

International Workshop
CO₂ Storage in Concrete
CO2STO2019



24-25 June 2019, Marne la vallée, France

<http://co2sto2019.ifsttar.fr/>

PROGRAM

24 June 2019

8:30

Participants registration

9:30

Opening Conference: Dr. Jean Michel Torrenti, Dr. H  l  ne Jacquot-Guimbal, Dr. Thibault Prevost

9:45

Keynote Lecturer: Prof. Val  rie Masson-Delmotte

CITIES AND CLIMATE CHANGE SCIENCE

10:30

Coffee-break

10:45

Keynote Lecturer: Prof. Chi-Sun Poon

ENHANCEMENT OF PROPERTIES OF RECYCLED AGGREGATE CONCRETE BY ACCELERATED CO₂ CURING

Session A: Natural CO₂ uptake in concrete structures, Life Cycle Analysis (LCA)

11:30

TAKING INTO ACCOUNT THE CO₂ STORAGE CAPACITY OF A BUILDING THROUGHOUT ITS ENTIRE LIFE CYCLE: CASE STUDY ON AZIYADE STUDENT RESIDENCE IN LA ROCHELLE

P-Y. Mahieux, Ph. Turcry, A. Seigneurin, A. Chatel, M. Taugamoia, J. Michaud

11:50

CO₂ ADSORPTION OF CONCRETE BASED ON THE BOUNDARY CONDITIONS OF SWITZERLAND

A. Leemann

12:10

CARBONATION AND ENVIRONMENTAL IMPACT OF CONCRETE

J-M. Potier

12:30

Lunch

14:00

ENVIRONMENTAL ANALYSIS OF RECYCLED AGGREGATES CONCRETE CONSIDERING SOME WAYS TO IMPROVE THEIR IMPACT: A CASE STUDY OF PARIS' REGION

A. Ben Fraj, R. Idir

14:20

CARBON DIOXIDE BINDING ABILITY IN CONCRETES: METHODOLOGY AND MODELING

L. Schmitt, J. Jeong, J-M. Potier, L. Izoret, J. Mai-Nhu, N. Decousser, P. Rougeau

14:40

DESIGNING REINFORCED CONCRETE STRUCTURE LOCATED IN MADRID BY COMBINING DURABILITY AND LCA MODELING

A. Ventura, T.S. Kiese, V.L. Ta, S. Bonnet

15:00

CONSIDERATION OF CARBONATION IN ENVIRONMENTAL PRODUCT DECLARATIONS (EPDS) FOR CONCRETE PRODUCED IN GERMANY

J. Reiners, C. M  ller

15:20

ENVIRONMENTAL ASSESSMENT OF CARBON CAPTURE AND UTILIZATION: A NEW SYSTEMIC VISION – APPLICATION TO VALORIZATION OF NICKEL SLAGS

A. Ventura, N. Antheaume

15:40

Coffee-break

16:00

MANUFACTURING OF C₂S USING BY-PRODUCT CALCIUM HYDROXIDE AND ITS CO₂ EMISSION

T. Maeda, T. Mori, M. Ushiro, T. Higuchi

16:20

TOWARDS THE MEASUREMENT OF TIME AND LENGTH SCALES RELEVANT TO CONCRETE CARBONATION

B. Huet

Session B: Natural and Fast carbonation of RCA

16:40

EXPERIMENTAL STUDY OF ACCELERATED CARBONATION INCLUDING NO₂ AND SO₂ ON RECYCLED CONCRETE AGGREGATES

J. Jeong, H. Boughalad, J. Colin, L. Izoret

17:00

CO₂ CAPTURE FOR MINERALIZED MISCANTHUS AGGREGATES

L. Courard, Z. Zhao, F. Michel, S. Grigoletto

17:20

ACCELERATED CARBONATION OF COARSE AGGREGATES BY USING A ROTATING SYSTEM IN ORDER TO IMPROVE ITS PROPERTIES

G.S. Dos Reis, B.G. Cazacliu, R. Artoni, J-M. Torrenti, J. Rosquo  t, C.H. Sampaio

17:40

ROLLING CARBONATION: ON THE POTENTIAL USE OF RECYCLED AGGREGATES FOR CO₂ SEQUESTRATION THROUGH DIRECT CARBONATION IN ORDER TO IMPROVE ITS PROPERTIES

