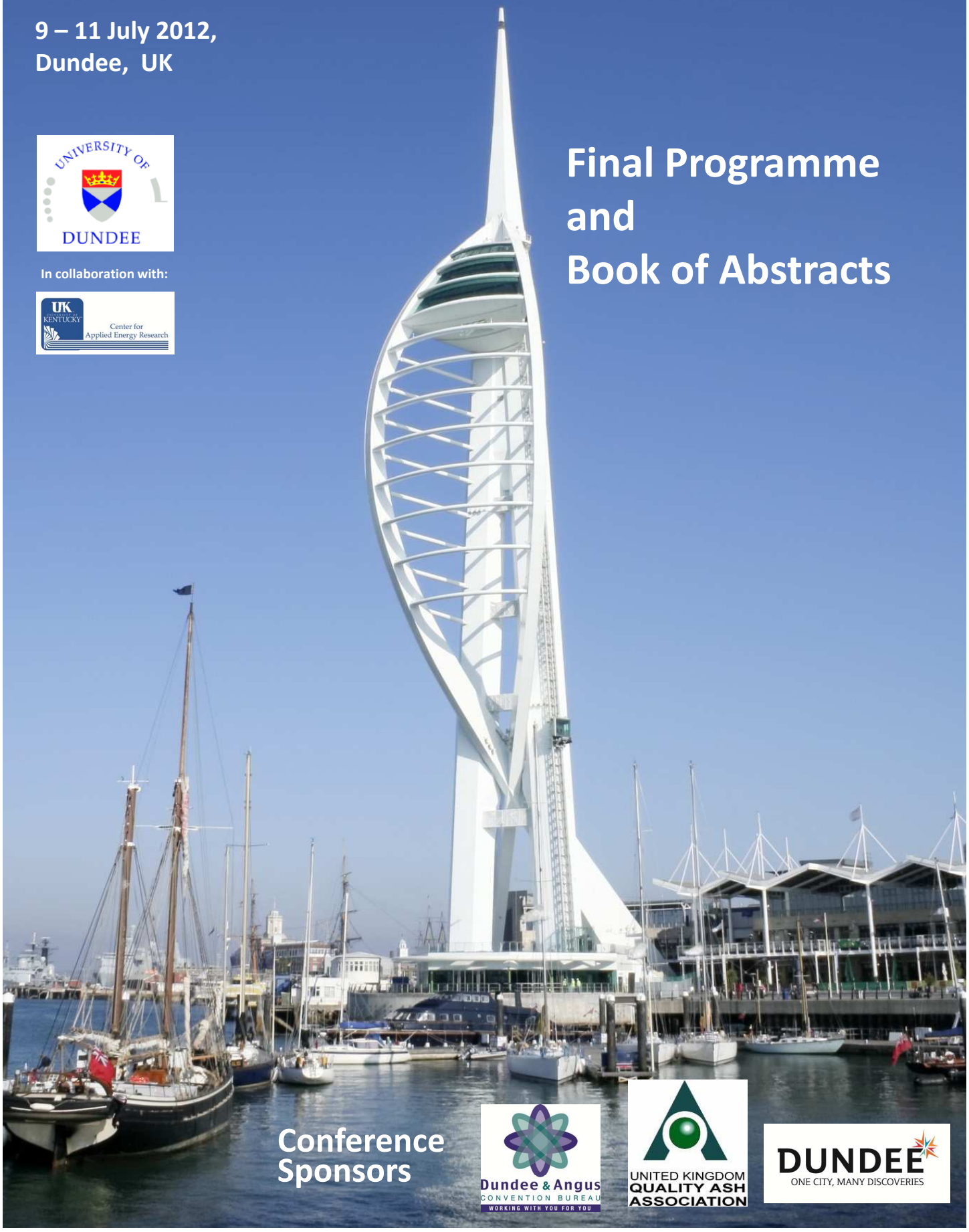
8th International Conference:

Concrete in the Low Carbon Era

9 – 11 July 2012,
Dundee, UK

In collaboration with:

