NEWSLETTER
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SUSTAIN-CE Integration of Sustainable Design and Circular Economy Concepts in Civil Engineering Curricula

2ND PILOT TRAINING ACADEMY ON ROLE OF GEOTECHNICAL ENGINEERING IN A SUSTAINABLE WORLD AND CONSTRUCTION MATERIALS FOR SUSTAINABILITY, Thessaloniki, Greece

The 2nd SUSTAIN-CE Pilot Training Academy took place face-to-face in Thessaloniki, Greece on the 22-23-24 of June 2022, along with a dissemination event organised on the 21 of June 2022 to engage all local stakeholders, and in parallel with the 4th partners Transnational Project Meeting. The Academy was organised by Aristotle University of Thessaloniki and all partners gathered together to discuss and work on:

- the role of Geotechnical Engineering in a Sustainable World, and
- Sustainable construction materials and Green Buildings

TIMELINE

- Dec'20 Kick-off meeting
- Sept'21 - Dec'21: Focus Groups Turkey, Greece & Portugal
- Nov'21 Train-the trainers Lab
- March'22 1st Pilot Academy
- June'22 2nd Pilot Academy
- June'2023

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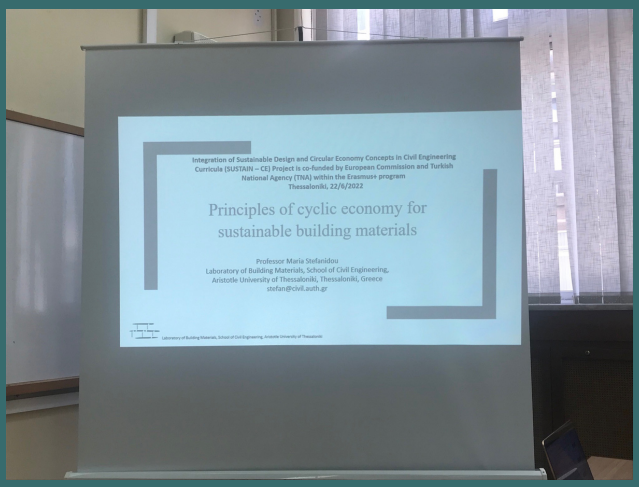
SUSTAIN-CE 2nd Pilot Training Academy

Day I. Sustainable Construction Materials and Buildings

The first presentation was given by Dr. Maria Stefanidou, from AUTh, on principles of cyclic economy for sustainable building materials. Dr. Stefanidou highlighted the principles of cyclic economy for stone, masonry, mortar; as well as waste materials that can be used in concrete production.

The second presentation of the day was given by Dr. Alexandros Liapis, from AUTh. The presentation focused on “Industrial by-products used as sustainable building materials and the issue of environmental impacts’ allocation”.



The third presentation of the day introduced the topic of "Life cycle assessment in construction materials and buildings" and was given by Dr. İzzet Ozdemir, from IYTE, focusing on:

- the fundamentals of life cycle assessment (LCA) and how it is used in the context of construction materials, and
- Life cycle assessment at the building scale. Dr. Özdemir discussed the energy and emissions associated with the construction phase, use phase and their connection with construction materials.

Dr. Ozdemir and the participating students had the opportunity to work together on Case Studies introducing the concepts and topics of sustainability in construction materials. The students formed teams, worked on actual real-life scenarios and on the 3rd day presented their results and conclusion to the Academy, on the two case studies of:

- ‘Simplified Life Cycle Assessment of a Single-Family House’ and
- ‘Life Cycle Environmental Impact Assessment of Concrete’.

Day 2. The Role of Geotechnical Engineering in a Sustainable World

The second day of the academy was devoted to Geotechnical Engineering and Sustainability. The first speaker was Dr. Nurhan Ecemis form IYTE, discusssing the “Role of Geotechnical Engineering in a Sustainable World”. Dr. Ecemis’s presentation focused mainly on the contribution of geotechnical engineering in:

a) Waste management, b) Infrastructure development,
c) Construction efficiency, d) National security,
e) Resource discovery, f) Mitigation of natural hazards,
g) Frontier exploration.

The second presentation of the day was given by Dr. Dimitris Pitilakis, from AUTh, focusing on the “Use of Recycled Materials in Geotechnical Engineering”. Dr. Pitilakis presented the example of using scrap tires in civil and geotechnical engineering.

