ICBMM 2025

2025 The 9th International Conference on Building Materials and Materials Engineering

ICSCE 2025

2025 International Conference on Structural and Civil Engineering

Naples, Italy / October 16-18, 2025

Co-organized by

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Dear Respected Scholars,

With great enthusiasm, we sincerely welcome you to the joint 2025 9th International Conference on Building Materials and Materials Engineering (ICBMM 2025) and International Conference on Structural and Civil Engineering (ICSCE 2025), held in Naples, Italy, October 16-18, 2025.

Naples, where ancient history meets modern vitality, is ideal for this event. As a cultural and academic hub, it offers a great space for knowledge sharing and a chance to experience Italian heritage, cuisine and art.

The past decades have witnessed remarkable advancements in the engineering and materials sectors, driving progress in sustainable construction, resilient infrastructure, and cutting-edge material applications. Against this backdrop, ICBMM 2025 and ICSCE 2025 have been carefully curated to bring together leading researchers, industry experts, scholars, and practitioners from across the globe. Our goal is to create a dynamic platform for dialogue, collaboration, and the dissemination of groundbreaking research.

Over three days, you can join keynote lectures, technical sessions (oral/poster presentations) and networking events. Whether a professional, young researcher or student, the conference will bring valuable insights and career inspiration.

Once again, welcome to Naples, and welcome to ICBMM 2025 and ICSCE 2025. We look forward to a stimulating and memorable conference, and to the valuable contributions that each of you will make to the advancement of our fields.

Best Regards,
Paulo Mendonça, University of Minho, Portugal
Diogo Ribeiro, Polytechnic of Porto, Portugal
Domenico Caputo, University of Naples Federico II, Italy
ICBMM & ICSCE Conference Committee Group

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Venue

University of Naples Federico II

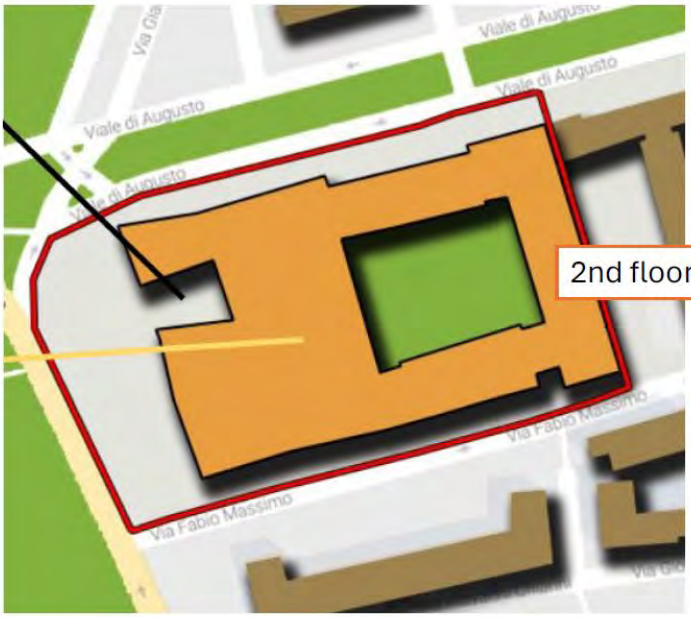
Address: **Piazzale Vincenzo Tecchio 80, 80125 Napoli (Italy)**

Room: **Aula Bobbio (First floor) & Aula E (Second floor)**

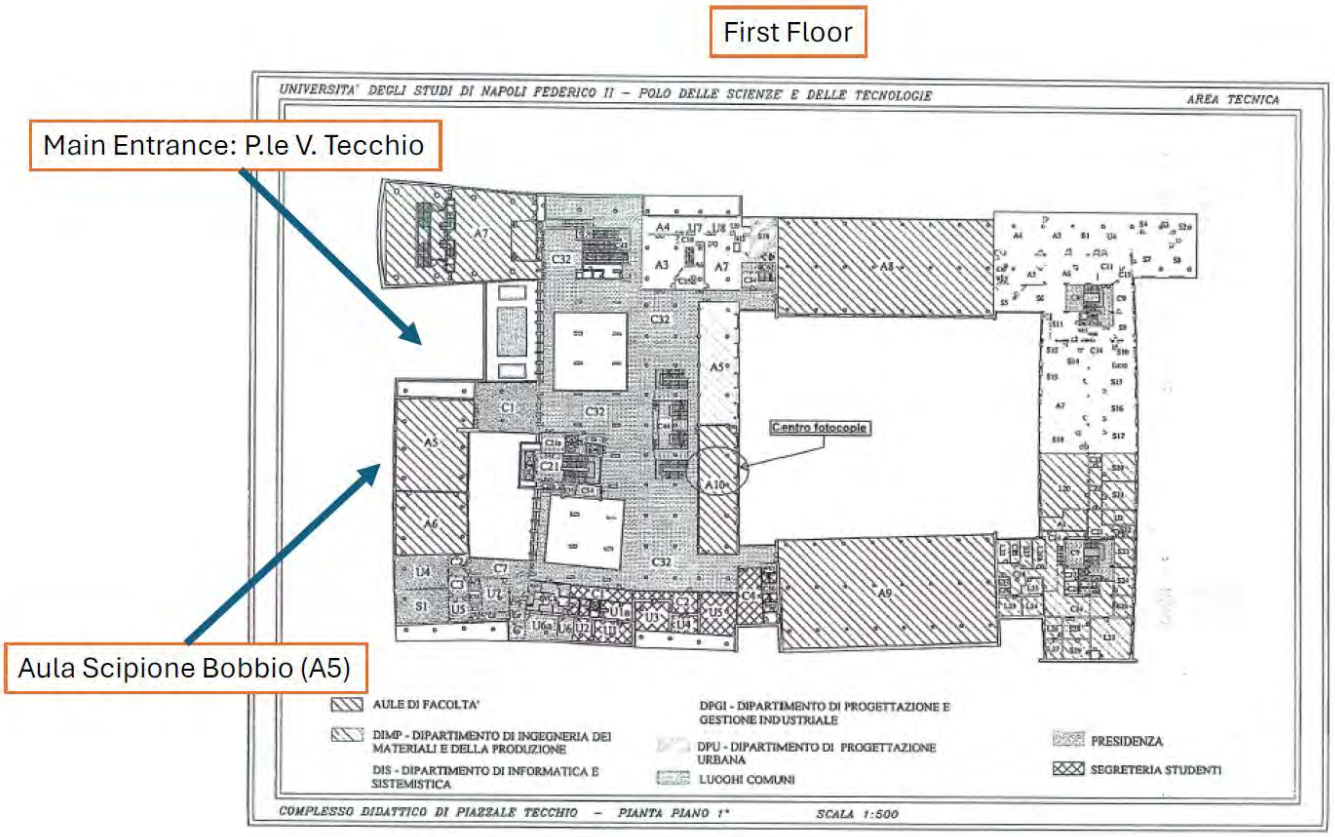
Note: When navigating to university, please use the specific address, not the university name, otherwise there will be a distance difference.

