



April 10 to 13, 2025
Hammamet, Tunisia

Program of the 1st International Conference on Concrete and Circular Economy (CCE2025)



Day 1, April 11th, 2025

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| 8h30 10h30 | 8h30 9h00 | <p align="center">CONFERENCE OPENING</p> <p align="center">Chairs: Atef Daoud (Tunisia), György L. Balázs (Hungary)</p> <p align="center">OPENING SPEECHES</p> <p align="center">President of Sfax University: Ahmed Hadj Kacem Director of National Engineering School of Sfax: Khaled Elleuch</p> |
| | 09h00 09h45 | <p align="center">Keynote Speaker 1: Pr. Petr Hájek (Czech Republic)</p> <p align="center">"Sustainable and Resilient Built Environment in a Changing World - Challenge for Concrete Structures"</p> |
| | 9h45 10h30 | <p align="center">Keynote Speaker 2: Dr. Dipl.-Ing. Wolfram Schmidt (Germany)</p> <p align="center">"Streamlining multiple heterogeneous renewable supplies to single homogenous supply and value streams for cementitious binders and admixtures"</p> |
| 10h30 11h00 | Coffee Break | |
| 11h00 12h40 | <p>SESSION 1 VALORIZATIONS OF DEMOLITION WASTE (ROOM 1)</p> <p align="center">Chairs: Amor Ben Fraj (France), Amara Loulizi (Tunisia)</p> | |
| | 11h00 11h20 | Demonstration of a circular building process at large scale: CircBoost Pilot project in Norway <i>Iveta Novakova, Sofija Kekez</i> |
| | 11h20 11h40 | Circular Economy in the Construction Sector: Challenges and Opportunities in Luxembourg and the Greater Region <i>Monica Louie, Markus SCHÄFER</i> |
| | 11h40 12h00 | Recycling of mineral building materials – chances and obstacles <i>Anne Haller, Klaus Holschemacher</i> |
| | 12h00 12h20 | IFC-based Demolition Schedule Optimization <i>Melodie Njuguna, Andre Mantelatto, Artur Kuzminykh, Tomo Cerovšek, Manuel Parente, José Granja, Miguel Azenha</i> |
| | 12h20 12h40 | Recyclability of demolished diaphragm wall material, <i>Thomas Pichler, Christian Müller, Konrad Bergmeister, Klaus Voit</i> |
| 12h40 14h00 | Lunch Break | |

| SESSION 2 RECYCLING OF USED MATERIALS (ROOM 1) | |
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| Chairs: Petr Hájek (Czech Republic), Ildiko Merta (Austria) | |
| 14h00 14h20 | The contribution of tire recycled materials in the circular economy of cement-based composites <i>Alessandro Fantilli, Isabella Bianco, Gian Andrea Blengini, Bernardino Chiaia</i> |
| 14h20 14h40 | Microstructural and micromechanical study of the interfacial transition zone of recycled concrete by combined Nano indentation and SEM-EDX technique <i>Feng Li, Göran Forbrig, Florian Kleiner, Luise Goebel, Christiane Roeβler, Elske Linβ</i> |
| 14h40 15h00 | Valorisation of Plastic Bottle Wastes as Pavement Blocks <i>Azer Maazoun, Oussam Atoui, Ahmed Siala</i> |
| 15h00 15h20 | Inverse Analysis of Shrinkage and Drying Crack Prediction in Bricks Made from Tannery Sludge <i>Armia Ghrairi, Lassad Ajam, Oualid Limam</i> |
| 15h20 15h40 | Recycling of waste fresh concrete as aggregate granules <i>Katalin Kopecskó, Valentina Sütő-Kreis, Olivér Czoboly, György L. Balázs</i> |
| 15:40 16:00 | Coffee Break |
| SESSION 3 DESIGN WITH NATURAL FIBER COMPOSITES (ROOM 1) | |
| Chairs: Mehdi Sbartai (France), Said Kenai (Algeria) | |
| 16h00 16h20 | Exploratory Study of the Thermal and Mechanical Performances of Agro-Concrete Using Reed as a Biosourced Aggregate <i>Laura Prévitali, Thouraya Salem, Antonin Fabbri, Teddy Fen-Chong</i> |
| 16h20 16h40 | Rutting resistance of stone matrix asphalt incorporating extracted juncus plant stem fibers <i>Ameni Arfaoui, Houcem Naili, Amara Loulizi</i> |
| 16h40 17h00 | Long-term durability of treated Alfa fibers based-cementitious materials <i>Soukaina Ajouguim, Jonathan Page, Chafika Djelal</i> |
| 17h00 17h20 | Ballistic impact and blast resistance of Alfa reinforced concrete <i>Baya Tahenti, Zied Kammoun, Abdreaaouf Trabelsi</i> |
| 17h20 17h40 | Mechanical and thermal evaluation of new eco-friendly construction material based on recycled raw earth and wood sawdust <i>Mehdi Sbartai, Jinxia HU, Ryad BOUZOUIDJA, Tingting VOGT WU</i> |

