

Conference Program

Wednesday, June 11, 2025

Venue: Consorcio Zona Franca de Vigo

Address: Rua Areal 46, 36201 Vigo. (Plus code: 67QM+HF Vigo)

Capacity limited to 120 people

13:00 h. Registration

13:45 h. Inauguration of the conference EGRWSE-2025

14:00 - 18:30 h. Short course on:

Sustainable and Resilient Engineering: Drivers, Metrics, Tools and Applications. Prof. K. R. Reddy (UIC, USA), Prof. C. Cameselle (UVigo, Spain), Dr. J. Adams, P.E. (ENGEO, California, USA), Jagadeesh Kumar Janga, Ph.D. Candidate (UIC, USA).

16:00 – 16:30 h. Coffee break

18:30 h. End-of-course cocktail

Capacity limited to 120 people. Admission until 13:45 h or until full capacity is reached

Thursday, June 12, 2025

Venue: School of Industrial Engineering, UVigo.

Address: University Campus, 36310 Vigo. (Plus code: 5896+78 Vigo)

8:25 h. Bus leaves from City to Campus (Plus code: 67QM+HF Vigo)

9:00 – 11:00 h. Registration

9:00 – 10:30 h. Opening session

10:30 h. Group photo

10:30 – 11:00 h. Coffee break + Poster session

11:00 – 12:45 h. Session 1

12:45 – 14:30 h. Lunch

14:30 – 16:00 h. Session 2

16:00 – 16:30 h. Coffee break + poster session

16:30 – 17:30 h. Session 3

17:30 h. Bus leaves from Campus to City

19:30 h. Guided tour of city (Plus code: 67QG+42 Vigo)

21:00 -23:00 h. Get-together dinner (Náutico de Vigo, Plus code: 67RG+G4 Vigo)

Friday, June 13, 2025

School of Industrial Engineering, UVigo.

Address: University Campus, 36310 Vigo. (Plus code: 5896+78 Vigo)

8:25 h. Bus leaves from City to Campus (Plus code: 67QM+HF Vigo)

9:00 – 11:00 h. Registration

9:00 – 10:30 h. Session 4

10:30 – 11:00 h. Coffee break + Poster session

11:00 – 12:45 h. Session 5

12:45 – 14:30 h. Lunch

14:30 – 16:00 h. Session 6

16:00 – 16:30 h. Coffee break + poster session

16:30 – 17:30 h. Conference closing

17:30 h. Bus leaves from Campus to City

19:00 h. Bus leaves for conference dinner (Plus code: 67QM+HF Vigo)

23:59 h. Estimated return to Vigo city center from conference dinner

Saturday, June 14, 2025

Meeting point: Estación de Ría, 36201 Vigo. (Plus code: 67RF+7H Vigo)

10:30 h. Departure for technical visit

Visit to a natural park as an example of sustainable management of natural spaces

17:00 h. Return from technical visit



Conference Program

Wednesday, 11 June 2025	Thursday, 12 June 2025	Friday, 13 June 2025	Saturday, 14 June 2025
	8:25 Bus from City to Campus	8:25 Bus from City to Campus	
	Registration	Session 4 (9:00-10:30)	
	Opening Session (9:00-10:30)	Session 4 (9:00-10:30)	
	Coffee/Poster Session (10:30 – 11:00)	Coffee/Poster Session (10:30 – 11:00)	
	Session 1 (11:00 – 12:45)	Session 5 (11:00 – 12:45)	
Capacity limited to 120 people			
Registration (13:00)	Lunch (12:45 – 14:30)	Lunch (12:45 – 14:30)	Technical Tour (10:30 – 17:00)
Inauguration (13:45)			
Short Course on Sustainable and Resilient Engineering (14:00-16:00)	Session 2 (14:30 – 16:00)	Session 6 (14:30 – 16:00)	
Coffee break (16:00)	Coffee/Poster Session (16:00 – 16:30)	Coffee/Poster Session (16:00 – 16:30)	
Short Course (16:30 – 18:30)	Session 3 (16:30 – 17:30)	Conference Closure (16:30 – 17:30)	
Cocktail (18:30)	17:30 Bus from Campus to City	17:30 Bus from Campus to City	
Capacity limited to 120 people	19:30 Guided tour of City (1.5 h)	19:00 Bus to Conference Dinner	
	Get-together Dinner (21:00-23:00)	Conference Dinner (20:00-23:30)	

Conference Program

June 12	Venue: School of Industrial Engineering, UVigo	
9:00-11:00	Registration	
9:00-10:30	Opening session Claudio Cameselle & Susana Gouveia (Conference Organizers) Manuel Joaquín Reigosa Roger (UVigo Rector) José Fariña (Director of the School of Industrial Engineering) Krishna Reddy and Arvind Agnihotri (Conference Chairs)	
	9:30 Keynote lecture: Krishna Reddy (UIC) 10:00 Invited lecture: Angel Antelo (Agilent Technologies)	
	10:30 Group photo	
10:30-11:00	Coffee break / Poster session	
11:00-12:45	Session 1	
	Room A Geoenvironmental Pollution Control Chair: Krishna R. Reddy Invited lecture: Yeliz Yukselen-Aksoy Invited lecture: Nicolo Guarena 5 oral presentations and discussion	Room B Sustainable and Resilient Practices Co-chairs: Antonio Thome, Igor Petrovic Keynote lecture: Helena Fernandes 6 oral presentations and discussion
	Room C Solid Waste and Circular Economy Co-chairs: Alicia Paz, Vesna Zalar Serjun 9 oral presentations and discussion	Room D Sustainable Geo-Infrastructure Co-chairs: Ivan P. Damians, Irem Z. Yildirim 9 oral presentations and discussion
	12:45-14:30 Lunch	
14:30-16:00	Session 2	
	Room A Solid Waste and Circular Economy Co-Chairs: Arvind K Agnihotri, Oznur Karaca Keynote lecture: Alicia Paz Invited lecture: Jana Font 3 oral presentations and discussion	Room B Biotechnologies/Nature-Based Solutions Co-chairs: Laura Romero, J. M. Dominguez Invited lecture: Madhavi Latha Gali Invited lecture: Ahmed Benamar 4 oral presentations and discussion
	Room C Geoenvironmental Pollution Control Co-chairs: Supriya Mohanty, Primož Pavšič 8 oral presentations and discussion	Room D Solid Waste and Circular Economy Co-chairs: Paulo Coelho, Nuno Muñoz 8 oral presentations and discussion
	16:00-16:30 Coffee break / Poster session	
16:30-17:30	Session 3	
	Room A Sustainable Geo-Infrastructure Chair: Thyagaraj T Keynote lecture: A. K. Agnihotri Invited lecture: Ivan P. Damians Discussion	Room B Sustainable and Resilient Practices Chair: Ahmed Benamar Invited lecture: Antonio Thome 3 oral presentation and discussion
	Room C Geotechnics for Renewable Energy Co-chairs: Y. Yukselen-Aksoy, Y. Kurimoto 5 oral presentations and discussion	Room D Biotechnologies/Nature-Based Solutions Co-chairs: G. Madhavi Latha, H. Fernandes 4 oral presentations and discussion