(https://maps.app.goo.gl/HnjNq5Bm3Ck7tkMC6)

Main Entrance: P.le V. Tecchio



First Floor



Time & Weather

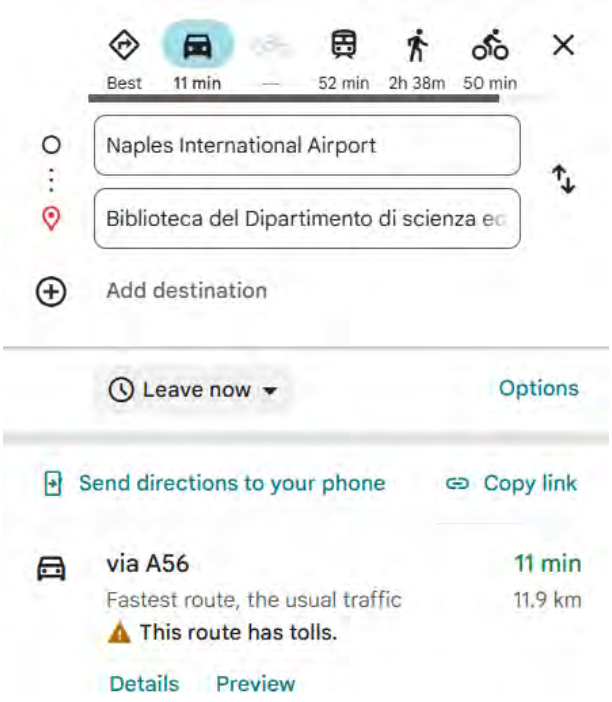
UTC+2

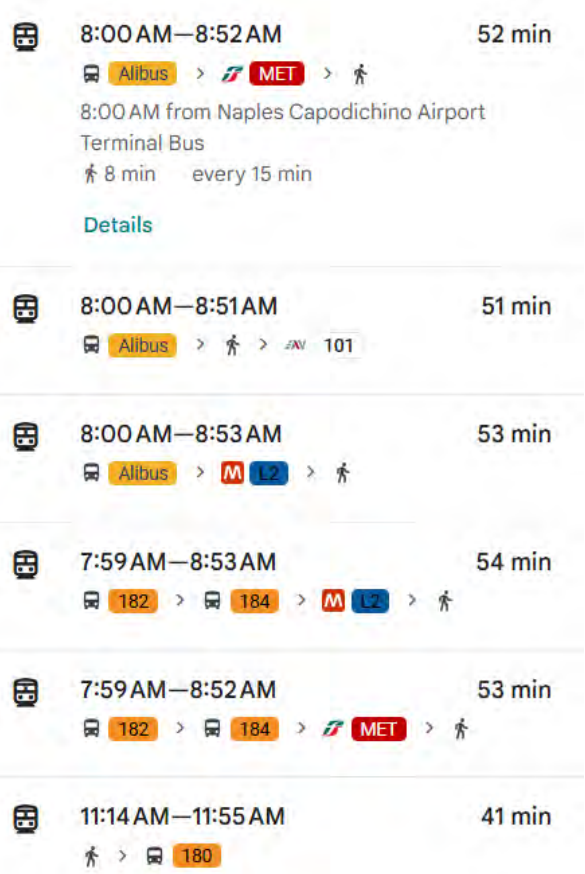
Average lowest temperature: 15℃

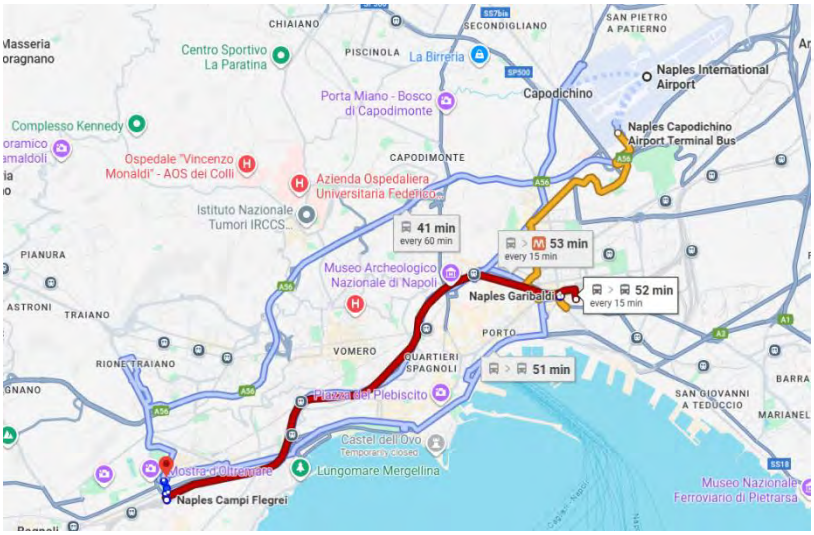
Average highest temperature: 23℃

Venue

Notes for getting to Piazzale Tecchio, 80 – 80125 Naples from Naples International Airport:







By Taxi: It will take about 11 min. (11.9 km)

By Public Transportation: It will take about 50 min.

Warm Tips

Please take care of your valuables during the entire conference. The conference organizer does not assume any responsibility for your personal losses.

For personal and property safety of delegates, please wear the conference Representative Card when enter and exit the venue. And wear it near the conference venue. Do not lend your card to someone unrelated to the conference. Do not bring unrelated people into the venue.

Please do not discard the delegates' card casually people into the venue.

