

International RILEM Conference on Earthen Construction

Gustave Eiffel University, France

Friday, March 18, 2022

9:00 am to 9:20 am	<p>Opening Univ. Eiffel Official</p> <p>RILEM Nicolas Roussel</p>
9:20 am to 10:00 am	<p>Earthen construction: The road to a deserved share in the landscape of construction materials and methods Henri Van Damme</p>
10:00 am to 10:20 am	<p>Physical, hydric, thermal and mechanical properties of earth renders amended with dolomitic lime Younoussa Millogo</p>
10:20 am to 11:00 am	<p>A way to improve poured earth properties without hydraulic binder Ardant Daria, Brumaud Coralie, Habert Guillaume</p> <p>Comparison of Persian Traditional Adobe Bricks: Chemical and Mineralogical Compositions Hejazi Bina, Luz Corinna, Grüner Friedrich, Frick Jürgen, Garrecht Harald</p> <p>Effects of Waste Plant Additives on Performance and Physical Characteristics of Rammed Earth Akturk Busra, Yesiloglu Buket, Aktay Deniz, Bozan Ali Berk, Miskioglu Ozge, Gulen Hatice, Akipek Fulya</p> <p>Earth plaster enhancement with dolomite replacement: Shrinkage and mechanical assessment Emiroglu Mehmet, Matos Ana Mafalda, Hatipoglu Yasemin, Delgado João</p> <p>Designing a natural material-based binder for earth stabilization Pires Martins Natalia, Cicek Burhan, Brumaud Coralie, Habert Guillaume</p>
11:00 am to 11:20 pm	Break
11:20 am to 12:20 pm	<p>Adobe bricks from Greenlandic sediments with pieces of discarded fishing net as reinforcement Bertelsen Ida, Jensen Kira, Ottosen Lisbeth M.</p> <p>Impact response of an earthen material reinforced with hemp fibres Aymerich Francesco, Cadoni Ezio, Fenu Luigi, Forni Daniele</p> <p>Learning from tradition: A potential additive combination for producing waterproof poured earth Du Yi, Brumaud Coralie, Habert Guillaume</p> <p>Eco friendly stabilization of loam with calcined clay and potassium hydroxide ,À calorimetric background study Manninger Tanja, Von Werder Julia, Meng Birgit</p> <p>Biominalisation to increase earth infrastructure resilience Brás Ana, Mohammed Hazha, Romano Abbie, Nakouti Ismini</p> <p>Celluloses reinforcement of clay materials for raw earth construction Tourtlot Julia, Da Silva-Perez Denilson, Mertz Jean-Didier, Keita Emmanuel, Bourgès Ann</p>

12:20pm to 12:40 pm	<p>Invited speaker Anne Ventura</p>
12:40 pm to 1:30 pm	<p>A holistic approach of earthen architecture uses based on LCA at the early stage of design Estève Pierre, Beckett Christopher, Pedreschi Remo, Frederic Bosche, Morel Jean-Claude, Charef Rabia, Habert Guillaume</p> <p>A parametric model for the assessment of environmental impacts of earth construction Higuera Paula, Ventura Anne, Hamard Erwan</p> <p>How sustainable is Circular? Environmental and Economic Life Cycle Assessment of circular-use of excavation materials in Swiss Buildings Zea Escamilla Edwin, Acevedo Agudelo Harlem, Vásquez-Hernández Alejandro, Gonzalez Manosalva Jose Luis</p> <p>LCA in Earth Construction: embodied carbon and energy of different construction techniques Arduin Deborah, Caldas Lucas, Rocha Fernando</p> <p>A critical discussion on the recyclability of unstabilised and stabilised earth materials Bruno Agostino Walter, Gallipoli Domenico, Perlot Céline</p> <p>Availability of earth for light earth building: modelling using spatialized pedological data in Brittany Verron Loris, Cazacliu Bogdan, Duc Myriam, Razakamanantsoa Andry, Hamard Erwan</p>
1:30 pm to 2:45 pm	Lunch
2:45 pm to 3:30 pm	<p>Design of small low speed wind tunnels for wet and dry cup measurements on earth plasters Force Marie-Sarah, Mauffre Thibaud, Mélois Adeline, Mcgregor Fionn, Fabbri Antonin, El Mankibi Mohamed</p> <p>Hygrothermal properties of earth-based building at 1:1 scale: in situ instrumentation of demonstrator in Sense-City Mcgregor Fionn, Duc Myriam, Colinart Thibaut, Boudenne Abderrahim, Waeytens Julien</p> <p>Hygrothermal properties of raw earth adobe bricks Gangloff Alexis, Tourtelot Julia, Keita Emmanuel, Boudenne Abderrahim</p> <p>Thermal conductivity of moist light-earth building materials measured by steady state method El Assaad Machhour, Colinart Thibaut, Lecompte Thibaut</p> <p>Can earthen material buffer CO2 in Indoor Air? Roucan Sofia, Mcgregor Fionn, Fabbri Antonin, Perlot-Bascoulès Céline, Morel Jean-Claude</p>
3:30 pm to 4:20 pm	<p>Effect of bio-stabilization and surface treatment on hygroscopic properties and water resistance in earth plasters Mauffre Thibaud, Fabbri Antonin, Mcgregor Fionn, Contraires Elise</p> <p>Evaluation of recycling capabilities of bio-stabilised earth building materials Cuccurullo Alessia, Muguda Sravan, Gallipoli Domenico, Perlot Céline</p> <p>The effect of a rammed earth building's structure on the thermal loads. El Bichri Fatima Zahra, Sobhy Issam, Benhamou Brahim, Bouchefra Imane, Chehouani Hassan, Mghazli Mohamed Oualid</p> <p>The need of a stochastic-physical coupling to estimate the coupled transfers of heat and moisture through cob walls Junior Tchiotso, Poullain Philippe, Issaadi Nabil, Bonnet Stéphanie</p> <p>Thermal characterization of clays and fibres for their use in wood/cob construction Kabore Aguerata, Ouellet-Plamondon Claudiane</p>

