KEY NOTE SPEAKERS

Professor Michael P. Collins, University of Toronto, Canada
In Search of Elegance

Professor Shoji Ikeda, Yokohama National University, Japan
Recent Developments in LWAC in Japan.

Mr. Steinar Helland, Selmer ASA, Norway
Lightweight Aggregate Concrete in the new European CEN Standards for Materials and Execution

Mr. Thomas A. Holm, ESCSI, Expanded Shale, Clay & Slate Institute, USA
Specified Density Concrete - A Transition

Dr. Ing. Karl Melby, Norwegian Road Administration - Møre and Romsdal county, Norway
Use of High Strength LWAC in Norwegian Bridges.

Professor, Dr. Ir. JoostWalraven, Delft University of Technology, The Netherlands
Design of Structures with Lightweight Concrete: Present Status of the Revision of EC-2

NEW STRUCTURAL CONCEPTS

The Use of LWAC in the Pontoons of the Nordhordland Floating Bridge, Norway
Jakobsen, S.E., Norway

Application of LWAC for the Superstructure of the TRANSRAPID - An optimization of serviceability
König, G., Novák, B., Pommerening, D., Germany

Cost Effective Structures with LWA Concrete
Olsen, T.O., Norway

Heavy Duty Floating Unit for the Offshore Industry
Olsen, T.O., Norway

Structural LWAC with Textiles as Reinforcement
Schnellenbach-Held, M., Pfeffer, K., Wegel, K., Germany

Ultra Lightweight Aggregate Concrete
Schnellenbach-Held, M., Pfeffer, K., Wegel, K., Germany

Rice Husk in Lightweight Mortars
Tamba, S., Cisse, I., Senegal, Rendell, F., Jauberthie, R., France

2. DESIGN

Ductile Response of Lightweight Aggregate Concrete Members
Allington, C.J., Bull, D.K., Park, R., McSaveney, L., New Zealand

The Shear Stress Capacity of Prestressed Beams Loaded with Shear Force and/or Torsional Moment
Bennenk, W., Janssen, H., The Netherlands

The Prestressed Steel – LWAC Bridge System
Bennenk, W., de Vlleg, A., The Netherlands

The Effects of LWC Slab on the Hysteretic Behaviour of One-way Interior Beam-Column Joints
Besari, M.S., Lauw, C.G.S., Indonesia
Compressive Strength of LWAC under Sustained Loads
Breugel, K. van, Braam, C.R., The Netherlands

Dowel Action and Shear Friction in High Performance LWAC
Dehn, F., Germany

The Influence of Prestressing on the Shear and Flexural Behaviour
Dehn, F., König, G., Fischer, O., Germany

Local Bond Strength of Reinforcing Bars Embedded in LWAC
Esfahani, M.R., Rasolzadegan, A.R., Iran

Supplements to Model Code 90 for LWAC
Faust, T., Germany, Holand, I., Helland, S., Norway

LWAC in Composite Structures
Faust, T., Leffer, A., Mensinger, M., Germany

Behaviour of Shear Connector Devices for Lightweight Steel-Concrete Composite Structures - Results, Observations and Comparisons of Static Tests
Galjaard, H.J.C., Walraven, J.C., The Netherlands

Shear Cracking Behaviour of Lightweight Aggregate Reinforced Concrete
Hegger, J., Goertz, S., Molte, M., Germany

Codes and Standards for LWAC and "Case Studies: Demonstrating the Application of LWAC in Buildings"
Holland, S., Holand, I., Norway

Fatigue Properties of High Performance LWAC
Kojima, T., Takagi, N., Okamoto, T., Japan

Lettkon - A Major Research Programme on LWAC
Maage, M., Olsen, T.C., Norway

High-Strength Lightweight Aggregate Concrete Slabs
Marzouk, H., Canada, Osman, M., Helmy, S., Egypt

Eurolightcon - A European Research Project on LWAC

Detailing Rules for LWAC
Moe, T.T., Norway

Shear Capacity of Normal Strength Super Lightweight Aggregate Beams
Niwa, J., Kawaguchi, T., Maehori, S., Okamoto, Japan

Short and Long Term Strain and Strength Properties of LWAC
Stemland, H., Thorenfelt, E., Norway