Onsite Guideline

01 Time Zone

Italy Time (UTC+2)

02 Onsite Sign Up

✧ Place: University of Naples Federico II

✧Time: 10:00-17:00

✧Room: Aula Bobbio

✧ Step: Inform Your Paper ID → Sign Your Name on the Participants List → Get Your Conference Materials

03 Onsite Oral Presentations

✧ Please copy your presentation files (PowerPoint or PDF Files) to onsite conference laptop before your session starts.

✧ Each presenter has 15 minutes including Q&A. 13 minutes for presentation, 2 minutes for Q&A.

✧ Speaker speech: about 35minutes for presentation and 5 minutes for Q&A.

✧ One best oral presentation will be selected from each session. Winners will be announced at the end of each session, certificate will be given at the end of each session by session chair.

✧ Please make sure your presentation is well timed.

✧ Please arrive at the meeting room 10 minutes in advance.

04 Instructions for Onsite Poster Presentations

✧ Presenters should provide following materials: Home-made Posters.

✧ Maximum poster size is A1.

✧ Load Capacity: Holds up to 0.5 kg.

Online Guideline

01 **Note:** The whole conference is arranged based on Italy Time (UTC+2). Please double check your Test time and Presentation time, and adjust times to your device's time zone.

02 **Facility Introduction – Zoom**

The instructions about Zoom, please visit:

https://support.zoom.us/hc/en-us/articles/201362033-Getting-Started-on-Windows-and-Mac

03 **Join the Meeting Room**

9:00-10:00 October 16, 2025 | Thursday Equipment Test

Meeting Room ID: 89040011228

Meeting Link: https://us02web.zoom.us/j/89040011228

8:35-12:50 October 18, 2025 | Saturday Online Session

Meeting Room ID: 89040011228 (Online Session 1&3)

Meeting Link: https://us02web.zoom.us/j/89040011228

Meeting Room ID: 88151053347 (Online Session 2)

Meeting Link: https://us02web.zoom.us/j/88151053347

04 **How to Access the Zoom Meeting**

✧ Open Zoom app and create account firstly, then log in with your account.

✧ Choose "JOIN A MEETING", and copy the Meeting ID directly and then click "JOIN" button.

✧ Rename your name with this format (Paper ID + Name) when entering the Zoom meeting room.

05 Environment Requirement

✧ Quiet Location

✧ Stable Internet Connection.

✧ Proper Lighting

06 Equipment Needed

✧ Computer with an internet connection (wired connection recommended)

✧ USB plug-in headset with a microphone (recommended for optimal audio quality)

✧ Webcam: built-in or USB plug-in

Conference Agenda

October 16, 2025 | Thursday

University of Naples Federico II

★**Participants Registration & Conference Kits Collection**

Time: 10:00-17:00

Room: Aula Bobbio

★**Online Equipment Test**

Time: 9:00-10:00

Meeting Room ID: 89040011228

Meeting Link: https://us02web.zoom.us/j/89040011228

October 17, 2025 | Friday

University of Naples Federico II

09:40-09:55	Opening Remarks	Aula Bobbio
09:55-12:20	Keynote Speeches	Aula Bobbio
12:20-14:00	Lunch Break	
14:00-18:45	Parallel Sessions & Poster Session	Aula Bobbio & Aula E & Lobby
19:30	Dinner Banquet	

October 18, 2025 | Saturday

8:35-12:50 Online Session

Meeting Room ID: 89040011228 (Online Session 1&3)

Meeting Link: https://us02web.zoom.us/j/89040011228

Meeting Room ID: 88151053347 (Online Session 2)

Meeting Link: https://us02web.zoom.us/j/88151053347

10:00 Technical Visit

Conference Agenda

Oct. 17, 2025

9:40-9:45
Domenico Caputo
University of Naples Federico II, Italy

9:45-9:50
Paulo Mendonça
University of Minho, Portugal

9:50-9:55
Diogo Ribeiro
Polytechnic Institute of Porto, Portugal

9:55-10:35
Nuno Dinis Cortiços
University of Lisbon, Portugal

10:35-11:00
Group Photo & Coffee Break

11:00-11:40
Marta Calzolari
University of Ferrara, Italy

Conference Agenda

Oct. 17, 2025

12:20-14:00
Lunch Time

16:15-16:45
Coffee Break

19:30
Dinner

11:40-12:20
Claudio Ferone
University of Naples "Parthenope", Italy

14:00-16:15
Session 1 & 2 & Poster Session

16:45-18:45
Session 3 & 4

Presentation Overview

Session	Paper ID
Session 1	BM25-504 BM25-538 BM25-123 BM25-102 BM25-150 BM25-245-A BM25-503 BM25-327-A BM25-406-A
Session 2	BM25-509-A SC25-410 BM25-510-A SC25-434 SC25-537-A SC25-306 SC25-141-A BM25-156-A SC25-211
Session 3	BM25-432 BM25-716 SC25-320 BM25-253-A BM25-314 SC25-212 SC25-328 BM25-157-A
Session 4	SC25-330 SC25-517-A SC25-536-A SC25-126 SC25-118-A SC25-433-A BM25-539-A SC25-535-A
Poster	SC25-421-A SC25-119-A BM25-524-A SC25-422-A SC25-423-A BM25-158-A
Online Session 1	BM25-537-A BM25-540 BM25-529 BM25-541 BM25-152 BM25-530 BM25-544 BM25-155
Online Session 2	BM25-320 SC25-1504 BM25-433 BM25-346 BM25-231 SC25-327 BM25-434 SC25-1505
Online Session 3	BM25-415-A BM25-436 BM25-321-A BM25-543 BM25-322-A SC25-331 BM25-125 BM25-435

Local Chair Introduction

Domenico Caputo

University of Naples Federico II, Italy

Time: 9:40-9:45 **Room: Aula Bobbio**

Bio

Domenico Caputo holds a degree in Chemical Engineering from the University of Naples Federico II in 1993, and a PhD in Materials Engineering from the University of Roma La Sapienza in 1998. Since 2018, he is Full Professor of Materials Science and Technology at the Department of Chemical, Materials and Industrial Production Engineering of the University of Naples Federico II, In 2024, he was appointed Head of the Interdepartmental Research Center for the Study of Traditional Techniques in the Mediterranean Area (CITTAM) at the same university.