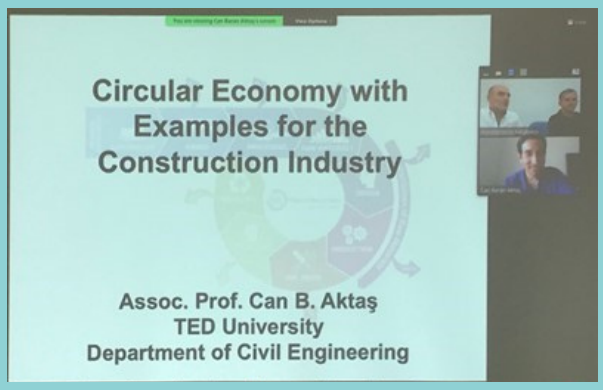
The day continued with a third presentation delivered by Dr. Katerina Stamou, from AUTh. Dr. Stamou discussed with the audience the applications of “Sustainability and Geographical Information Systems (GIS) ”.

Day 3. Keynote Speakers and Case Studies Presentations

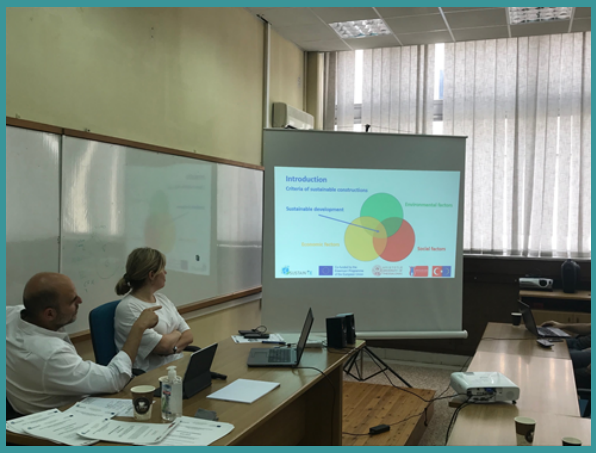
The third day of the academy was devoted to Keynote Speeches and the Case Study presentations.

The first speaker Dr. Katerina Tsikaloudaki, from AUTh. Dr. Tsikaloudaki’s presentation focused on "Sustainability and Circular Economy in Materials and Buildings: Practical Applications”. Dr. Tsikaloudaki’s presentation covered several aspects associated with buildings and environmental sustainability.

Day 3. Keynote Speakers and Case Studies Presentations



The second presentation of the day was given online by Dr. Can Aktaş from Ted University, in Ankara, Turkey. Dr. Aktaş presentation focused on “Circular Economy with Examples from the Construction Industry". Dr. Aktaş introduced the path ahead for construction materials and circular economy, as well as the prospects and challenges of the sector .



The third presentation of the day, by Dr. Konstantinos Katakalos from AUTh, focused on sustainability in practical stone masonry applications. Dr. Katakalos showed several sustainable existing structures built by stone.

The fourth presentation of the day was given by Ms. Barbara Charalambidi, MSc, from the Technical University of Crete. Ms. Charalambidi’s presentated the “Structural Damage Investigation of the Neoria Monument in Chania”.

The Academy was concluded with the presentations of the case study findings by the students. Ms. Iliadi-Manou Amaryllis presented on behalf of her team the first case study on the life cycle environmental impact assessment of concrete and Mr. Lino Cusano presented on behalf of his team the second case study on Simplified LCA of a Single-Family House.

The Academy was concluded with the awarding of the 2nd SUSTAIN-CE Pilot Training Academy "Certificates of Attendance" to all participants and a warm greeting from Dr. Katakalos and Dr. Eğilmez, until we meet again with a new team of students in the last Academy in Urla Izmir, Turkey!

NEXT STEPS ...

The 3rd and final SUSTAIN-CE Pilot Training Academy will take place in Urla, Izmir, Turkey, co-organized by IYTE and Yasar University, from the 09th until the 11th of November of 2022.

The Academy will test with trainees the newly developed curriculum primarily on:

- “The Fundamentals of Sustainable Infrastructure & Circular Economy” and
- “Structural Engineering for a Sustainable World”

and will launch the Virtual Learning Environment (VLE) developed to support the new curriculum with a distance learning option that will assure the suntainability of the project's results

So, if you are interested and want to learn more about the fundamentals of Sustainable Infrastructures and Circular Economy, the pillars of sustainability and how Circular Economy works as a sustainability enabler, the principles of sustainable design and construction, sustainable and resilient structural design, structural design with secondary materials, adaptable structural design and structural systems, as well as to follow Key Notes experts discussing how Green Building and Materials are in today’s world, Sustainable Cities and Infrastructures and Innovative Techniques for Seismic Design of Structures, we invite you to join us in the 3rd SUSTAIN-CE Training Academy! Participation, as always, will be free of charge!
Stay tuned, follow us on social media and apply, since only 30 places will be available!

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