Analysis of Stavset Bridge, Measurement of LWAC Shear Capacity of Lightweight Concrete Beams without Shear Reinforcement
Thorenfelt, J., Stemland, H., Norway
3. CONSTRUCTION

Use of LWAC in Bridges
Daly, A.F., UK

The Economical Potential of LWAC in 4 Different Major Bridges
Fergestad, S., Jordet, E. A., Norway

Pedestrian Composite Bridge made with Unbounded Prestressed LWAC
Fischer, M., Dehn, F., König, G., Germany

The Effect of Lightweight Aggregate on the Pore Water Pressure during Slipforming
Fosså, K.T., Norway

The Wellington Stadium. New Zealand’s First Use of High Strength Lightweight Precast Concrete
McSaveney, L.G., New Zealand

Applicability of Newly Developed High-Strength Lightweight Concrete for Civil Structures.
Nobuta, Y., Satoh, K., Hara, M., Sogoh, S., Takimoto, K., Japan

The Stolma Bridge – World Record of free Cantilevering
Rosseland, S., Thorsen, T.A., Norway

Use of LWAC Gives a Cheaper Bridge
Toverud, L., Moe, T.T., Hovland, E., Norway

4. MATERIALS

Strength of Lightweight Concrete Influenced by Strength of Lightweight Aggregate
Adámek, J., Czech Republic

Modern State and Directions of Development of Production of Lightweight Concrete in Russia.
Akhundov, A.A., Goudkov, Y.V., Russia

UK High Strength LWAC in Construction
Bamforth, P.B., Nolan, É., UK

Effect of Initial Moisture Content and Particle Size Distribution of LWA on Autogenous Deformation
Breugel, K., van, Lura P., The Netherlands

Potential of Mixtures with Blended Aggregates for Reducing Autogenous Deformation
in Low Water / Cement Ratio Concrete
Breugel, K. van, Vries, H. de, The Netherlands

On Determining Elastic Modulus of Lightweight Aggregate by Numerical Method
Chen, H-J., Huang, Y.L., Taiwan

The Effects of Silica Fume and Fly Ash on the Thermal Conductivity of Lightweight Concrete
Demirboga, R., Gül, R., Uysal, H., Düzgün, O.A., Turkey

The effects of Silica Fume and Fly Ash on the Freeze-thaw Resistance of Low Density Concrete
Demirboga, R., Kurt, M., Gül, R., Aydyn, A.C., Turkey

Properties of Different Matrixes and LWAs and their Influences on the Behaviour of Structural LWAC
Faust, T., Germany
The Behaviour of Structural LWAC in Compression
Faust, T., Germany

Softening Behaviour of LWAC
Faust, T., Germany

Prefabricated Floor Slabs in Roller-Compacted LWAC
Goltermann, P., Denmark

Comparison of Properties of High Performance LWA and Normal LWA
Guo, Y.-S., Ding, J.-T., P.R. China, Kimura, K., Japan, Li, M.-W., Song P.-J., P.R. China, Huang, M.-J., Japan

Properties of High Performance Lightweight Aggregate Concrete
Guo, Y.-S., P.R. China, Kimura, K., Japan, Li, M.-W., Ding, J.-T., P.R. China, Huang, M.-J., Japan

Water Permeability of LWAC
Hammer, T.A., Hansen, E.A., Norway

Physical Characteristics of Rotary Kiln Expanded Slate Lightweight Aggregate
Harmon, K.S., USA

High Performance / High Strength Lightweight Expanded Blast Furnace Slag Aggregate Concrete
Iarmakovsky, V.N., Russia

Fundamental Characteristics of Concrete Using High Strength Artificial LWA made of Fly Ash
Ishikawa, Y., Tomosawa, F., Hayakawa, M., Sasahara, A., Yosuda, M., Japan

Lightweight Aggregate Concrete in Hungary
Józsa, Z., Ujhegyi, J. E., Hungary

A Novel Fluidized Bed Manufacturing of High Performance Artificial Lightweight Aggregate
Kimura, S., Kamiya, H., Horio, M., Kimura K., Japan

Production of New Lightweight Aggregates from Waste
Kwint, E., The Netherlands

Characteristics of High Performance Aggregate Produced from Fly Ash Using a Rotary Kiln
Morishita, N., Sone, T., Yokoyama, H., Takada, S., Uji, K., Ozasa, K., Japan