| | | SESSION 4* RECYCLING OF USED MATERIALS (ROOM 2) | |
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| | | Chairs: Katalin Kopeckó (Hungary), Ali Sdiri (Tunisia) | |
| 16h00 17h30 | 16h00 16h15 | Evolution of the microstructure of cement paste modified with MCM-41 under thermal loading <i>Maciej Szeląg, Patryk Rumiński, Magdalena Rajczakowska</i> | |
| | 16h15 16h30 | Development of the microstructure of cement paste modified with basalt powder subjected to thermal loading <i>Patryk Rumiński, Maciej Szeląg, Magdalena Rajczakowska</i> | |
| | 16h30 16h45 | Reactivity assessment and incorporation of calcined drinking water treatment sludge in ternary cement systems <i>Khaoula Doughmi, Khadija Baba, Yassine Taha</i> | |
| | 16h45 17h00 | GGBF Slag-Based Geopolymer for Ionic Thermoelectric Energy Harvesting <i>Ghizlane Moutaoukil, Mohamad Barzegar, Guido Goracci, Jorge Sanchez Dolado</i> | |
| | 17h00 17h15 | New binders and wastes for designing cement-based materials suited for energy harvesting and storage applications <i>Jorge Dolado</i> | |
| | 17h15 17h30 | Evaluating the Aging Process of Reinforced and Non-Reinforced Concrete with Resin Coatings under Aggressive Environmental Conditions <i>Sofiene Helaili, Abdelaziz Kraiem, Moez Chafra</i> | |
| 19h00 21h00 | Diner | | |

- **Session 3 and 4 are in parallel**
- **Session 4 (Abstract only): Presentation 10 mins + 5 mins discussion**