Conference Program

June 13	Venue: School of Industrial Engineering, UVigo	
9:00-11:00	Registration	
9:00-10:30	Session 4	
	Room A Geoenvironmental Pollution Control Co-Chair: V. B. Maji, E. Ghazanfari Keynote lecture: Chandresh Solanki Invited lecture: Arvin Farid 3 oral presentations and discussion	Room B Solid Waste and Circular Economy Chair: Milind Khire Invited lecture: António Roque Invited lecture: Oznur Karaca 4 oral presentations and discussion
	Room C Sustainable Geo-Infrastructure Co-chairs: H. B. Rao, Pabitra R. Maiti 8 oral presentations and discussion	Room D Solid Waste and Circular Economy Co-chairs: Eva Rodil, Fei Jin 8 oral presentations and discussion
	10:30-11:00 Coffee break / Poster session	
11:00-12:45	Session 5	
	Room A Solid Waste and Circular Economy Co-chairs: António J. Roque, J. M. Salgado Invited lecture: Milind Khire Invited lecture: A. M. Pérez-Lafuente 5 oral presentations and discussion	Room B Sustainable Geo-Infrastructure Co-chairs: Satyajit Patel, Dali N. Arnepalli Invited lecture: Hanumantha Rao 7 oral presentations and discussion
	Room C Geoenvironmental Pollution Control Co-chairs: Nicolò Guarena, Wolfgang Wehr Keynote lecture: Magdalena Vaverková 6 oral presentations and discussion	Room D Sustainable and Resilient Practices Co-chairs: Junboun Park, Arvin Farid 9 oral presentations and discussion
	12:45-14:30 Lunch	
14:30-16:00	Session 6	
	Room A Environmental Geotechnics for Climate Change Co-Chairs: C. H. Solanki, A. K Nayak Invited lecture: Junboun Park 5 oral presentations and discussion	Room B Workshop on Scientific Publishing Swati Meherishi (Springer Nature)
	Room C Last minute registration	Room D Last minute registration
	16:00-16:30 Coffee break / Poster session	
16:30-17:30	Closing ceremony Claudio Cameselle & Susana Gouveia (Conference organizers) Krishna Reddy and Arvind Agnihotri (Conference chairs) Chandresh Solanki: EGRWSE-2026 announcement Participants comments	

Conference Program

Opening Session

- 9:30 **Keynote.** Urban Flooding and Stormwater Pollution Problems Under Changing Climate: Sustainable and Resilient Solutions
Krishna R. Reddy, Banuchandra Nagaraja
- 10:00 **Invited lecture.** Quantifying PFAS in Water According to the Latest EU Regulations
Angel Antelo

Session 1. Room A. Geoenvironmental Pollution Control

- 11:00 **Invited lecture.** Breakthrough Sustainable Energy: Energy Geo-structures
Yeliz Yukselen-Aksoy
- 11:20 **Invited lecture.** Conversion of calcium bentonite to sodium bentonite through dialysis
Nicolò Guarena, Francesco Mazzieri, Andrea Dominijanni, Evelina Fratalocchi, Mario Manassero
- 11:40 Modelling of electrokinetic soil treatments. Verification cases
Rubén López-Vizcaíno, Adrián López Sánchez-Migallón, Laura Asensio, Xiaojuan Yang, V Navarro, Ángel Yustres
- 11:50 DAT file For Geochemical Modelling (DAT4GM): A Python tool to provide reactive transport models for multiphysics platforms
Adrián López Sánchez-Migallón, Rubén López-Vizcaíno, Xiaojuan Yang, V Navarro, Ángel Yustres
- 12:00 An Investigation of Suction Behavior of Zeolite-Bentonite Mixtures with Hyprop and Filter Paper Methods
Sukran Gizem Alpaydin, Esra Güneri, Ceren Ercan, Yeliz Yukselen-Aksoy
- 12:10 Comparison of SiteWise and SimaPro for Sustainability Assessment of Remediation Alternatives
Banuchandra Nagaraja, Krishna R. Reddy
- 12:20 Mechanical and durability study of fly ash-based geopolymer bricks without fillers
Sher Bahadur Singh, Pabitra Ranjan Maiti, Supriya Mohanty

Session 1. Room B. Sustainable and Resilient Practices

- 11:00 **Keynote.** Biotechnological valorization of underutilized biomasses to produce sustainable animal feeds
Helena Fernandes, Nuno Muñoz-Seijas, Francisco Manuel Soto Beltrán, José Manuel Salgado, Borja Fernández, Manuel Domínguez
- 11:30 The Role of Mathematics in Environmental Sustainability
Lino Alvarez-Vazquez, Néstor García-Chan, Aurea Martinez, Miguel E. Vázquez-Méndez
- 11:40 Recycled Glass Powder Based Geopolymers for Soil Stabilization
Esma Rahat, Tugba Eskisar
- 11:50 Sustainable treatment of dredged sediments using waste-based binders: fly ash and eggshell lime
Muhammad Khizar Khan, Marta Di Sante, Francesco Mazzieri, Evelina Fratalocchi
- 12:00 Experimental Assessment of Renewable Diesel (HVO) for Decarbonisation: Emissions, Consumption, and Sustainability Insights
Lara Febrero-Garrido, Antón Cacabelos-Reyes, André Louis Boehman, Carlos Pérez Collazo, Arturo González-Gil, Arturo González-Gil