Mechanical Properties of LWAC after Exposure at High Temperature
Noumowé, A., Aggoun, S., Cabrillac, R., France

Bond Properties of Lightweight Aggregate Concrete
Offert-Darko, F. K., UK

Concrete and Masonry Rubble as Aggregates for Concrete: Something in Between Normal and Lightweight Concrete
De Pauw, P., Taerwe, L., Desmyter, J., Belgium

Low Cost High Strength LWAC Application in the Prefabrication Industry
Poot, S., Breugel, K., van, The Netherlands

Properties and Design Characteristics of Polyurethane Concrete as Structural Heat Insulating Material
Rakhmanov, V.A., Dovzhik, V.G., Russia

Second Generation LWA Concrete
Reinhardt, H.W., Kümmel, J., Germany
High -Performance LWAC for Precast Structures: Properties in the Fresh and Hardened State.
Rossignolo, J.A., Agnesini, M.V., C., Morais, J.A., Brazil

Controlling Freeze and Thaw Durability of Structural Grade Concrete with Recycled Expanded Polystyrene Aggregate
Sabaa, B.A., Ravindrarajah, R.S., Australia

Impact Resistance of Polystyrene Aggregate Concrete with and without Polypropylene Fibres
Sabaa, B.A., Ravindrarajah, R.S., Australia

Investigation of Pull-Out Strength Between Polystyrene Aggregate Concrete and Reinforcing Steel
Sabaa, B.A., Ravindrarajah, R.S., Australia

Measurement of Swelling and Shrinkage of Lightweight Aggregate
Schmidt-Döhl, F., Thienel, K-Ch., Germany

Evaluation and Classification Systems of Lightweight Aggregates
Sveinsdottir, E.L., Iceland

Freeze-Thaw Resistance of LWAC made without Air-Entraining Agents
Thienel, K-Ch., Germany

Durability of High Performance LWA
Vieira, M., Goncalves, A., Portugal

Study on Mix Proportion for Self Compacting High Performance LWAC
Yanai, S., Sakata, N., Nobuta, Y., Okamoto, T., Japan

An Approach to Speeding up the Steps for Developing WA and LWA Concrete in Shanghai
Zhang, Y., China

5. CONCRETE PRODUCTION, TRANSPORTATION AND PLACING

Study on the Pumpability of High Performance LWAC
Ishikawa, Yuko, Okamoto, T., Sakata, N., Kokubu, K., Japan

Structural LWAC Specification and Guideline for Materials and Production.
Maage, M., Smeplass, S., Norway, Thienel, K-Ch., Germany

Development of a Lightweight Aggregate Concrete Pumpability Test.
Nolan, É., UK

Pumping of LWAC Based on Expanded Clay in Europe
Norden, G., Norway, Thienel, C-K., Germany

Drying of LWAC
Smeplass, S., Norway

Moisture in LWA – Practical Consequences for the Production Properties of LWA
Smeplass, S., Norway
6. IN-SERVICE DURABILITY N-FIELD PERFORMANCE / DESIGN LIFE

Chloride Penetration in LWAC Beams Exposed to Alternating Moisture and Temperature
Breugel, K. van, Taheri, A., The Netherlands
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The Influence of Curing Conditions on the Chloride Diffusion in LWAC Struts
Carlsen, J.-E., Norway
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Durability Surveillance of Bergsøysundet Bridge

Long Term Durability Indicator of Total Lightweight Concrete Exposed to Hot Marine Exposure Conditions
Haque, M.N., Al-Khaiat, H., Kuwait

Service Life Modelling of Marine LWAC Structures
Helland, S., Norway
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Properties and Operating Behaviour of Some Lightweight Concrete Structures
Ionescu, I., Ispas, T., Romania
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In-situ Tests on Existing LWAC Structures
Thienel, K-Ch., Schmidt-Döhl, F., Feldrappe, V., Germany

Some Aspects on Freeze and Thaw Durability of High Performance Natural LWAC
Wallevik, O.H., Nielsson, I., Thordarson, B. R., Iceland
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Air Entrainment as a Measure to Reduce Density of High Performance Weight Aggregate Concrete with a Main Emphasis on Natural Light Weight Aggregates
Wallevik, O.H., Nielsson, I., Thordarson, B. R., Iceland
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