Day 2, April 12th, 2025

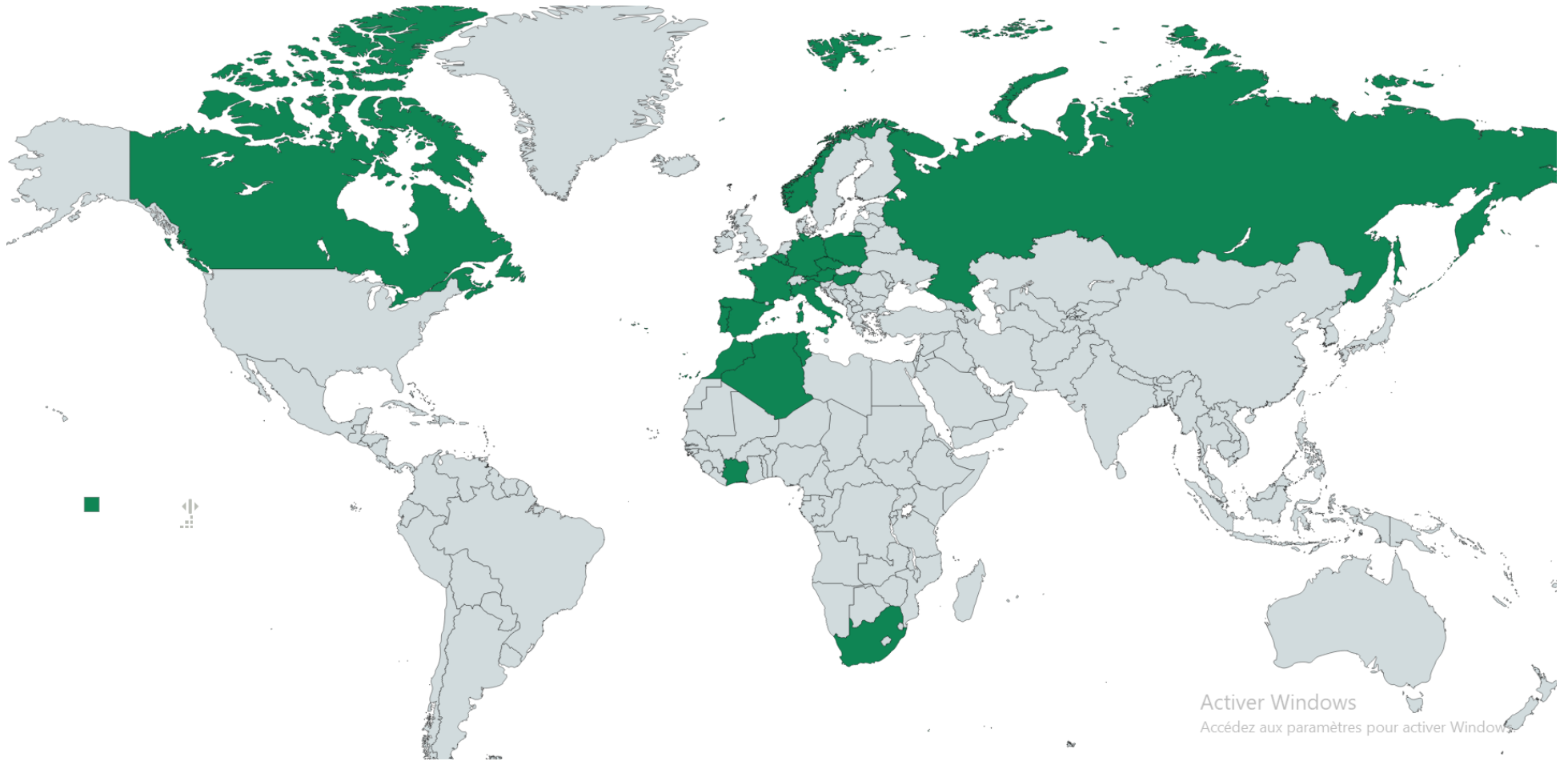
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| 8h30 9h00 | Chairs: Wolfram Schmidt (Germany), Jorge S. Dolado (Spain) | |
| | PRESENTATION OF <i>fib</i> AND RILEM | |
| | Prof. György L. Balázs, <i>fib</i> And Prof. Said Kenai, RILEM | |
| 9h00 9h45 | Keynote Speaker 3: Dr. Jose C. Matos (Portugal) "Novel Approaches Towards the Sustainable Management of Concrete Civil Infrastructures" | |
| 9h45 10h30 | Keynote Speaker 4: Pr. Said KENAI (Algeria) "Valorization of agro-wastes in cementitious composites" | |
| 10h30 11h00 | Coffee Break | |
| | SESSION 5 ECO-FRIENDLY BINDERS WITH LOW CO₂-EMISSION (ROOM 1) | |
| | Chairs: José Matos (Portugal), Basma Samet (Tunisia) | |
| 11h00 11h20 | 11h00 11h20 | Mechanical and Microstructural Characteristics of Concrete Composed of Recycled Sand and Low-Carbon Cement <i>Ahmad Jan, Lucia Ferrari, Nikola Mikanovic, Mohsen Ben-Haha, Elisa Franzoni</i> |
| 11h00 12h40 | 11h20 11h40 | Carbon storage capacity evaluation of incineration ash <i>Marie-Laure Heyndrickx, Beibei Sun, Veerle Boel, Stijn Matthys</i> |
| | 11h40 12h00 | Effectiveness of cement replacement materials at different cement content and water-cement ratio <i>Rita Nemes, Anna Szijartó</i> |
| | 12h00 12h20 | Quarry Waste Composition Effect on Mechanical Performance of Eco-Friendly Binders <i>Lobna Benzina Mechmeche, Ramy Belhadj, Abderraouf Trabelsi, Mongi Ben Ouezdou</i> |
| | 12h20 12h40 | A Study on Utilization of Mussel Shells in Cement Mortar: Enhancing Sustainability and Mechanical Properties <i>Monika Verma, Francesco Colangelo, Ilenia Farina</i> |
| 12h40 14h00 | Lunch Break | |