He currently serves as a council member of the International Zeolite Association (IZA, since 2022), a member of the IZA Commission on Natural Zeolites (since 2019), a board member of the National Interuniversity Consortium of Materials Science and Technology (INSTM), representing the University of Naples Federico II (since 2020), and a corresponding member of the Academy of Physical and Mathematical Sciences of the National Society of Sciences, Letters and Arts in Naples (in the Natural Sciences Class, since 2022).

He previously held the position of President of the Italian Zeolite Association (2020–2023).

His research focuses on microporous and mesoporous materials, with over 280 products including articles in journals, chapters of volumes, conference contributions and 3 patents. His work mainly addresses the synthesis and characterization of nanostructured systems for energy and environmental applications, including gas separation and storage, wastewater treatment, and the stabilization of hazardous sludges.

Conference Chair Introduction

Paulo Mendonça

University of Minho, Portugal

Time: 9:45-9:50 **Room: Aula Bobbio**

Bio

Paulo Mendonça was born in Porto in 10th June. PhD in Civil Engineering by the University of Minho, with the thesis: “Living under a second skin”, acclaimed by unanimity (2005). As a PhD fellowship of FCT (Portuguese Foundation for Science and Technology) he got the “Advanced Studies Diploma” in Barcelona on the Technical Superior School of Architecture (ETSAB). He is Associate Professor in the Architecture School of the University of Minho, Portugal (EAUM). President of EAUM (2011-2012) and Vice-President (2010-2011). Architectural Graduate and Integrated Master Studies Director (2005-2009). He is an author of more than one hundred publications. The main research subjects includes lightweight and mixed weight buildings, low cost housing, local and global economic asymmetries, low-tech strategies, energy costs and sustainable development, new materials and technologies, recycling and reusing potentialities.

Conference Chair Introduction

Diogo Ribeiro

Polytechnic Institute of Porto, Portugal

Time: 9:50-9:55 **Room: Aula Bobbio**

Bio

Diogo Ribeiro is at Polytechnic of Porto - School of Engineering (ISEP-IPP) and holds a Bachelor in Civil Engineering (2002), a Master in Structural Engineering (2005) and a PhD in Civil Engineering (2012), all from the University of Porto. Director of the Bachelor course in Civil Engineering of ISEP (since 2014) and Director of the Postgraduate Programs in Digital Construction (since 2024), BIM Coordination (since 2019) and Prefabrication in Concrete (since 2020). Diretor of iBuilt - Center of Innovation in Digital Construction of ISEP-IPP. Regular invited teacher on Civil Engineering master and postgraduate courses on University of São Paulo (Brazil) and Federal University of Ouro Preto (Brazil). Specialist in Metrology by the Portuguese Order of Chartered Engineers (2018) and Integrated Member of the Institute of R&D in Structures and Construction (CONSTRUCT). His main research interests are related to remote inspection, computer vision, artificial intelligence, automatic calculation of structures, Building Information Modeling (BIM), digital construction, digital railways, railway infrastructures, structural testing and experimentation, model updating and validation, and damage identification. Diogo Ribeiro was coordinator or researcher in more than 25 R&D projects funded by the industry, FCT, CNPq and EU programs in the field of railway infrastructures and digital construction. He is main Editor of the Springer Book Series "Digital Innovations in Architecture, Engineering and Construction". Visiting researcher at Bauhaus Universität Weimar (Germany) and University California San Diego (UCSD). He was awarded with a Fulbright Grant for doctoral researchers/teachers by Fundação Luso-Americana and FCT (2016) and 11th edition of Ferry Borges prize (2022).

Speaker Introduction

Nuno Dinis Cortiços

University of Lisbon, Portugal

Time: 9:55-10:35 **Room: Aula Bobbio**

Climate Resilience and Adaptive Strategies for Flood Mitigation: The Valencia Paradigm

Bio

Nuno Dinis Cortiços is Professor and Chair on Building's Energy Certification at the Department of Technologies in Architecture, Urbanism and Design at Faculdade de Arquitectura, Universidade de Lisboa; Ph.D in Building Science and active member in Research Centre for Architecture, Urbanism and Design (CIAUD) associated to Fundação para a Ciência e Tecnologia (FCT). As Researcher focuses on building's renovation, autonomous maintenance systems, sensor and nano-technology applied to maintenance, building's performance and renovation's simulations on buildings stock, and maintenance accuracy applied to Unesco heritage; presenting and publishing the outcomes, mainly, at Scopus Conferences and Elsevier Journals. Board technical member at "Building and Environmental"; Architectural Research Centers Consortium, Inc (ARCC); and, European Association for Architectural Education (EAAE). Other accomplishments, Vice-President of the Faculty's Board, responsible for Financial Management and Maintenance; Building Supervisor on quality and warranty; and Team Leader on architecture designs; and, Judicial Technical Consultant on construction quality.

Abstract

The Valencia region exemplifies the intricate interplay of climate, urbanization, and human interventions in managing hydrological systems amidst increasing environmental challenges. This study explores the escalating risks posed by flood events, emphasizing how anthropogenic factors-such as urban expansion, sediment exploitation, and inadequate land use—amplify the vulnerabilities to extreme weather patterns driven by abnormal Greenhouse Gas (GHG) concentration. Nature-based solutions (NBS) like floodplain restoration and dam removal are analyzed for their benefits in enhancing ecosystem resilience and biodiversity but are critiqued for unintended consequences, including accelerated river flow and sedimentation issues. This study further examines the impacts of forest fires, exacerbated by land abandonment and insufficient management practices, on soil erosion and runoff. A critical evaluation of global policies like the Sustainable Development Goals (SDGs) reveals the tension between aspirational targets and practical, locally-driven implementations. By advocating historical insights, ecological restoration practices, and community engagement, the findings highlight the importance of adaptive strategies to harmonize global frameworks with local realities through modeling and scaling simulations, offering a replicable model for sustainable flood mitigation and resilience building in Mediterranean contexts and beyond.

Speaker Introduction

Marta Calzolari

University of Ferrara, Italy

Time: 11:00-11:40 **Room: Aula Bobbio**

Light As a Material for Enhancing Historic Buildings. Design Research and Experiments for Defining Principles of Architectural Lighting

Bio

Marta Calzolari is Associate Professor at the Department of Architecture of the University of Ferrara. From 2021 to 2025 she was Assistant Professor at the Department of Architecture of the University of Ferrara. From 2019 to 2021 she was Assistant Professor at the Department of Engineering and Architecture of the University of Parma. Since 2009 at the Department of Architecture of the University of Ferrara she is a member of the Architettura>Energia Research Centre, a research hub working on building sustainability where she participates at the research's activities and at the coordination.

