONFERENCE	

Programme

Poster Sessions, Monday November 4 and Tuesday November 5, 2013

Posters presented

# posters	Institutions	Title	Authors
1		Poster TRANSCEND General	
12		12 Posters on Outreach projects	MC ITN Fellows
4		4 posters Summary of TRANSCEND	MC ITN Fellows
1	ICB, UMR 6303 CNRS - Université de Bourgogne, 9 avenue Alain Savary, 21078 Dijon Cedex	Anions uptake by calcium silicate hydrates: influence of type of counter-ions and temperature	G. Plusquellec I. Pochard A. Nonat
1	1) Laboratory of construction materials, EPFL 2) Laboratory for Concrete and Construction Chemistry, Empa	Stability of C-A-S-H in blended cement pastes	J. Rossen 1) B. Lothenbach 2) K. Scrivener 1)
1	1) Magnel Laboratory for Concrete Research, Ghent University, Belgium 2) Polymer Chemistry and Biomaterials Group, Ghent University, Belgium	Application of pH-sensitive hydrogels for concrete applications	A. Mignon 1-2) D. Snoeck 1) S. Van Vlierberghe 2) P. Dubrue 2) N. De Belie 1)
1	1) Faculty of Science and Technology, Tokyo University of Science, Japan 2) Building Research Institute, Japan 3) Faculty of Engineering, University of Tokyo, Japan 4) Graduate school of Engineering, University of Tokyo, Japan	Experimental Research on the Moisture Behavior of High Strength Concrete under High Temperature	M. Kanematsu 1), N. Tsuchiya 2) M. Tamura 3) T. Noguchi 4)
1	Dr. Radtke CPM Chemical-Physical Measuring techniques Ltd.	Fast and easy distinction of mobile water from crystalline bonded water of Ettringite in cementitious materials	F. Radtke
1	Laboratory of construction materials, EPFL	Change of pore Structure in slag-cement paste	E. Berodier K. Scrivener
1	Laboratory of construction materials, EPFL	Simulating pore structure from microstructural models	Q. Do K. Scrivener
1	1) CEA, DEN, DPC, SECR, Laboratoire d'Etude du Comportement des Bétons et des Argiles, F 91191 Gif-sur-Yvette, France. 2) Université Paris-Est, IFSTTAR, Département Matériaux & Structures, 14-52 Boulevard Newton, F-77447 Marne la Vallée Cedex 2, France.	Water Transport in Cementitious Materials (Comparison of Two Methods: Inverse Analysis and Cup-Method)	M. Auroy 1) S. Poyet 1) P. Le Bescop 1) J.-M. Torrenti 2)
1	Chuo University, Civil and Environmental Engineering, Tokyo, Japan.	Study on Mechanism of volumetric changes by internal vapor diffusion based on kinetic theory of gases	S. Yokoyama H. Oshita
1	1) Institute of Concrete Structures and Building Materials, Karlsruhe Institute of Technology, 76131 Karlsruhe, Germany 2) Center for Durability & Sustainability Studies, Qingdao Technological University, Qingdao 266033, PR China 3) Aedificat Institute Freiburg, D-79100 Freiburg, Germany	Research on Water Penetration into Cracked Steel Reinforced Concrete by Means of Neutron Radiography	P. Zhang 1,2), M. Haist 1), H. S. Mueller 1), T. Zhao 2), F. H. Wittmann 2,3)
1	Department of Physics, University of Surrey, Guildford, Surrey, GU2 7XH, UK	Isopropanol exchange in cement pastes: an NMR relaxation analysis study	R. M. Kowalczyk P. J. McDonald
1	Department of Physics, University of Surrey, Guildford, Surrey, GU2 7XH, UK	A 1H NMR PFG study of the capillary porosity of cement	V. V. Rodin P. J. McDonald S. Zamani
1	Laboratory of construction materials, EPFL	Chloride Resistance and Transport Properties of Blends with High Quantities of Calcined Clays	M. Antoni P. Henocq
1	Department of Mechanics, Faculty of Civil Engineering, Czech Technical University in Prague, Czech Republic	Modeling of Nonlinear Moisture Transport in Concrete according to Bažant-Najjar	P. Havlásek M. Jirásek
31	Total number of posters		