G.S. Dos Reis, B.G. Cazacliu, R. Artoni, J-M. Torrenti, C.H. Sampaio

19:30

Gala dinner

25 June 2019

9:00

Keynote Lecturer: Dr. Horacio Colina

THE FRENCH NATIONAL PROJECT ON COMPLETE RECYCLING OF CONCRETE

Session B: Natural and Fast carbonation of RCA

9:45

NATURAL CARBONATION OF MULTIPLELY RECYCLED AGGREGATE CONCRETE

C.J. Zega, J.M. Etcheverry, Y.A. Villagrán-Zaccardi

10:05

QUANTIFICATION OF CONSTRUCTION AND DEMOLITION WASTE PRODUCTS THAT CAN BE CARBONATED USING A DEEP LEARNING-BASED IMAGE ANALYSIS

J-D. Lau Hiu Hoong, J. Lux, P-Y. Mahieux, Ph. Turcry, A. Aït-Mokhtar

10:25

Coffee-break

10:45

Keynote Lecturer: Prof. Carmen Andrade

NATURAL DEGREE OF CARBONATION OF SPANISH CEMENTS AND GLOBAL CALCULATION OF CO₂ UPTAKE

11:30

QUALITY IMPROVEMENT OF RECYCLED CONCRETE AGGREGATES BY BIO-CARBONATION

H. Martinez Hernandez, M. Gueguen Minerbe, Y. Pechaud, T. Sedran

11:50

THE CARBONATION OF RECYCLED CONCRETE AGGREGATE AFFECTED BY ALKALI-SILICA REACTION

M. Thomas, S. Monkman

12:10

CONSTRUCTION AND DEMOLITION WASTE INCORPORATION EFFECT OF CO₂ UPTAKE DUE TO MORTAR CARBONATION

E. Possan, L. Mazurana, I.O. Antonio, E. Rigo, W.A. Thomaz

12:30

Lunch

14:00

EFFECT OF CARBONATION ON RECYCLED CONCRETE AGGREGATES AND WATER ABSORPTION

M. Sereng, A. Djerbi, O. Omikrine Metalsi, P. Dangla, J-M. Torrenti

Session C: Fast Carbonation of cementitious materials

14:20

CORRELATION BETWEEN CARBONATION DEPTH AND CARBON CAPTURE BY CEMENTS DILUTED BY FILLER

D-L. Thomaz Pessutto, M. Quattrone, V.M. John

14:40

CO₂ SEQUESTRATION POTENTIAL OF HIGH-VOLUME FLY ASH (HVFA) MORTAR WHEN BASED ON ACCELERATED CARBONATION TESTS

P. Van den Heede, N. De Belie

15:00

QUANTIFICATION OF BOUND CO₂ IN VARIOUS CARBONATED CEMENTITIOUS MATRICES

M. Saillio, V. Baroghel-Bouny, M. Bertin, J. Vincent, J-B. d'Espinose de Lacaillerie

15:20

A NEW CARBON DIOXIDE SEQUESTRATION METHOD THROUGH HIGH TEMPERATURE CARBONATION OF CEMENT-BASED MATERIALS

D. Wang, T. Noguchi, T. Nozaki, Y. Higo

15:40

Coffee-break

16:00

PHYSICAL PROPERTIES AND MANUFACTURING METHOD OF THE CONCRETE EXTREMELY REDUCING CO₂ EMISSIONS BY USING C₂S AND CARBONATION CURING

T. Torichigai, K. Yokozeki, I. YOSHIOKA, T. Mori

16:20

CO₂ SEQUESTRATION CAPACITY OF REACTIVE MgO – PORTLAND CEMENT BINDER SYSTEMS AND A LIFE CYCLE ASSESSMENT CASE STUDY

R. Zhang, A. Arrigoni, D.K. Panesar

16:40

MODELLING AND TESTING OF CARBONATION EFFECTS ON HYDRATED OIL-WELL CEMENTS

M. Addassi, A. Michel, V. Marcos Meson, W. Kunther

17:00

CARBONATION OF CEMENT BY SUPER-SATURATED AQUEOUS SOLUTION

N. Lippiatt, T.C. Ling

17:20

INVESTIGATION OF ACCELERATED CARBONATION KINETICS THROUGH CO₂ DIFFUSION TESTS CARRIED OUT ON PARTIALLY WATER-SATURATED SPECIMENS OF CEMENTITIOUS MATERIALS

Ph. Turcry, F. Gendron, A. Deeb, A. Aït-Mokhtar

17:40

ROUNDTABLE WITH KEYNOTE SPEAKERS

18:30

Conference closing

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DE LA TRANSITION
ÉCOLOGIQUE
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PARTNERS