- 12:10 The role of dark stores in sustainable e-commerce: A literature review
Iria González Romero, Mar Vazquez-Noguerol, Jesús Garcia-Arca, Jose Carlos Prado
- 12:20 Performance of Bagasse Ash on the Hardened Concrete Materials and Reinforced Concrete Structures: Experimental Study
Neha Bhardwaj, Dr Senthil Kasilingam

Session 1. Room C. Solid Waste and Circular Economy

- 11:00 MgO-Stabilized Foundry Sand: A Green Alternative for Construction Materials
Basil Jaimon, Ranita Ray, Amisha Nair, Sreedeeep Sekharan, Rajan Choudhary
- 11:10 Safe and Sustainable by Design towards a circular economy in chemical sector
Marcella Paula, Claudio Cameselle, Pablo Vicos, Germán Ferreira
- 11:20 Phosphorus Removal from Wastewater Using Carbonated Biochar/Steel Slag Composites
Zongqiang Ren, Devin Sapsford, Fei Jin
- 11:30 Research on the Comprehensive Resource Utilization of Recycled Aggregates from Municipal Solid Waste Incineration Ash
Songying Niu, Hongxin Chen
- 11:40 Use of residual materials in adsorption/tertiary treatment processes of industrial wastewater
Jesus Rodríguez Iglesias, Carlos Menéndez Llamado, Lara dos Santos Sánchez, Deva Rodríguez Jove, Laura Megido Fernández, Yolanda Fernández Nava, María Manuela Prieto González
- 11:50 Development of alkali-activated materials from electric arc furnace slags for foundry mold applications
Miguel Otero Sáenz de Lubiano, Lorena Freire, Carolina Ramos, Lucia Unamunzaga
- 12:00 Application of WGP as an eco-friendly alternative for cement in Concrete: A Review
Arvindan Sivasuriyan, Eugeniusz Koda
- 12:10 Strength Enhancement of Landfill Fine Fractions for Foundation Applications. A Numerical Study
Sudeepta Malakar, Abhishek Kumar, Anil Kumar Mishra
- 12:20 Multicriteria Analysis as a decision making tool for carbon capture technologies in the shipping sector
Xulia Placer, Aravind Purushothaman, Paraskevi Karka

Session 1. Room D. Sustainable Geo-Infrastructure

- 11:00 Application of different binders for stabilization of expansive clays
Svetlana Melentijevic, Sol López Andrés, Aitor Lopez Marcos
- 11:10 Pull out tests on Coal Mine Waste to assess suitability as non-conventional backfill for reinforced soil structures
Padmavathi M, Sanjeeva P, Padmavathi Viswanadham
- 11:20 Performance of Electric Arc Furnaces Slag in Place of Cement on the Pavement Concrete Application Under the Impact Load
Kavita Rani, Senthil Kasilingam
- 11:30 Experimental and Analytical Study of Piled Raft Foundations in Sandy Soil
Vo Van Dau, Vo Phan, Nguyen Truong Phat, Vo Kim Ngan, Le Gia Linh, Tran Van Tuan, Pham Huu Ha Giang
- 11:40 The Influence of Particle Size Distribution on Microbially Induced Calcite Precipitation performance
Cristhiana Perdigao, Aydin Enez, Negin Amini, Lambert Brau, Susanga Costa

- 11:50 From waste to infrastructure: geotechnical and environmental insights from a full-scale embankment built with limestone powder waste
José Luis Pastor Navarro, Erick Gutiérrez Villarroel, Miguel Cano, Adrian Riquelme Guill, Takenori Hino, Roberto Tomás Jover, Roberto Tomás Jover, Roberto Tomás Jover
- 12:00 Impact of stakeholders' interest on sustainability assessment of geosynthetic reinforced soil structures
Anibal Moncada, Ivan P. Damians, Sebastià Olivella, Richard J. Bathurst
- 12:10 Life Cycle Assessment of CFA Pile Foundations: Environmental Benchmarking for Large-Scale Residential Construction
André Vinícius Azevedo Borgatto, Juliana Vêras, Castorina Silva Vieira
- 12:20 Geosynthetic Encased Stone Columns in Geotechnical Engineering: Performance Insights and Applications
Pravez Alam, Shailja Bawa

Session 2. Room A. Solid Waste and Circular Economy

- 14:30 **Keynote.** Advancing Circular Economy Solutions for the Olive Oil Sector: Integrating Biotechnological and Engineering Advances for Olive Pomace Utilization
Alicia Paz, Evangelos Topakas, Attilio Converti, Manuel Domínguez
- 15:00 **Invited lecture.** Valorisation of food chain waste through solid-state fermentation for biostimulant production for a sustainable agriculture
Jana Font, Antoni Sánchez, Adriana Artola, Esther Molina-Peñate, Óscar Prado
- 15:20 Evaluation of Corrosive Characteristics and Unconfined Compressive Strength of Steel Slag
Irem Zeynep Yildirim, Monica Prezzi
- 15:30 Developing a Cotton Decolorization Method: Driving Circularity in the Textile Industry
Oscar Martinez-Rico, Angeles Domínguez, Begoña González
- 15:40 Selected physical and mechanical properties of combustion slag from Siekierki Power Plant
Katarzyna Gabrys