	<p>Numerical Analysis of the Thermal Performance of a Contemporary CEB Tiny House Kyriakidis Andreas, Kyriakides Marios, Panagiotou Rafail, Castrillo David, Costi De Castrillo Maria, Illampas Rogiros, Michael Aimilios, Ioannou Ioannis</p>
4:20 pm to 4:40 pm	Break
4:40 pm to 5:00 pm	<p>Molecular simulation study of the cristalline swelling inhibition of Wyoming Montmorillonite Laurent Brochard</p>
5:00 pm to 5:40 pm	<p>Test of swelling inhibitors for raw earth construction Masson Loren, Duc Myriam, Mertz Jean-Didier, Bourgès Ann, Keita Emmanuel, Guedon Jeanne-Sylvine</p> <p>Meso-Scale Modelling of Clay Matrix Asadi Farid, Zhu Hua-Xiang, Vandamme Matthieu, Roux Jean-Noel, Brochard Laurent</p> <p>Earth Cycle project : production line and tests campaigns Misse Arnaud, Crété Eugénie, Hubert Alix, Arleo Luis</p> <p>Soil suitability for earth construction: towards a simplified approach inspired by masons' sensory tests Rinino Léa, Hamard Erwan, Prud'homme Elodie</p>
5:40 pm to 6:20 pm	<p>Why testing earth-based building materials is more than a technical matter ? Toward a dialogue between social and material sciences Gozauskas Jean, Meyer Morgan</p> <p>The influence of raw earth in the ambiance perception - Two case studies (Barcelona and Grenoble) Miranda Santos Marta, Alvarez Coll Nuria, Lescop Laurent, Hamard Erwan, Navarro Antonia</p> <p>Prototypes of a Design and Fabrication System for Developing Biologically Improved Precast Rammed Earth Blocks Akipek Fulya, Yazar Tugrul, Aktürk Büşüra, Gulen Hatice , Özbek Muammer, Miskioglu Özge, Yesiloglu Buket</p> <p>Experimental analysis of a rammed earth sub-assembly subjected to in-plane cyclic loads Romanazzi Antonio, Oliveira Daniel, Silva Rui, Barontini Alberto, Mendes Nuno</p> <p>Barriers to the use of earth material in construction Pelé-Peltier Antoine, Morel Jean-Claude, Charef Rabia</p> <p>Architectural implications for raw earth collective housings Arnou Alex, Frangeard Elsa, Pommereul Léo</p>
8:00 pm to 9:30 pm	Gala Dinner in Paris