Final Programme and Book of Abstracts



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Day 1:Mon 9 July		Venue 1: 3G02	Venue 2: 3G05	Venue 3: 2G13	
Slot no	1045 - 1115	Opening Ceremony			
	1115 - 1200	**Opening Paper — Removing Impediments to the More Sustainable Use of Concrete, J Aldred — 21**			
	1200 - 1300	Lunch			
		Theme 1 — Low Carbon Design of Structures and Buildings Dr Alan Richardson	**Theme 1 — Low Carbon Design of Structures and Buildings** Dr Karin Weimann	**Theme 2 — Efficient and Sustainable Use of Resources** Prof Elsabè Kearsley	
1	1300 – 1320	Reducing CO_2 by Half in Concrete B Piscaer **25 Keynote paper**	Measuring the Albedo for Different Slag Contents and Surface Finishes of Concrete Slabs A Sweeney, R P West, C O'Connor 35	Meeting the Challenge of Efficient and Sustainable Resource Use T A Harrison **57 Keynote paper**	
2	1320 – 1340	The Optimum Conditions of Steam Heat Curing Cycles on Hydration of Fly Ash Cement for the Precast Industry K Kagami, M Sato, Y Umemura 27	High Volume Slag Cement and Unwashed Crushed Rock Fine Limestone Aggregates to Produce Low Carbon Concrete for the Arabian Peninsula A S Mohammod, K A Paine, P Walker 37	The Need for Technology Transfer for Revitalized Health Safety & Environment (RHSE) in Concrete Construction: A Case of the Great Man Made River in Libya M S Tughar 58	
3	1340 – 1400	Shear Behaviour of Reinforced High Strength Concrete Beams Without Transverse Reinforcement M Hamrat, M Chemrouk, S Amziane 26	Environmental Aspects of Optimized Design of Concrete Structures P Stepanek, I Lanikova, P Simunek, F Girgle, D Horak 32	Assessment of Environmental Impact of the Addition of Photocatalytic Nanoparticles to Cementitious Materials B Y Lee, A R Jayapalan, K E Kurtis 59	
4	1400 – 1420	Effect of Water-Binder Ratio on Silicate Structures and Hydration of Silica Fume Cement M Sato, Y Umemura, K Koizumi 28	Eco-friendly Concrete with Highly Reduced Cement Content T Proske, S Hainer, H Garrecht, C-A Graubner 33	Observation of Fair-face Concrete Durability using Various Testing Methods P Reiterman, K Kolář, O Holčapek, Z Kadlecová, J Adámek 60	
5	1420 – 1440	An Experimental Study of Curing Temperatures on Workability Characteristics and Compressive Strength of Self-Compacting Geopolymer Concretes M F Nuruddin, D Samuel, N Shafiq 29	Benefits of Utilising Oil Drill Cuttings (ODC) as a Filler in PC and Ternary Cement Concrete J O Ikotun, M D Newlands, L J Csetenyi, D O Olanrewaju 38	Carbonation of Concrete: CO_2 Sequestration Potential vs Durability P Woyciechowski 61	
	1440 - 1500	Discussion	Discussion	Discussion	
	1500 - 1530	Coffee	Coffee	Coffee	
		Theme 1 — Low Carbon Design of Structures and Buildings Dr Natalie Lloyd	**Theme 1 — Low Carbon Design of Structures and Buildings** Prof Roger West	**Theme 2 — Efficient and Sustainable Use of Resources** Prof Tom Harrison	
6	1530 – 1550	To Be Sustainable: Use High Performance Concrete! R Lewis 30	Performance Evaluation of Two Types of Phase Change Materials in Cementitious Systems S Manari, N Neithalath 39	The Influence of the Surface Area of Limestone on the Physical and Mechanical Behaviour of Ternary Cements L Zeghichi, A Noui, A Lahmadi, L Belagraa 63	
7	1550 – 1610	Experimental Creep Tests on Concrete Made with Montmorillonite Nano Particles A Sprince, L Pakrastinsh, , A Korjakins 31	The Effect of Using GGBFS on Early-age Thermal Crack Control Reinforcement in Concrete K Tang, G Beattie, S Millard 40	Effects of Calcined Clay as Low Carbon Cementing Materials on the Properties of Concrete K-C Thienel, N Beuntner 65	
8	1610 – 1630	Design of Concrete Bridges for Sustainability and Durability J M Macia, S Mirza 43	Low Carbon Gound Floors for Housing: A Case Study C Shaw 42	Effects of Curing Conditions on the Durability of Slag Concrete A Bouikni, A Bali, R N Swamy, A Kasser, R Boutemeur 64	
9	1630 – 1650	Durability Performance: Models & Test Methods C A Clear 45	The Use of Concrete Filler as a Mineral Admixture in Concrete V Bilek 79	Low-carbon Calcium Sulphoaluminate Cements Synthesized from Industrial Wastes and By-products A Telesca, M Marroccoli, M L Pace, G L Valenti 67	
10	1650 – 1710	Assessing the Potential for Product Stewardship for the UK Precast Concrete Industry A A Aliyu, J Glass, A D F Price, H K Elhag 51	Fibre Reinforced Aerated Cement with Composite-based Rubber Tyre Particles A Benazzouk, O Douzane, T Langlet, M Merzoud 80	Effect of a New Type of CaO Expansive Agent on the Leaching of Calcium Hydroxide from High Performance Concrete J Liu, F Guo, Q Tian, S Zhang 68	
	1710 - 1730	Discussion	Discussion	Discussion	
1800	Civic Reception, RRS Discovery				

Contents

Experimental Creep Tests on Concrete Made with Montmorillonite Nano Particles

A Sprince, L Pakrastinsh, , A Korjakins
Riga Technical University, Latvia

The purpose of this research is to investigate and characterize the time-dependent behavior of new concrete compositions made with montmorillonite nano particles — and then comparing them with control specimens made from standard concrete. This paper presents experimental test results of the compression creep of the proposed concretes. Several concrete compositions with unconventional additives were designed and prepared. The tests were performed on both normal strength and high strength concretes. Specimens were tested in two extreme environments: in one case there was 100% humidity provided by protecting the specimens from desiccation, and in the other case specimens were air-dried and protected from any moisture. Concrete specimens were subject to load in a constant room temperature and with a constant level of moisture. The investigated properties include compression strength, modulus of elasticity, creep and creep coefficient.

Andina Sprince, Mg.sc.ing., Lecturer at RTU, Department of Structural Engineering. Acquired a Professional Master's degree in Civil Engineering, as well as a civil engineer's qualification at RTU, Department of Structural Engineering in 2009. Currently a 2nd year Phd student in the RTU Institute of Materials and Structures programme "Civil Engineering". Field of research: structural behavior of nano–modified concrete, long –term deformations.

Leonids Pakrastinsh, Dr.sc.ing., associate professor, Institute of Structural Engineering and Reconstruction, Riga Technical university, Head of Department of Structural Engineering, Convener of Technical Committee LVS/TC 30. Field of research: structural behavior of cementitious composites.

Aleksandrs Korjakins, Dr.sc.ing., professor, Institute of Materials and Structures, Riga Technical university, Head of Department of Building Materials and Units. Field of research: building materials and structures, ecological building materials, reuse of industrial waste.

Keywords: Compression strength, Creep, Creep coefficient, Modulus of elasticity, Montmorillonite nano particles

Presentation: Day 1 1550 – 1610 — Venue 1: 3G02