Session 2. Room B. Biotechnologies/Nature-Based Solutions

- 14:30 **Invited lecture.** Micro-meso-macro interactions in bio-cemented sands
Madhavi Latha Gali, Geethu Thomas
- 14:50 **Invited lecture.** Sustainable remediation of sediment using furnace slag mixture
Ahmed Benamar, Mohamed-Tahar Ammami, Ahmad Zein-eddin, Zulfiqar Ahmad
- 15:10 Sustainable Soil Stabilization Using Fly Ash, Biochar, and Polypropylene Fibers
Nitin Sharma, Rupali Satavalekar
- 15:20 Biological degradation of high-density polyethylene microplastics by *Comamonas testosteroni*
Bess Alicia Newrick, Amanda Laca, Adriana Laca
- 15:30 Biodegradation of Rhodamine B dye via vermicomposting: Advancing nature-based solutions for textile waste management
Bikash Dhadumia, Satya Sundar Bhattacharya, Biswajit Paul
- 15:40 Kraft lignin: possibilities of applying circular economy in the wood sector
Diego Moldes, Susana Gouveia, Mari Carmen Fernández-Costas, Cristian Bolaño-Losada, Daniel Filgueira, Nicolás Álvarez

Session 2. Room C. Geoenvironmental Pollution Control

- 14:30 Volumetric Shrinkage Strain of Bioremediated Oil Contaminated Soil
Musa Alhassan, Nik Norsyahariati Nik Daud
- 14:40 Suitability of an Abandoned Quarry for Red Mud Disposal at Dalla Mines, Uttar Pradesh, India: A Feasibility Study
Ashish Gharpure, Prashant Navalakha, Vaishali Surawar, Aswathi C K
- 14:50 Numerical modelling of landfill gas emission through landfill covers based on computation fluid dynamics
Prince Kumar, Sivakumar Babu GL, Lakshminarayana Rao
- 15:00 Influence of particle deposition morphology on solute transport in porous media: a CFD-DEM study
Dong-Jiang Lv, Hong-Xin Chen
- 15:10 Interactions of Hydrophobic and Hydrophilic Microplastics with Kaolinite
Nafisa Bello, Mojgan Hadi Mosleh, Mohammed Ahmad Syed, Majid Sedighi, Peyman Babakhani
- 15:20 An integrated approach to groundwater vulnerability assessment and monitoring at a reclaimed landfill site
Anna Podlasek, Eugeniusz Koda, Piotr Streich, Wojciech Pietruszewski
- 15:30 Evaluating Contaminant Transport Parameters of Trace Metals in Reclaimed Landfill Materials: A Laboratory and Numerical Study
Deepak Kumar Haritwal, G V Ramana, Manoj Datta, Pranjal Singh
- 15:40 Image-enabled Characterisation and Oxidation assessment of Microplastics in Soil-Like-Materials Obtained During Mining of Dumpsite
Avinash Sajwan, Deepak Kumar Haritwal, G V Ramana

Session 2. Room D. Solid Waste and Circular Economy

- 14:30 Enhancement of Compacted Clay Liners Using Tire Rubber Crumbs: A Sustainable Solution for Improved Crack Resistance
Sandhiya C, Thyagaraj T
- 14:40 Utilizing Recycled Fines and Industrial By-products through geopolymerization as road construction material
Alok Bijalwan, Anil Kumar Mishra
- 14:50 Effect of foundry fines in improving the geotechnical properties of red soil for landfill liner application
Tenkurala Srujana, Thyagaraj T
- 15:00 Wind speed and solar intensity measurement on a municipal solid waste landfill hill with truncated pyramid shape
Emoke Imre, Péter Felker, Zsolt Hortobágyi, Peter Kádár, Balint Sinkovics, Zoltán Kapros, Delphin Kabey Mwinken, Akos Nemcsics, Gábor Mile, Agnes Balint, Tibor Goda, Csaba Kollar, Tamas Weidinger, Dr. Antal Ürmös
- 15:10 Application of Recycled Aggregates in Road Infrastructures – Rabo de Peixe Variant– Azores- Portugal
Catarina Amaral, Ana Maria Malheiro, Maria Silva, Carlos Fraga
- 15:20 Feasibility of Recycling Municipal Solid Waste Incineration Fine Bottom Ash to Stabilize Dredged Marine Deposits
Chung Yee Kwok, Wei Li, Yanming Zhang
- 15:30 Assessment of Incineration Ash Properties for Sustainable Construction
Vesna Zalar Serjun, Anton Meden, Romana Cerc Korošec, Marta Počkaj, Primož Oprčkal



- 15:40 Evaluation of Landfill Gas Potential in Indian Landfill Sites
Davinder Singh, D. Raghavendher, Sanjeev Kumar

Session 3. Room A. Sustainable Geo-Infrastructure

- 16:30 **Keynote.** Sustainable deployment of Industrial wastes to improve the load carrying capacity of granular soil
Arvind Kumar Agnihotri
- 17:00 **Invited lecture.** Exploring Sustainability Assessment of Geosynthetic-based solutions in Civil Engineering
Ivan P. Damians

Session 3. Room B. Sustainable and Resilient Practices

- 16:30 **Invited lecture.** Contaminated Site Management and Sustainability Analysis Platform
Antonio Thome, Adeli Braun, Caroline Visentin
- 16:50 Thermo-Mechanical Treatment of Reclaimed Rubber and Landfill-Derived Mixed Plastics for Sustainable Development
Prithvendra Singh, Devendra Narain Singh
- 17:00 The physical and mechanical properties of foundry and construction waste as subbase material
Emir Okucu, Taylan Cem Aytekin, Nilhan Demirci, Alper Burak Karakus, Okan Onal, Ali Hakan Oren, Yeliz Yukselen-Aksoy
- 17:10 Artificial Intelligence-Driven Decision-Making Approach for Sustainable Prediction of Fire in Subsurface Engineering Environments
Satyam Tiwari, Sarat Das

Session 3. Room C. Geotechnics for Renewable Energy

- 16:30 Measurement of Shear Strength Parameters of BMT waste: Triaxial CU test and angle of repose
Igor Petrovic, Nikola Hrnčić, Nikola Kaniski
- 16:40 Laboratory Investigation of the Impact of Injected Fluid Temperature in Deep Geothermal Systems
Brooke Lundrigan, Ehsan Ghazanfari
- 16:50 Possible use of CO₂ for Repurposing the Abandoned Oil and Gas Wells to Combat climate change and achieve NET ZERO
Faakhirah Rashid, Devendra Narain Singh
- 17:00 Analyzing the scope of the ideal gas hypothesis in the gas transport model
V Navarro, Rubén López-Vizcaíno, Erik Anders Tengblad Garcia, Ángel Yustres
- 17:10 Impact of additives and elevated temperatures on the shrinkage behavior of compacted bentonite
Emir Okucu, Yeliz Yukselen-Aksoy