Saturday, March 19, 2022

9:00 am to 9:40 am	Mud and fibres to heal the World Guillaume Habert
9:40 am to 10:00 am	Fine-tuning the rheology of earth-based materials for a specific shaping process Arnaud Perrot
10:00 am to 10:40 am	Shapes of 3D printed filaments of clay suspension Geffrault Anatole , Bessaies-Bey Hela, Roussel Nicolas, Coussot Philippe
	Application of bacterial cellulose as reinforcement for 3d printed raw earth Nashed Kabalan Ola , Marceau Sandrine, Le Roy Robert
	Towards the manufacturing of earth-based materials by 3D printing Kaci Abdelhak , Rahal Said
10:40 am to 11:25 am	Water resistance of 3D printed clay with natural stabilizers Inga Guillen Ruth Natali, Naldoni Lapo, Keita Emmanuel
	Drying-induced damages in fresh earth-based materials Zuo Wenqiang , Bornert Michel, King Andrew, Keita Emmanuel
	Introduction of self-consolidating earth concrete (SCEC) and investigation on the influencing parameters using taguchi method Kohandelnia Mojtaba , Hosseinpoor Masoud, Yahia Ammar, Belarbi Rafik
11:25 am to 12:00 pm	New generation of earth-based composites: design and assessment Matos Ana Mafalda , Emiroglu Mehmet, Marques Bruno, Guimarães Ana Sofia, Delgado João, Varum Humberto
	Raw earth: from an excavated material towards a flowable concrete? Successes and challenges Gausseres Marin, Guetni Imane , Rocca Denis
	Towards an understanding of the impact of earth variability on rheological behaviour Vinceslas Théo , Lecompte Thibaut, Hamard Erwan, Héliouin De Ménibus Arthur
12:00 pm to 1:15 pm	Overview on TC Hygrothermal behaviour and Durability of Bio-aggregate based building materials Sofiane Amziane
	New TC proposals Ana Brás, Antonin Fabbri, Emmanuel Keita
12:00 pm to 1:15 pm	Lunch
1:15 pm to 1:35 pm	Earth plasters: the influence of composition on the contribution for Indoor Air Quality and comfort Paulina Faria
1:35 pm to 2:10 pm	Dielectric method and numerical models to assess freezing-thawing curves for earthen blocks Traoré Lassana, Bakary , Daher Hussein, Fabbri Antonin, Mcgregor Fionn, Rojat Fabrice
	Development of clayey mortar with good resistance against water Nejmeh Kassem , Keita Emmanuel, Roussel Nicolas, Maillet Benjamin, Yammine Joumana, Bertrand Lionel, Benoit Domitille, Bourgès Ann
	The durability of compressed earth blocks stabilized with by-product binders Nshimiyimana Philbert , Messan Adamah, Courard Luc
	Assessment of long term deformations of earth concrete Fardoun Hassan , Saliba Jacqueline, Coureau Jean-Luc, Saiyouri Nadia

2:10 pm to 3:00 pm	<p>High temperature behavior of different earthen materials Beaucour Anne-Lise, Pliya Prosper, Boussadia Bochra</p> <p>Seismic Damage Determination on a Rammed Earth Wall Using Numerical Models Tatar Tuba, Arslan Mehmet Emin, Emiroglu Mehmet</p> <p>Fire Performance of cob: preliminary tests Ouellet-Plamondon Claudiane, Aguerata Kabore, Gales John</p> <p>Temperature analysis of compacted raw earth and cement stabilized earth bricks exposed to fire Abdallah Rafik, Carré Hélène, Perlot Céline, La Borderie Christian, El Ghoche Hayssam</p>
3:00 pm to 3:20 pm	Break
3:20 pm to 3:40 pm	<p>Characterising the mechanical performance and durability of earthen construction materials Chris Beckett</p>
3:40 pm to 4:25 pm	<p>Effective stress concept for the hydro-mechanical behaviour of Unstabilized Rammed Earth (URE) materials Zhang Xiang, Nowamooz Hossein</p> <p>Thermo-hydro-mechanical (THM) behavior of unstabilized rammed earth (URE) wall submitted to environmental and mechanical loadings Zhang Xiang, Hossein Nowamooz</p> <p>Impact response of an earthen material reinforced with hemp fibres Aymerich Francesco, Cadoni Ezio, Fenu Luigi, Forni Daniele</p> <p>Potential use of dredged sediments in earthen construction Abbas Mohamed Said, Carré Hélène, Mcgregor Fionn, Perlot-Bascoulès Céline</p> <p>Thermophysical and mechanical properties of earth brick reinforced by the powder of Argan nut shell Bouchefra Imane, Chehouani Hassan, Benhamou Brahim</p> <p>Visco-elasto-plastic behavior of unstabilized rammed earth wallet Chitimbo Taini, Abdul Samad Feras, Prime Noémie, Plé Olivier</p>
4:25 pm to 4:45 pm	<p>Characterization of tunnel excavated earth-based mortars for rammed earth repair Nouali Mohammed, Ghorbel Elhem</p> <p>Dataset of earth characteristics: towards AI solutions for the determination of service life properties Guihéneuf Simon, Perrot Arnaud, Jacquet Yohan, Toublanc Thomas</p> <p>VBATCH ANR project: Toward tools for monitoring and predicting the effects of hydric state variation on the earth building mechanical performance Prime Noémie, Plé Olivier, Chitimbo Taini, Abdul Samad Feras</p> <p>Cob and light earth in-situ drying process in a CobBauge walling system Touati Karim, Le Guern Malo, Azil Athmane, Streiff François, Sebaibi Nassim, Fox Matthew, Carfrae Jim, Goodhew Steve, Boutouil Mohamed</p>
4:45 pm to 5:00 pm	<p>Best Student Presentation Award, Conference closure Emmanuel Keita</p>