In recent years she has worked on several research projects in the field of both new construction and energy, environmental and functional requalification of the existing building heritage, with particular attention to the historic ones. Since 2020, member of the Academic Board for the PhD Programme in Environmental Sustainability and Wellbeing at UNIFE.

In April 2013 she received the title of PhD in Architectural Technology (final grade: excellent) with a thesis titled: “Evaluation of the energy behaviour of historic architecture. Analysis of the methods for calculating the energy status and corrective proposals”. During the PhD she was visiting scholar at the University of Nottingham, Department of the Built Environment (England). The doctoral thesis has also received three first prizes in scientific competitions. From 2015 to 2019 she worked as research fellow at the Department of Architecture of the University of Ferrara for the operational coordination of a research project for the energy-environmental analysis of the entire architectural heritage of the University of Ferrara.

From A.Y. 2013/2014 she teaches Architectural Technology in several university courses and various postgraduate training courses. Since 2015 she is member of SITdA - Italian Society of Architectural Technology, with activities within the "Nearly Zero Energy Building - nZEB" thematic cluster.

She is reviewer for several International Journals and conferences and she is member of the Scientific and Editorial Board of some scientific journals. She is author and co-author of over 80 scientific products, published in national and international journals/volumes of the field.

Abstract

The speech will present an innovative approach to nighttime lighting design to be applied in historic architectural contexts, offering an alternative to the frequent practice that tends to distort the proper reading of building structures. Lighting, as a "constructive material" and an integral part of the architectural design process, has the role of giving the city a ‘nocturnal identity’. Through experimental and design research, a potential lighting model for historic centers has been formulated.

Speaker Introduction

Claudio Ferone

University of Naples "Parthenope", Italy

Time: 11:40-12:20 **Room: Aula Bobbio**

Geopolymers and Alkali-Activated Systems for Sustainable Building Materials: Properties and Perspectives

Bio

Claudio Ferone received the master's (cum laude) degree in Chemical Engineering from the University of Naples Federico II, Italy, in 1995 and the Ph.D degree from the University of Naples Federico II, Italy, in 1998. He is currently associate professor in Chemical Foundations of Technology at the Engineering Department of the University of Naples "Parthenope".

The scientific work of Dr. Ferone resulted in 116 indexed publications on international journals and conference proceedings, with a H index of 38, and coauthored patents. The scientific research has focused mainly on the study of natural and artificial inorganic materials for applications in various areas, such as materials for civil engineering and advanced ceramics. Currently, he is concerned with the treatment and valorization of natural and industrial wastes through innovative, low environmental impact, processes. Dr. Ferone is a member of the Ph.D. Teaching Council in Energy Science and Engineering. He is chief editor of the specialty section Alternative Materials of the journal Frontiers in Sustainability and is member of the editorial board of the journals Materials and Environments, edited by MDPI, and Discover Applied Sciences by Springer Nature.

Abstract

The construction industry is at a critical crossroads, facing an urgent need to reduce its environmental impact while maintaining high performance standards. Geopolymers and alkali-activated materials (AAM) offer an interesting path toward more sustainable building practices, combining technical excellence with ecological responsibility. This presentation will explore the fundamental principles behind these innovative binders, highlighting their chemical mechanisms, mechanical properties, and long-term durability. Beyond the laboratory, we will examine their real-world potential to replace traditional cementitious systems, reduce CO_2 emissions, and valorize industrial by-products. By linking scientific knowledge to global sustainability goals, this presentation aims to inspire wider adoption of these materials and promote collaboration between research, industry, and policy.

Session 1

Topic: Sustainable and Eco-Friendly Building Materials

Session Chair: Assist. Prof. Martin Vyšvařil, Brno University of Technology, Czechia

Italy Time: 14:00-16:15, Oct. 17, 2025 Room: Aula Bobbio

14:00-14:15	Optimization of Thermal Insulation and Air Permeability of Recycled Polyamide-based Fibrous Building Panels through Full Factorial Experimental Design
BM25-504	Authors: Ipek Yalcin Enis and Hande Sezgin Reporter: Ipek Yalcin Enis Istanbul Technical University, Türkiye
14:15-14:30	A Review of Mycelium-Based Composites as a High Fire-Rated Construction Material
BM25-538	Authors: Alexander Akintunde, Fin O'flaherty and Olalekan Ojedokun Reporter: Alexander Akintunde Sheffield Hallam University, United Kingdom
14:30-14:45	Comparative Analysis of the Embodied Carbon and Economic Cost of Different Building Solutions in an Old Building Refurbishment
BM25-123	Authors: B. A. Pinheiro and P. J. Mendonça Reporter: B. A. Pinheiro University of Minho School of Architecture, Portugal
14:45-15:00	A Global Perspective on The Use of Mine Tailings in Concrete: Developments and Trends Through Bibliometric Analysis
BM25-102	Authors: Alaa Ahmad Maali, Eltayeb Mohamedelhassan and Ahmed Bediwy Reporter: Ahmed Bediwy United Arab Emirates University, UAE
15:00-15:15	Life Cycle Assessment of Aluminium Alloys for Sustainable Building Materials and Components
BM25-150	Authors: Augusto Mastropasqua, Enrico Sergio Mazzucchelli, Paolo Rigone and Sayna Hosseinzadeh Zabihi Reporter: Sayna Hosseinzadeh Zabihi MZA Research - Numerical Consulting Ltd, Italy

15:15-15:30	Utilizing of Recycled Glass Fibre Derived From Pyrolysis of Wind Turbine Blade Waste in Enhancing Strength and Sustainability of Cement Mortar Composites
BM25-245-A	Authors: Samy Yousef Reporter: Samy Yousef Kaunas University of Technology, Lithuania
15:30-15:45	Thermal Behavior Analysis of Three Brick Types Used in Algerian Construction
BM25-406-A	Authors: Nabila Ihaddadene, Razika Ihaddadene, Omar Cherif and Mohamed Chouidira Reporter: Nabila Ihaddadene University of M'sila, Algeria
15:45-16:00	Effect of Waste Type and Bio-Resin Addition on Flexural Strength of Constructional Composites: A Full Factorial Experimental Design Study
BM25-503	Authors: Hande Sezgin and İpek Yalcin Enis Reporter: Hande Sezgin Istanbul Technical University, Türkiye
16:00-16:15	Characterization of Lignocellulosic Bio-Materials for Eco-Efficient Building Composites: Case of Alfa, Date Palm Bark, and Eucalyptus Bark
BM25-327-A	Authors: Amani Benhorma, Ahmed Bensenouci, Mohamed Teggar and Yassine Cherif Reporter: Amani Benhorma University of Laghouat, Algeria