| SESSION 6 ECO-DESIGN AND ECO-CONSTRUCTION (ROOM 1) | |
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| Chairs : <i>Fakher Jammousi (Tunisia), Essaieb Hamdi (Tunisia)</i> | |
| 14h00 14h20 | Hygrothermal properties of compacted bio-based blocks (CBB) made from alkali-activated binder and flax shives <i>Leila Ben Bahloul, Jonathan Page, Chafika Djelal-Dantec, mohamed Waqif, Latifa saâdi</i> |
| 14h00 14h40 | Reuse of Dam Sediments as Road Layer Material <i>Sameh Anibi, Souhir Ellouze, Moncef Zairi</i> |
| 14h40 15h00 | Concrete made from Vegetable Shells: Case of Palm Shell <i>M. A. Serifou, Athanas Konin</i> |
| 15h00 15h20 | Effects of Lime and Fibers on BTC Soil Properties <i>Houcem Trabelsi, Souhir Elouze, Ines Garsellaoui, Stéphanie Bonnet</i> |
| 15h20 15h40 | Characterization and Sustainable Use of Dam Sediments for Ceramic Applications: Insights from Zaghouan <i>Assia Boukhili, Rakia S'HABOU, Ali ELLOUZE, Hassib TOUNSI</i> |
| 15h40 16h00 | Coffee Break |
| SESSION 7 VALORIZATION OF DEMOLITION WASTE AND USED MATERIALS (ROOM 1) | |
| Chairs: <i>Alessandro Fantilli (Italy), Maciej Szlag (Poland)</i> | |
| 16h00 16h20 | Establishing an efficient method for quantifying the CO ₂ -uptake potential of recycled concrete aggregates <i>Johannes Hron, Oliver Zeman, Konrad Bergmeister</i> |
| 16h20 16h40 | Thermo-Physical Properties of Concrete Containing PET and Artificial Aggregates Prepared from Industrial By-Products <i>Jehangeer Raza, Areebh Abrar, Ilenia Farina, Francesco Colangelo, Narinder Singh</i> |
| 16h00 17h40 | Recycling glass fiber – thermoset composites in cementitious matrices <i>Natalia Lora Acevedo, Hela Bessaies-Bey, Thierry Sedran, Radhouane Masmoudi, Loic Divet, Arezki Tagnit-Hamou, Laetitia Van Schoors</i> |
| 17h00 17h20 | Performance of recycled concrete aggregates in gravel-cement Mixtures: strength, shrinkage, and durability analysis <i>Oussema Atoui, Azer Maazoun, Ahmed Siala</i> |
| 17h20 17h40 | Analysis of life cycle environmental impact of artificial aggregates <i>Ilenia Farina, Areebah Abrar, Jehangeer Raza, Narinder Singh, Francesco Colangelo</i> |
| 19h00 21h00 | Gala Diner |