Session 3. Room D. Biotechnologies/Nature-Based Solutions

- 16:30 Efficacy of Vermicompost Tea and Xanthan Gum solutions as Flushing agents in Biodegrading and Removing Spent Lubricant Oil from Sandy Soils
Mohammad Rakhodaei, Ikrema Hassan, Kyle Rogers, Laura Romero de Zeron



- 16:40 Comparison of Antibiotic Efficacy of Gramicidin S-Biosurfactant Combined Formulations against *Staphylococcus aureus*
Ksenia Lvova, Sara Silvério, Ana Pereira, Cátia Pereira, Nuno da Silva, Lígia Rodrigues, José Manuel Cruz, Ana Belén Moldes
- 16:50 Influence of Bacterial Encapsulation on Urease Activity during Microbially Induced Calcite Precipitation
Renu Joshi, Pavan Kumar Bhukya, Dali Naidu Arnepalli, Vidya Bhushan Maji
- 17:00 Framework for Modelling Agricultural Soils: Agro-geotechniques Perspective
George Appiah-Kubi, Xiaohui Chen, Ana Heitor, Kai Wang
- 17:10 The use of hemp fibers as an additive in sand bentonite mixtures
Şükrü Asım Kalaycı, Seda Durukan

Session 4. Room A. Geoenvironmental Pollution Control

- 9:00 **Keynote.** Transforming Waste to Solution: Moringa Seed Cake Biochar for Lead-Contaminated Soil Remediation
Chandresh Solanki, Bhoomi Kamdar
- 9:30 **Invited lecture.** Air-water interface adsorption impact on pfas transport through vadose zones
Arvin Farid, MD. Khorshed Alam, Krishna R. Reddy
- 9:50 Radon and CO₂ content in Puerto Naos after the volcanic eruption on the island of La Palma - recalculation with artificial intelligence
Wolfgang Wehr, Roger P. Frey
- 10:00 Use of AI-Powered technologies for Review of Environmental Regulations
Manuel Joy, Alexander Abraham
- 10:10 Influence of electrolyte concentration on electroosmotic permeability of variable charge soil
Min Yang, XiaoJuan Yang, Honglei Sun, Ángel Yustres, Rubén López-Vizcaíno

Session 4. Room B. Solid Waste and Circular Economy

- 9:00 **Invited lecture.** Construction of unbound granular layers using steel slag - Performance compared to natural reference material on a road in use
António José Roque, Antonio Gomes Correia, Eduardo Fortunato
- 9:20 **Invited lecture.** An Alternative Approach to Reusing Mine Waste in Underground Mines: CPB
Okan Yüksel, Oznur Karaca, Tugay Aktaş
- 9:40 Effect of particle size distribution on mechanical strength of tyre enhanced cemented rock fill
Mithushi Wickramasinghe, Bre-Anne Sainsbury, Susanga Costa
- 9:50 Utilisation of Industrial By-Products in Base Course of Flexible Pavements: A Resource Optimization Approach
Mohsin Qureshi, Mohammed Rumhi, Ghassan Al Kindi, Ali Al Shamakhi, Wadhah Tawfeeq, Osama Ragab Abdelaziz Ibrahim, Hajir Al-Handasi
- 10:00 Waste-to-Energy Incinerated Residues (WtEIR): Pros and Cons
Surender Singh, Prithvendra Singh, Devendra Narain Singh
- 10:10 Selective extraction sequence of polyphenols from winemaking waste based on solubility data
Iván Montenegro, Elena Gómez, Ángeles Domínguez, Begoña González

Session 4. Room C. Sustainable Geo-Infrastructure

- 9:00 Hydro-mechanical behaviour of bentonite-geopolymer mixtures
Alessandro Ziccarelli, Renato Maria Cosentini, Esthelyne Ngwenoh Agha, Guido Musso
- 9:10 Transforming Industrial Waste into Sustainable Roads: A Step Toward SDG-Driven Infrastructure
Satyajit Patel, Hrushikesh Kedar
- 9:20 Study on Sustainable Cement Mortar with Activated Charcoal Powder and Fly Ash
Rao P N, Padmavathi Viswanadham
- 9:30 Behavior Evaluation of Embankments Composed of Soft and Organic Soils Mixed with Red Clays in Field and Laboratory Tests
Antonio Damasco Penna, Cleiton Pereira, Mariane Souza
- 9:40 Numerical Analysis of Combined Piled Raft Foundation as a Sustainable Foundation Solution for High-Rise Structures
Aman Garg, Vishwas Sawant, Khrawboklang Kharsyiemiong
- 9:50 Determination of Filtration Parameters of Recycled Concrete Aggregate - Geotextile Systems under Different Conditions
Mehmet Halil Çalim, Ayşegül Bayın Sarıahmetoğlu, Asli Yalcin Dayioglu, Mustafa Hatipoglu, Sabriye Banu Ikizler
- 10:00 Sequential Leaching Characteristics of Fresh and Aged Electric Arc Furnace Steel Slag with Clayey Subgrades
Bilal Korkmaz, Asli Yalcin Dayioglu, Mustafa Hatipoglu
- 10:10 Strength Characteristics of Fiber Reinforced Kaolinite Clay Stabilized using Marble Dust
Ashish Kishore, Hemant Chore, Vipendra Singh Jhinkwan, Aditya Ahirwar