Session 2

Topic: Sustainable Urban Development and Digital Construction Strategies Session Chair: Assoc. Prof. Hideaki Katogi, Jissen Women's University, Japan Italy Time: 14:00-16:15, Oct. 17, 2025 Room: Aula E	
14:00-14:15	Research on Planning and Design Methods for Acoustic Environment Optimization and Soundscape Creation in High-Density Mega-Cities
BM25-509-A	Authors: Xiaojun Li Reporter: Xiaojun Li Urban Planning & Design Institute of Shenzhen, China
14:15-14:30	Basic Information Delivery Manual and Information Delivery Specification for Facility Services Handover
SC25-410	Authors: Sharina Alves and Sebastian Hollermann Reporter: Sharina Alves Jade University of Applied Sciences, Germany
14:30-14:45	Strategies for Ecology & Low-carbon Construc-tion in TOD Area of Large Transportation Hubs —The Case of Shenzhen Xili HSR New City
BM25-510-A	Authors: Lu Yu Reporter: Lu Yu Urban Planning & Design Institute of Shenzhen, China
14:45-15:00	Local Government Views on the Idea of Sustainability towards Urban Planning and Development: The case of Khon Kaen, Thailand
SC25-434	Authors: Kittiwoot Chaloeytoy, Saowanee Wijitkosum, Vacharaporn Soonsin and Kallaya Suntornvongsagul Reporter: Kittiwoot Chaloeytoy Chulalongkorn University, Thailand

15:00-15:15	Digital Workflow Transformation in Modular Construction through Process Optimization
SC25-537-A	Authors: Thaís R. L. Soares, José Luís Duarte Granja and Miguel Azenha Reporter: Thaís R. L. Soares University of Minho, Portugal
15:15-15:30	Impact of Drying and Wetting Cycles (D-W) on the Behavior of Sebkha Soils in the Presence of Salt Water and Distilled Water
SC25-306	Authors: Khliefa Abbeche and Ilyas Hafhouf Reporter: Khelifa Abbeche University of Mostepha Ben Boulaid, Algeria
15:30-15:45	Integrating Sustainable Building Techniques with Smart Urban Architecture: Towards More Resilient and Eco-Efficient Cities
SC25-141-A	Authors: Nadia Salahaldeen Azeez Reporter: Nadia Salahaldeen Azeez Kirkuk Health Directorate, Iraq
15:45-16:00	Valorisation of Construction and Demolition Waste through Alkali- Activation for Sustainable Building Applications
BM25-156-A	Authors: Rosa De Michele, Barbara Liguori, Domenico Caputo, Giuseppe Cesare Lama and Letizia Verdolotti Reporter: Rosa De Michele University of Naples Federico II, Italy
16:00-16:15	Engineering Potential of Self-Healing Bioconcrete Incorporating Bacillus Subtilis for Crack Repair
SC25-211	Authors: Esther Joni Vargas Chang and Daniel Antonio Carrión Elías Reporter: Esther Joni Vargas Chang Ricardo Palma University, Perú

Session 3

Topic: Design and Performance Characterization of Advanced Composites and Geopolymers Session Chair: Prof. Nabila Ihaddadene, University of M'sila, Algeria Italy Time: 16:45-18:45, Oct. 17, 2025 Room: Aula Bobbio	
16:45-17:00	Ionic Conductivity and Structural Studies of Poly(Methyl Methacrylate)-Grafted Natural Rubber-Graphene Oxide Integrated with Ammonium Triflate based Polymer Electrolytes
BM25-432	Authors: Khuzaimah Nazir, Khairur Iman Khairur Rijal, Mimi Nur Aineen Azhari, Arina Dayana Hamede, Nurul Safiya Natasha Mohamad Sabri, Hamidah Shabri, Nabilah Akemal Muhd Zailani, Sharifah Nafisah Syed Ismail and Siti Zafirah Zainal Abidin Reporter: Khuzaimah Nazir Universiti Teknologi MARA, Malaysia
17:00-17:15	Effect of Lightweight Fillers on the Rheological Properties of Lime Grouts
BM25-716	Authors: Martin Vyšvařil, Stanislav Paseka and František Pticen Reporter: Martin Vyšvařil Brno University of Technology, Czechia
17:15-17:30	Effect of Beam Length on Bond-Dependent Coefficient (kb) Value for GFRP Reinforced Beams
SC25-320	Authors: M. Talha Junaid, Nadia Nassif, Salah Altoubat, Mohamed Maalej and Raghad Awad Reporter: M Talha Junaid University of Sharjah, United Arab Emirates
17:30-17:45	Can Mineral Sequestration and Geopolymerization under Different GGBFS/FA Ratios Help Use BOFS as Aggregates in Geopolymer Mixtures?
BM25-253-A	Authors: Chang-Seon Shon, Aizhan Tukaziban and Dichuan Zhang Reporter: Chang-Seon Shon Nazarbayev University, Kazakhstan

17:45-18:00	Effect of Repair Processing on Energy Absorption of Pre-Crack-Initiated Leather
BM25-314	Authors: Hideaki Katogi Reporter: Hideaki Katogi Jissen Women's University, Japan
18:00-18:15	Mechanical and Thermal Behavior of a Polypropylene Geogrid Exposed to Installation Damage and Chemical Aggression
SC25-212	Authors: Linda Naga, Mohamed Chikhaoui and Lynda Djerbal Reporter: Mohamed Chikhaoui University of Science and Technology Houari Boumediene (USTHB), Algeria
18:15-18:30	Advancements in Sustainable Materials and Structures: A Focus on Fiber-Reinforced Polymers and Concrete
SC25-328	Authors: Andreea Grecu Ciupala, Marian-Valentin Popescu and Mirela Mădălina Stoian Reporter: Andreea Grecu Ciupala Technical University of Civil Engineering Bucharest, Romania
18:30-18:45	Design for Additive Manufacturing of Innovative and Sustainable Products with Optimized Properties: Starting from Aerospace to Building Materials
BM25-157-A	Authors: Vito Gallicchio, Antonio Gloria and Domenico Caputo Reporter: Vito Gallicchio University of Naples Federico II, Italy

