

1st International Workshop “Calcined Clays as Supplementary Cementitious Materials”

June 7th–9th , Cayo Santa María, Cuba

On the occasion of the 6th Chemistry International Symposium, celebrated in Cayo Santa Maria, Cuba from June 7th to June 9th, it took place the First International Workshop on Calcined Clays for its utilization as a supplementary cementitious material. Prestigious professionals of Science and Production of Cement from all over the world came to visit this important event.

Visit to laboratories of CIDEM and CQA

The Central University “Marta Abreu” of Las Villas welcomed the distinguished Professor Dr. Karen Scrivener, who leads the Project “Low Carbon Cement”, funded by the Climate Change Division of the Swiss Agency for the Cooperation and Development (COSUDE). She was accompanied by Dr. Aurelie Favier and Dr. Hamed Maraghechi, professors from the *École Polytechnique Fédérale de Lausanne*. During the visit to the University, she confirmed the Scientific advance being achieved by both educational centers on the development of low carbon cement (LC3). A tour of the construction materials laboratories in the Construction Faculty was carried out and they also met with specialists and students who are developing research papers. They also visited the laboratories of the Chemical Bioactive Centre, where micro structural studies are conducted and where the materials to be developed undergo chemical analysis.



Visit to Exposure Sites and laboratories in Cayo Santa Maria

On the first day of the workshop, a visit took place to the exposure sites of the concretes in real conditions of aggressiveness, situated in Cayo Santa Maria. They have been built taking into account the levels of atmospheric aggressiveness established by the NC 120:2014 based on the durability of concrete according to function of its performance. Both LC3 and standard P35 are being tested at the site for air permeability, chloride ions migration, chloride profiles, porosity, sorptivity and resistivity. Another visit took place at the Concrete Laboratory of the Construction Company for Tourism Works (ECOT CSM) where a concrete is blended with low carbon cement for one of the mix designs of this Company, giving excellent results with regard to workability and compressive strength.



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Presentations



Representatives from Switzerland, Germany, France, Iran, Denmark, Norway, India, Mozambique, Argentina, Colombia, Peru and Cuba took part on this special event. During the conferences, important topics such as the current status of the research, the technological development and the implementation of Low Carbon Cement (LC3) in different countries were presented by the specialists.

As the location and the characterization of the clay deposits are near the cement factories, the development of standards and the industrial production of this cement are the current main focus of this international Project.

At the end of the individual presentations, there were interactive dialog sections among the participants and the specialists of the LC3 project to discuss the main topics. These debates contributed to a wide variety of opinions and experiences with reference to the utilization of the calcined clays as supplementary cementitious material.

Special Recognition to Karen S.

During the working days of this workshop, Prof. Karen Scrivener was provided with the special condition of *Guest Professor of Construction Faculty*. She is Professor of the EPFL and Head of the “Low Carbon Cement” Project, funded by the Climate Change Division of the Swiss Agency for the Cooperation and Development, COSUDE.



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With this honorary title, the Central University “Marta Abreu” of Las Villas, Cuba, recognizes the academic excellence, the persistence on the research and the great social sensitivity which characterizes the Prof. Scrivener, in recognition of the close cooperation she has maintained with this educational center for ten years.

The Pro Vice-Chancellor of Research and Postgraduate of the Central University “Marta Abreu” of Las Villas, the Dean of the Construction Faculty, the Dean of the Chemistry Faculty and President of this event, the Director of the Research Centre of Structures and Materials Development (CIDEM), University Board of Directors, professors and the event delegates took part in this special recognition.

The principal achievements during a decade of joint work between both universities were highlighted, the “low carbon cement” project is the most important result of this cooperation. LC3 is a new cementitious system which will allow changes to the paradigms of cement production substantially reducing the carbon emissions associated to the manufacture of cement. The Cuban Cement Industry has embraced this idea from 2010 and today Cuba has become, together with India, the pioneer in the production of this new cement.