Session 4. Room D. Solid Waste and Circular Economy

- 9:00 Geotechnical properties of compacted tungsten tailings for potential use in transportation infrastructures
Jandira Oliveira Domingos, João Pedro Oliveira, Luis Araújo Santos, Paulo Coelho
- 9:10 Variability of waste clay hydrogeotechnical properties, and practical consequences for use in hydraulic barriers
Eivind Ånes, Chuangxin Lyu, Gudny Okkenhaug, Tae Heon Kim, Thomas Pabst
- 9:20 Characterisation of pectin extracted from orange waste with aqueous solutions of organic acids
Bochra Benabed, Eva Rodil, Héctor Rodríguez
- 9:30 Geotechnical Characterization of Grout in Different Compositions for Extensometer Applications
Hasan Firat Pulat, Simon Dehout, Anne-Catherine Dieudonné, Julia Gebert
- 9:40 Sustainable utilization of sandstone construction waste as paver block material
Aravinda Kumar Vasu, Pradeep Kumar Dammala, Bhupendra Singh, Anuj Bind
- 9:50 Graphite Recovery and Synthesis of Graphene Derivatives from Spent Primary and Secondary Batteries
Pratima Kumari, Sukha Ranjan Samadder
- 10:00 Applicability of Waste Marble Slurry-Desert Sand as a Crust to Mitigate Wind Erosion of Sand Dunes
Sumaja Kolli, Ahsan Ul Haq, Pradeep Kumar Dammala, Krishna R. Reddy
- 10:10 The efficiency of waste ash in soil stabilization
Chung Yee Kwok, Wei Li, Asen Liu

Session 5. Room A. Solid Waste and Circular Economy

- 11:00 **Invited lecture.** Lab-Scale Assessment of Effect of Sodium Polyacrylate on the Shear Strength of Wet Coal Combustion Residuals
Milind Khire
- 11:20 **Invited lecture.** Innovation Projects in Agroforestry Waste Valorization
Ana Magdalena Pérez-Lafuente, Raquel Ledo
- 11:40 Determination of geotechnical properties of compacted iron mining tailings for reuse in earthworks
Maria Eugenia Gimenez Boscov, Guilherme Lourenzi, Luis Santiago, Eduardo Terceiro
- 11:50 Compaction Behavior of Marginal Lateritic Soil modified with Different Shapes of Plastic Waste
Ahmad Idris, Aminu Suleiman, Gambo Haruna Yunusa
- 12:00 Impact of Ca and Na bentonite on the consolidation behaviour of red mud
Pramadhanatha Reddy Pocha, Ramakrishna Bag
- 12:10 Predicting Dry Density of Subgrades Stabilised with Agro-Industrial Byproducts: Comparison of Tree-based Ensembles and Genetic Programming
Hamed Faizi, Abbas El-Zein
- 12:20 Short-Term Strength Gain in Foundry Sand-MgO Composite Under Temperature Curing with Varying MgO and Water Content
Ranita Ray, Basil Jaimon, Amisha Nair, Sreedeeep Sekharan, Uttam Manna

Session 5. Room B. Sustainable Geo-Infrastructure

- 11:00 **Invited lecture.** Assessment of Rainfall Influence on the Stability of Ash Dykes
Jaswanth Reddy Banka, Goushya Begum, Kummari Sekhar, Hanumantha Rao Bendadi
- 11:20 Effect of the dry-wet cycle on the durability characteristics of carbonated and non-carbonated recycled soil
Thang Bui Anh, Kimitoshi Hayano, To T. Phuong Anh
- 11:30 Investigating the Effect of Degree of Saturation on Surplus Soils Treated with Inorganic Waste-based Binders Under Different Compaction Energy
Alula Kassa, Kimitoshi Hayano
- 11:40 Consolidation Behaviour of Soft Clay Under Different Drainage Conditions
Parinith Ramakrishna, Thyagaraj T
- 11:50 Geoinfrastructural Sustainable Approach for Identifying Shallow Subsurface Sandwiched Layers through ERT and MASW Techniques
Prabhakar Vishwakarma, Animesh Mandal
- 12:00 Desert Sand Stabilization through Waste Marble Slurry Powder-based Geopolymerization: Compressive Strength and Microstructural Characterization
Anuj Bind, Sumaja Kolli, Pradeep Kumar Dammala, Hanumantha Rao Bendadi, Rajyalakshmi Garaga
- 12:10 Impact of wall-to-wall Connections on the Stability of Back-to-Back RRR-B Walls under a Dual High-Speed Railway line
Azmach Lole Gebeyehu, Bappaditya Manna
- 12:20 Assessment of Drainage and Filtration Properties of Fly Ash Based Sand
Subhash Namhata, Kummari Sekhar, Hanumantha Rao Bendadi

Session 5. Room C. Geoenvironmental Pollution Control

- 11:00 **Keynote.** From Brownfields to Brightfields: The Benefits of Solar landfills on Closed Sites
Eugeniusz Koda, Magdalena Daria Vaverková
- 11:30 Contaminant Transport in Sand-Bentonite Composite Landfill Liner: Effect of Sand Gradation
Mahender Reddy R., Giridhar Rajesh Bande
- 11:40 Subsurface Permeability Profiling at an MSW Dumpsite: Insights from CPT and HPT
Pranjal Singh, Deepak Kumar Haritwal, Gv Ramana, Manoj Datta
- 11:50 Hydraulic Conductivity of Conventional Sodium Geosynthetic Clay Liners to Synthetic Coal Combustion Product Leachate
Asena İrem Demir Süre, Nilhan Demirci, Ali Hakan Ören
- 12:00 Hydraulic conductivity of P-GCLs with different mass per unit area values against bauxite liquor
Hüseyin Efe Kayrak, Taylan Cem Aytekin, Ali Hakan Ören
- 12:10 A Perspective on Emerging Issues of Microplastic Pollution in Western and Southern Waters of Hong Kong
Shafeeque ur Rehman, Chi Hung Tang
- 12:20 Sugarcane Bagasse Ash and Waste Glass Powder Blended Ternary Concrete for Sustainable Infrastructure
Navaneetha E., Rao P N, Bahurudeen A
- 12:30 Evaluation of the Efficiency of Mixture of Moringa Seed and Banana Peel Powder as a Coagulant in Wastewater Treatment (Batik Effluent as a Case Study)
Adekunle Olorunlowo David, Julius Musyoka Ndambuki, Jacques Snyman, Williams Kehinde Kupolati, Mpho Muloiwa, Samuel Ayomikun Owolabi, Ajibola Toheeb Lakoja