Session 4

Topic: Geotechnical and Structural Engineering: Seismic Performance and Durability Session Chair: Italy Time: 16:45-18:45, Oct. 17, 2025 Room: Aula E	
16:45-17:00	Centrifugal Shaking Table Test and Numerical Analysis of Soil and Structure Interaction System Reproducing Shear Failure of RC Piles
SC25-330	Authors: Shunsuke Ishibashi and Kazuhiro Hayashi Reporter: Shunsuke Ishibashi Chiba University, Japan
17:00-17:15	Improvement of the Flexural Behaviour of Reinforced Concrete Beam using Bars Stiffened by Welded Metal Washers: Numerical Analysis
SC25-517-A	Authors: Youcef Bouamra, Kamal Ait Tahar, Hadjer Saadi and Hicham Ait Tahar Reporter: Youcef Bouamra University of Bouira, Algeria
17:15-17:30	Seismic Fragility Curves of a RC Bridge Considering the Soil-foundation Interaction
SC25-536-A	Authors: Abderrahmane Kibboua, Fouad Kehila and Mustapha Remki Reporter: Abderrahmane Kibboua National Earthquake Engineering Research Center CGS, Algeria
17:30-17:45	Evaluation for Ultimate Horizontal Load Capacity and Subsurface Hinge Depth in Sand-RC Pile Foundation Systems
SC25-126	Authors: Hiroshi Yajima and Kazuhiro Hayashi Reporter: Hiroshi Yajima Chiba University, Japan

17:45-18:00	Fiber-Reinforced Polymer As External Reinforcement For Concrete Beams: An Experimental Study
SC25-118-A	Authors: Abdelhak Aouadi and Fakhreddine Djeddi Reporter: Abdelhak Aouadi Akli Mohand Oulhadj University, Algeria
18:00-18:15	Optimal Earthquake Intensity Measure of a Typical Algerian Highway Bridge
SC25-433-A	Authors: Fouad Kehila, Mebarek Khelfi, Mustapha Remki and Abderrahmane Kibboua Reporter: Fouad Kehila National Earthquake Engineering Research Center CGS, Algeria
18:15-18:30	Assessment of the Structural Behavior of Corroded Reinforced Concrete Beams: An Experimental and Numerical Study Using ABAQUS
BM25-539-A	Authors: Bashir Ali Khalifa Saleh and Sofian Bashir Reporter: Bashir Ali Khalifa Saleh Libyan Academy, Libya
18:30-18:45	Seismic Vulnerability Evaluation and Strengthening of an Existing Masonry Building
SC25-535-A	Authors: Mustapha Remki, Fouad Kehila, Mebarek Khelfi and Abderrahmane Kibboua Reporter: Mustapha Remki National Earthquake Engineering Research Center CGS, Algeria

Poster Session

Session Chair: Dr. Khuzaimah Nazir, Universiti Teknologi MARA, Malaysia

Italy Time: 15:00-16:00, Oct. 17, 2025 Room: Lobby

Damage Mechanics-Based Damage Analysis of Self Sensing Composites with Carbon Nanotube	
SC25-421-A	Authors: Seungyeol Oh, Hyeona Kwon and Seongwon Hong Reporter: Seungyeol Oh Korea National University of Transportation, Republic of Korea
Structural Behaviour and Design of High-Strength Steel Welded Plate-to Hollow Section Connections	
SC25-119-A	Authors: Ali Alahmari, John Owen and Georgia Thermou Reporter: Ali Alahmari University of Nottingham, United Kingdom
Rethinking Restoration Materials: Geopolymer Binders as a Sustainable and Compatible Solution for Built Cultural Heritage	
BM25-524-A	Authors: Alessia Verniero, Barbara Liguori, Domenico Caputo, Ilaria Capasso and Mercedes Del Río Merino Reporter: Alessia Verniero Università Degli Studi Di Napoli, Italy
Proposal for an Improved Risk Classification Standard Based on Vehicle Tire Width and Length	
SC25-422-A	Authors: Arim Gwon, Seungyeol Oh and Seongwon Hong Reporter: Arim Gwon Korea National University of Transportation, Republic of Korea
Geopolymers and Recycling: from Ancient Techniques to Sustainable Construction	
BM25-158-A	Authors: Giuseppe Trinchese, Assunta Campanile, Barbara Liguori and Domenico Caputo Reporter: Assunta Campanile University of Naples Federico II, Italy

Analysis of Explosion Resistance Performance of Nuclear Facility Fireproof Doors Using ANSYS Explicit Dynamics

Authors: Hyeona Kwon, Arim Gwon and Seongwon Hong
SC25-423-A Reporter: Hyeona Kwon
Korea National University of Transportation, Republic of Korea

Online Session 1

Topic: Cementitious Materials Innovation and Concrete Technology

Session Chair: Prof. Nabila Ihaddadene, University of M'sila, Algeria

Meeting Link: https://us02web.zoom.us/j/89040011228

Italy Time: 8:35-10:35, Oct. 18, 2025 Meeting Room ID: 89040011228

08:35-08:50	Influence of Thermal Stimulation Effects on Various Properties of Mortars Utilizing Supernatant Water
BM25-537-A	Authors: Yuto Hidai and Shigeyuki Date Reporter: Yuto Hidai Tokai University, Japan
08:50-09:05	Sustainable Concrete with Recycled Glass and Oyster Shell as Partial Cement Replacements: A Study on Performance and Environmental Impact
BM25-540	Authors: Andrea Victoria Calderón, Julio Cesar Pariona Acharte and Carlos Augusto Eyzaguirre Reporter: Julio Cesar Pariona Acharte Perúvian University of Applied Sciences, Perú
09:05-09:20	Can Corundum Replace CEMII in Masonry Restoration Mortars?
BM25-529	Authors: Papatzani Styliani, Stefanis Nikolaos-Alexios and Kloukinioti Anna-Fanouria Reporter: Papatzani Styliani University of West Attica, Greece
09:20-09:35	Optimization of the Compressive Strength of 280 Kg/Cm2 of Concrete by Partially Replacing Cement with Ground Blast Furnace Slag and Silica Fume
BM25-541	Authors: Janeth Lucero Ayra Espiritu, Yelitsa Jasmin Quispe Curo and Carlos Eyzaguirre Acosta Reporter: Yelitsa Jasmin Quispe Curo Perúvian University of Applied Sciences, Perú