Day 3, April 13th, 2025

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| SESSION 8 ECO-FRIENDLY BINDERS WITH LOW CO₂-EMISSION (ROOM 1) | | |
| Chairs: Josée Duchesne (Canada), Ahmed Jelidi (Tunisia) | | |
| 8h30 10h15 | 8h30 9h15 | <p>Keynote Speaker 5: Pr. Basma SAMET, Tunisia</p> <p>“Valorization of natural resources and industrial by products in ecological hydraulic binders”</p> |
| | 9h15 9h35 | <p>Mechanical Properties of Water-cured One-part Geopolymer Concrete Containing Platinum Slag Aggregate</p> <p><i>Babatunde Luke L. Ajayi, Mustapha B. Jaji, Adewumi J. Babafemi</i></p> |
| | 9h35 9h55 | <p>Evaluating the Influence of Recycled Concrete Fine Fineness on Fresh and Hardened Properties of Mortar</p> <p><i>Bayram Tutkun, Farshad Ameri, Daniella mehanni, Katalin Kopecskó, Zaid Khaiqani, Ildiko Merta</i></p> |
| | 9h55 10h15 | <p>Eco-friendly Mortars with Barite and Hydraulic Lime under Thermal Exposure: Study of Morphology, Physical and Mechanical Properties</p> <p><i>Majed Noumi, Khaled SAIDANI, Lasaad Ajam</i></p> |
| 10h15 10h45 | Coffee Break | |
| SESSION 9 SUSTAINABILITY OF MATERIALS AND STRUCTURES (ROOM 1) | | |
| Chairs: Olivér Fenyvesi (Hungary), Karim Miled (Tunisia) | | |
| 10h45 12h45 | 10h45 11h05 | <p>New insights on sustainable development in construction</p> <p><i>Vyacheslav R. Falikman</i></p> |
| | 11h05 11h25 | <p>Image-based petrographic analysis of aggregates for concrete production</p> <p><i>Elske Linss, Patrick Hunhold, Daniel Garten, Galina Polte, Katharina Anding, Sandro Weisheit</i></p> |
| | 11h22 11h44 | <p>Performance-Based Assessment of Concrete with PET Fibers from Plastic Waste</p> <p><i>Omar Mezghani, Jihen Mallek, Mohamed Fourati, Mamadou Diouf, Lala Brahim, Atef Daoud</i></p> |
| | 11h45 12h05 | <p>CIRCULARITY OF CONSTRUCTION MATERIALS: precedence between elements based on digital models for demolition</p> <p><i>André Mantelatto, Melody Njuguna, Artur Kuzminykh, Manuel Parente, José Granja, Miguel Azenh</i></p> |
| | 12h05 12h25 | <p>Influence of the corrosion process on the formation of crack patterns in reinforced concrete: experimental and numerical study</p> <p><i>O. Loukil, L. Adelaide, V. Bouteiller, M. Quiertant</i></p> |
| | 12h25 12h45 | <p>Concrete and Climate Change: Adapting to Rising Temperatures and Reducing Environmental Impacts</p> <p><i>Hatem Affes, Salem Nehme Georges</i></p> |

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| 12h45 14h00 | Lunch time | |
| 14h00 15h40 | SESSION 10 VALORIZATIONS OF INDUSTRIAL BY-PRODUCT (ROOM 1) Session Chairs: Amara Loulizi (Tunisia), Oualid Limam (Tunisia) | |
| | 14h00 14h20 | Study of Leaching Behaviour of Copper Slag and Its Alkaline Activation Potential <i>Ingrid Carolina Farias, Diego Aponte, Marilda Barra</i> |
| | 14h20 14h40 | Comparative study on using primary and secondary textile sludges in sand concrete <i>Ilhem Arfaoui, Marwa Ben Youssef, Karim Miled, Yosra Saad</i> |
| | 14h40 15h00 | Relationship between the coarse aggregate and the concrete thermal conductivity <i>Ahmed M Seyam, Rita Nemes, Mohammed Abed</i> |
| | 15h00 15h20 | Optimization of Mechanical Properties of Glass Fiber-Reinforced Concrete Using Response Surface Methodology <i>Liqaa Hashim, Omar Mezghani, Jihen Mallek, Atef Daoud</i> |
| | 15h20 15h40 | The improvement of the RCC compactness and strength for pavement by the use of the marine sediments of Lagoulette Harbor (Tunisia) <i>Mustpha Sdiri, Mongi Ben ouezdou, Jamel Neji, Nor-Edine Abriak</i> |
| 15h40 16h00 | CLOSING CEREMONY AND PRIZES Prof. György L. Balázs (Hungary), Prof. Atef Daoud (Tunisia) | |



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