Session 5. Room D. Sustainable and Resilient Practices

- 11:00 The Role of Augmented Reality and Governance in Improving Labour Productivity for Building Inventories: Insights from the Binckhorst Area
Juan Carlos Navares Vázquez, Clara García, Rizal Sebastian, Mario Villalba Ferreira, Danielle Strydom, Simon Duindam, Mark Lommen, Ana Sánchez Rodríguez, Pedro Arias, Jesus Balado
- 11:10 Sustainable and Resilient Steel Structures: A FEM-Based Analysis of Clamp Connections with IPE220 Profile
Fernando Nunes Cavaleiro, Manuel Cabaleiro Núñez, Borja Conde Carnero, Yago Cruz
- 11:20 Advanced non-destructive techniques and digital tools for sustainable structural analysis and management
Yago Cruz, Joel Cruz, J. Carlos Caamaño, Manuel Cabaleiro, Borja Conde, Belen Riveiro
- 11:30 Impacts of Nanoparticles Application on Human Health and Environment: A Critical Review
Krishna Kant, Jayanti Munda, Amit Kumar Nayak, Supriya Mohanty
- 11:40 Influence of Sodium Sulfate Solution on the Behavior of Expansive Soil Treated with Carbide Lime
Narmada N., Thyagaraj T
- 11:50 Preliminary Investigations on the Accurate Prediction of Daily Discharge in the Ravi River: A Case Study
Jagdish Raj, Mahesh Patel
- 12:00 Utilization of Recycled Aggregates in the Development of Sustainable Fibre-Reinforced Concrete Blocks with Cementitious Materials
Omo Yachang, Jackie Brahma



- 12:10 Behaviour of Expansive Soil Stabilised with Charcoal and Flyash for Pavement Subgrade Material
Padmavathi Viswanadham, Rao P N
- 12:20 Integrated Electrochemical Technologies for Wastewater Treatment and Soil Remediation: Tackling Contaminants of Emerging Concern and Pathogens
Nazaré Couto, Paula Guedes, Ana Rita Ferreira, Vanessa G. Correia, Raquel Carvalho, João Brinco, Alexandra Ribeiro, Eduardo Mateus

Session 6. Room A. Environmental Geotechnics for Climate Change

- 14:30 **Invited lecture.** Hexavalent Chromium (Cr(VI)) Immobilization in Cement via Chemically Driven CO₂ Mineralization
Junboun Park, Kian Cho
- 14:50 Data-Driven Surrogate Model-Based Optimization of Leachate Recirculation for Maximum Energy Recovery from Landfills
Jagadeesh Kumar Janga, Krishna R. Reddy
- 15:00 Engineering Properties of Cement-treated Soil with Different Types of Biochar
Yuhei Kurimoto, Yoshiharu Asaka
- 15:10 Gas transport in low permeability clay-based barriers
Laura Gonzalez-Blanco, Enrique Romero
- 15:20 The problem of coastal erosion on the Azores islands (Portugal)
Ana Maria Malheiro, Paulo Amaral, Filipe Marques, Letícia Moniz, André Santos
- 15:30 Electrical Impedance Spectroscopy for Monitoring Non-isothermal Processes During CO₂ Injection
Yogendra Narayanan S, Devendra Narain Singh
- 15:40 Indicator-Based Resilience Assessment of Biogeochemical Cover Systems for Landfill Gas Mitigation
Gaurav Verma, Krishna R. Reddy

Session 6. Room B.

- 14:30 Workshop on Scientific Publishing
Swati Meherishi (Springer Nature)

Poster Session

- Poster 1 (#062) Evaluation of modified culture media obtained from liquid and solid residual fractions of corn steep liquor, after biosurfactant and Gramicidin extraction, for *Lactobacillus pentosus* fermentation
Noelia González Fernández, Ksenia Lvova, Guadalupe Bustos Vázquez, Alejandro López Prieto, Benita Pérez Cid, Xanel Vecino, José Manuel Cruz, Ana Belén Moldes
- Poster 2 (#063) Evaluation of microfiltration and ultrafiltration hollow fiber membranes for suspended solid removal from corn steep water prior to biosurfactant recovery
Gabriel Figueira, Andrea Martínez-Arcos, José Manuel Cruz, Ana Belén Moldes, José Luis Cortina, Mònica Reig, Xanel Vecino
- Poster 3 (#156) The influence of failure pattern on the tensile strength of plant roots from *Salix* sp.
Otim Gerald Innocent, Zhelezova Alena, Sorrentino Gianmario, Rocchi Irene, Trapp Stefan



Poster 4 (#179) Applications of Microbial Cellulose: A Byproduct of the Kombucha Production Industry
Susana Gouveia, Claudio Cameselle

Poster 5 (#203) A comparison of the stripping capabilities of water-biobased solvents microemulsions as paint strippers with commercial solvents
Santiago Urréjola-Madriñán, Angel Sanchez Bermúdez, Ana-María González-Sánchez, Mercedes Pardo-Clavijo, Clara Rodríguez-García

Poster 6 (#317) Biochar as a promoter of the circular economy in environmental remediation
Antón Puga, Ana Rita Alves, Cristina Soares, Cristina Delerue-Matos

Poster 7 (#330) Merging tuneability and toxicity of Ionic Liquids for the removal of hydrophobic aromatic pollutants
Fátima Moscoso Díaz, Marta Markiewicz, Stefan Stolte

Poster 8 (#138) Analysis of Underseepage in the levee of the Danube River
Edina Koch, Richard Ray, Mais Mayassah

Poster 9 (#224) LCA of embankment construction with carbonated co-combustion fly ash
Davor Kvočka, Marija Đurić, Vesna Zalar Serjun, Primož Pavšič, Primož Oprčkal

Poster 10 (#324) Hydro-Soil-Biota-Atmosphere Coupling Modelling: The study of porosity changes effect on stability of agriculture soils
George Appiah-Kubi, Xiaohui Chen, Ana Heitor, Kai Wang

