

Summer school

CARBON STORAGE IN NET ZERO CONSTRUCTION PRODUCTS

26-29 May 2025



ISLAND ZLARIN, CROATIA

The doctoral school is organised in the framework of the ASCENT project, a twinning project between the University of Zagreb (Croatia), KU Leuven (Belgium), Aalborg University (Denmark), RISE (Sweden) and Holcim (France).

The school will focus on topics of mineral carbonation, LCA and the industry perspectives for net zero construction products.

Participation in the school is free of charge for PhD students (except for travel costs, which each student must cover themselves). Participation is limited to 15 participants.

DATE

- 26-29 May 2025

VENUE

- Island Zlarin, Croatia

PARTICIPATION:

- free of charge for PhD students

ACCOMMODATION:

- costs of the dormitory are covered by ASCENT project

TRAVELLING TO ZLARIN

- organised by each participant individually



LEARNING OBJECTIVES

Critical awareness of the EU and industrial perspective on net zero manufacturing for construction industry



Obtaining knowledge in the field of carbon dioxide / material interaction



Specialised training in assessing the environmental impact applied to construction products



LATOM RESEARCH GROUP

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Schedule

Monday, 26th May 2025

Global industrial perspective for net zero production

Lecturer: [Bruno Huet, Holcim, France](#)

The lecture will give a global overview of the needs, opportunities and challenges of the building materials market, with a focus on concrete structures. Strategies from different stakeholders will be presented and discussed. The presentation will cover the impact of efficient design, the efficiency of materials as well as more complex strategies such as carbon capture and storage/utilization.

Bruno Huet

Research engineer at the Holcim Innovation Center since 2011 and has over 20 years of experience in concrete durability and carbonation. He is focusing now on hydration and carbonation of standard and alternative cement from manufacturing to durability in products, developing both experimental measurements and numerical models as tools to analyse product performance, thus bridging the gap between science and applied engineering, products and processes.

Wednesday, 28th May 2025

Life Cycle Assessment of net-zero buildings and construction products

Lecturer: [Massimo Pizzol, Aalborg University, Denmark](#)

The lecture introduces to the theory of LCA and then focuses on its application to the case of net zero materials and buildings. Relevant LCA guidelines in this context are introduced as well. The lecture includes practical exercises with state-of-the-art LCA software where participants work on a selected case studies and data made available by the teacher, and solving specific tasks. This allows the participants to get hands-on experience with typical situations of real-world LCA modelling.

Massimo Pizzol

Professor at the Department of Planning, Aalborg University. His teaching and research interests are in the fields of Sustainability Science, Industrial Ecology, and Life Cycle Assessment. His current research focus is the assessment of the sustainability of emerging technologies, especially digital technologies and technologies for the circular blue and green bioeconomy.

Tuesday, 27th May 2025

Advances in mineral carbonation science and technology for production of construction materials

Lecturer: [Ruben Snellings, KU Leuven, Belgium](#)

The lecture will introduce the role of the carbonate cycle in controlling global climate, discuss the thermodynamics and kinetics of mineral carbonation, and review the state-of-the-art in the scientific knowledge of mineral carbonation processes relevant for the production of construction materials. The lecture will provide an outlook on recent technological developments and discuss the climate mitigation of mineral carbonation applied at scale.

Ruben Snellings

Has a PhD in Geology from KU Leuven, Belgium and focuses in his research on low to negative carbon cements for a range of construction applications. At present he chairs RILEM TC 309-MCP gathering more than 200 experts from academia, research institutes and industry to exchange and establish state-of-the-art technologies and test methods in the field of mineral carbonation for the production of building materials.

Thursday, 29th May 2025

Working together with construction industry for implementation of net-zero innovations – methodology and successful projects examples

Lecturer: [Jan Suchorzewski, RISE, Sweden](#)

Lecture will elaborate both on the forms of industry-innovation collaboration (incl. financing models), IPR-management, technical advancements and regulatory aspects, as well as examples of successful projects (large and small) and implementation/upscaling in the industrial reality.

Jan Suchorzewski

Has a PhD in fracture mechanics from Gdansk University of Technology, Poland. He is currently Director Material Design at RISE Dep. Infrastructure and Concrete Technology being responsible for a portfolio of ca. 50 ongoing R&D projects within cement, concrete and concrete structure (national and EU), especially in low-carbon concrete, utilization of CO₂ in valorisation of mineral waste for construction materials, lightweight materials and structures, reuse of structural elements.

Accommodation

Island Zlarin

Zlarin is a small undiscovered jewel of Croatian coast that is distinguished by its pristine nature and exceptionally rich historical and cultural heritage. Due to its geographical position, Zlarin has always held the strategic role of St. Ante Channel gatekeeper and the guardian of Šibenik. It should be noted that there are 2700 sunlight hours per year, which makes the island one of the sunniest on the Adriatic coast. And one more important information – **Zlarin is car-free island!**



Šare house

- costs of the dormitory are covered by ASCCENT project

Accommodation is organised in the Šare House, located across the street from the Croatian Coral Center Zlarin. Šare House is renovated into a space with an amphitheater and accommodation units for researchers and scientists.

Travelling to Zlarin

- organised by each participant individually

Zlarin can be reached by regular ferry connections (Jadrolinija ferry) from Šibenik and Vodice. Closest airport to Šibenik is Zadar (1 hour), Split (1 hour), Dubrovnik (3 hours) and Zagreb (3.5 hours).



Croatian Coral Center Zlarin

Coral harvesting is an activity for which Zlarin is renowned, and it represents the island's most significant cultural heritage. With the establishment of the Coral Center, red coral assumes a new role as a catalyst for the island's development. Instead of exploitation, the allure and significance of red coral form the foundation of a narrative advocating for the preservation of biodiversity.