Poster 11 (#236) Geological factors responsible for the variations in radon exhalation rates across a building
Lorena Gonzalez-Gil, Arturo González-Gil, Lara Febrero-Garrido, Jorge Feijoo, Mercedes Solla, Antón Cacabelos-Reyes

Poster 12 (#278) Assessment of Electrokinetic Treatment and Associated Health Risks of Metal-contaminated Sites
Sonam Taneja, Anil Kumar Haritash, Oznur Karaca

Poster 13 (#133) Development of burning- and cement-free eco-efficient bricks using soils, wastes, and cassava wastewater
Francisco Almeida Angelo, Gustavo Ferreira Simoes

Poster 14 (#163) An attempt to develop procedures for characterizing construction and demolition waste for application in gabion retaining structures
Maria Clara Alves Ferreira Ramos, Gustavo Ferreira Simoes

Poster 15 (#153) Evaluating the presence of impurities and microplastics in amendments and digestates from organic wastes
Bess Alicia Newrick, Adriana Laca, Amanda Laca, José Manuel González La Fuente, Laura Megido

Poster 16 (#170) Production of enzymatic cocktails by solid-state fermentation of marine discards
Martín Cid Fernández, Aida Ochogavias, Alicia Paz, Manuel Domínguez

Poster 17 (#171) Evaluation of protein production by solid state fermentation of marine discards using *Rhizopus oligosporus* CECT 20169
Aida Ochogavias, Martín Cid Fernández, Alicia Paz, Manuel Domínguez



- Poster 18 (#173) Assessment of the potential reuse of tailings from past tungsten mining
Joana Ribeiro, Filipa Almeida, Beatriz Silva
- Poster 19 (#178) AutoML risk analysis for potential mineral enrichment areas
Abraham Novas Verde, María Pazo, Margarida Antunes, Eduardo Giraldez, María Araújo
- Poster 20 (#210) Applying green solvent extraction to obtain high-valued protein from adult insects (beetles)
Francisco Manuel Soto Beltrán, Helena Fernandes, Nuno Muñoz-Seijas, Borja Fernandez, Jose Manuel Salgado, Manuel Domínguez
- Poster 21 (#212) Use of insect frass to obtain high valued enzymes via solid-state fermentation
Borja Fernández, Helena Fernandes, Nuno Muñoz-Seijas, Francisco Manuel Soto Beltrán, José Manuel Salgado, Manuel Domínguez
- Poster 22 (#220) Foundry waste based geotechnical composite
Marija Đurić, Alenka Sešek Pavlin, Primož Pavšič, Davor Kvočka
- Poster 23 (#226) Management and impact of the disposal of used cooking oil on the sands of Copacabana beach, Rio de Janeiro, Brazil
Rodrigo Leal, Glaucio Honório, Ana Ghislane van Elk, Gabriel Mendes, Ana Clara da Silva Coelho
- Poster 24 (#233) Assessment of biosurfactant extracts obtained from Brewer's spent grain for oil dispersion applications
N. Russo-Martínez, Ana B. Moldes, Xanel Vecino, Jose M. Cruz
- Poster 25 (#235) Utilizing Coconut Waste in Construction: A sustainable Approach for a Circular Economy
Maíta Rosa, Romildo Toledo Filho, Ana Ghislane van Elk
- Poster 26 (#269) Stabilization of Municipal Solid Waste Reject Using Cement and GGBS
Shivam Verma, Prashant Kumar, Bala Ramudu Paramkusam, Ankit Gupta
- Poster 27 (#318) Inclined plane shear testing of interfaces between a recycled aggregate from construction and demolition waste and nonwoven geotextiles
José Ricardo Carneiro, Maria de Lurdes Lopes
- Poster 28 (#319) The use of incinerator bottom ash in road construction: an overview
José Ricardo Carneiro, Maria de Lurdes Lopes
- Poster 29 (#335) Electrical and mechanical properties of cementitious materials obtained from foundry slags and short carbon fiber.
Nuria Pereira Pinto, David Álvarez González, Aránzazu Pintos, Javier García-Rey, Belén Díaz, X. Ramón Nóvoa
- Poster 30 (#340) Succinic acid solutions to get pectin from orange inner peel: optimisation of extraction conditions
Bochra Benabed, Eva Rodil, Héctor Rodríguez
- Poster 31 (#073) Direct tension test of sand stabilized with ground granulated blast-furnace slag
Tsutomu Namikawa, Kousuke Nakajima
- Poster 32 (#129) Use of copolymers and cement for stabilization of loess soils
Atanas Zlatarov, Andrey Totsev, Grisha Ivanov

Poster 33 (#250) Prospects of decommissioned wind turbine blades as a structural stabilizing element of excavations and slopes - preliminary studies.

Michal Jurek, Lidia Buda-Ozóg

Poster 34 (#275) Fabrication and testing of resilient geocells

Aarya Krishna, Madhavi Latha Gali

Poster 35 (#348) Synergistic Effect of Cement-Fly Ash Stabilization and Fibre Reinforcement on Soil Strength

Omo Yachang, Ajanta Kalita, Taku Muni

Poster 36 (#207) Removal of two azo dyes with different ionic natures by adsorption onto a hydrotalcite-type layered double hydroxide

Santiago Urréjola-Madriñán, Lorena Gonzalez-Gil, Pedro Hidalgo, Rosa Devesa-Rey

Poster 37 (#251) Variations in Mechanical Strength of Enzymatically Induced Calcite

Preity Yadav, Dr. Amit Prasad, Dr. Uday Kala

Poster 38 (#293) Durability study of mortar samples prepared with foundry slags

Nuria Pereira Pinto, David Álvarez, Aránzazu Pintos, Belén Díaz, X. Ramón Nóvoa

Poster 39 (#041) Effects of alternative electrolytes on the removal of hexavalent chromium from paint sludge by electrokinetic remediation

Aicha Metali, Mounir Ziati, Claudio Cameselle, Susana Gouveia

Poster 40 (#187) Effect of Molding Water Content and Curing Time on the Hydromechanical Behavior of Soils Stabilized with Ground-granulated Blast-furnace Slag

Shabana Salih K, Dr Vandana Sreedharan