09:35-09:50	Effect of Recycled Glass Powder and Nano-Silica on The Strength and Permeability of Concrete
BM25-152	Authors: Brad Tristan Donaires Hurtado, Henrry Manuel Retuerto Arce and Carlos Augusto Eyzaguirre Acosta Reporter: Brad Tristan Donaires Hurtado Universidad Perúana de Ciencias Aplicadas, Perú
09:50-10:05	Greening of Concrete Industry by Shifting from CEMI to CEMII – A case Study of CO2 Footprint Reduction for a Self Compacting Cconcrete Mix
BM25-530	Authors: Papatzani Styliani, Stefanis Nikolaos-Alexios and Hloupis Georgios Reporter: Papatzani Styliani University of West Attica, Greece
10:05-10:20	Mechanical and Environmental Performance of Concrete with Partial Replacement of Cement by Silica Fume and Scallop Shell Powder in Coastal Areas
BM25-544	Authors: Johan Jorge Luis Salinas Solis., Aldair Aymar Levano Rios. and Carlos Augusto Eyzaguirre Acosta Reporter: Aldair Aymar Levano Rios Perúvian University of Applied Sciences, Perú
10:20-10:35	Fresh State Performance of Concrete with Recycled Glass Powder as Cement Replacement and Nanosilica
BM25-155	Authors: Brad Tristan Donaires Hurtado, Henrry Manuel Retuerto Arce and Carlos Augusto Eyzaguirre Acosta Reporter: Brad Tristan Donaires Hurtado Universidad Perúana de Ciencias Aplicadas, Perú

Online Session 2

Topic: Durability of Engineering Materials and Application of Building Information Technology

Session Chair: Dr. Patrycja Hochmańska-Kaniewska, Łukasiewicz Research Network-PoznańInstitute of Technology, Poland

Meeting Link: https://us02web.zoom.us/j/88151053347

Italy Time: 8:35-10:35, Oct. 18, 2025 Meeting Room ID: 88151053347

08:35-08:50	Assessing GFRP Rebars as a Sustainable Alternative to Steel in Aggressive Environments: Tensile Testing and Material Implications
BM25-320	Authors: Galo Gonzalez-Robles, Josué Briones-Bitar, Lucrecia Moreno Alcivar and Paúl Carrión-Mero Reporter: Lucrecia Moreno Alcívar Universidad Estatal Península de Santa Elena, Ecuador
08:50-09:05	Synergistic Corrosion Inhibition of Medium Carbon Steel Using Grapeseed and Palm Kernel Essential Oil Extracts in NaCl Environment
SC25-1504	Authors: Tamunowari Sotom Victoria, Ekeruke Nim Ephraim, Udo Enobong Deborah, Ajayi Joshua Oluwadamilola, Iyun Fiyinfoluwa Mayowa, Kalu Joseph Ogbogu and Loto Roland Tolulope Reporter: Loto Roland Tolulope Covenant University, Nigeria
09:05-09:20	Computational Study of a Three-blade Vertical-axis Turbine for Power Generation Using Autodesk CFD
BM25-433	Authors: Diego Alessandro Eche Flores, Jazhmin Fiorella Velezmoro Moreno and Abel Carmona Arteaga Reporter: Diego Alessandro Eche Flores Universidad Privada del Norte, Perú
09:20-09:35	Spatial Analysis of Landslide Risk in the Rímac basin Using Slope, Lithology, NDVI (MODIS) and Precipitation (CHIRPS)
BM25-346	Authors: Hilda Anggie Prado Mendoza, Janna Segovia Melgarejo and Abel Carmona Arteaga Reporter: Abel Carmona Arteaga Universidad Privada del Norte, Perú

09:35-09:50	Structural Damage Prediction of A Concrete and Steel Bridge Using Acceleration Signal Processing and Artificial Intelligence Algorithms
BM25-231	Authors: Nicole Xiomara Diaz Villanueva, Aldahir William Ortega Aquino and Rick Milton Delgadillo Ayala Reporter: Nicole Xiomara Diaz Villanueva Universidad Perúana de Ciencias Aplicadas, Perú
09:50-10:05	Phased Implementation of Building Information Modeling Technology in Kazakhstan's Construction Industry: from Concept to Implementation
SC25-327	Authors: Alexander Shakhnovich, Zarina Kabzhan, Nazym Shogelova, Madina Umirzakova, Aida Kim and Nurzhanat Khyzyrbek Reporter: Nazym Shogelova JSC Kazakh Research and Design Institute of Construction and Architecture, Kazakhstan
10:05-10:20	Rural Architecture between Knowledge and Classification Hypotheses
BM25-434	Authors: Emanuela D'Andria and Pierfrancesco Fiore Reporter: Pierfrancesco Fiore University of Salerno, Italy
10:20-10:35	Comparative Corrosion Behavior of 6061 Aluminum Alloy in Acidic and Chloride-Rich Environments
SC25-1505	Authors: Daso Confidence, Umoh Eseidien Patrick-Marshall, Sotimirin Olukayode, Amole-Adams Olamide, Okeniyi Joshua and Loto Roland Tolulope Reporter: Loto Roland Tolulope Covenant University, Nigeria

Online Session 3

Topic: Performance Study and Optimization of Sustainable Building Materials and Structures

Session Chair: Assist. Prof. Papatzani Styliani, University of West Attica, Greece

Meeting Link: https://us02web.zoom.us/j/89040011228

Italy Time: 10:50-12:50, Oct. 18, 2025 Meeting Room ID: 89040011228

10:50-11:05	Use of LD Steel Slag for Sustainable Construction: Mechanical Degradation and Porosity Evolution under Accelarated Weathering
BM25-415-A	Authors: Maria Fernanda Pinheiro Campos and Hebert da Consolação Alves Reporter: Maria Fernanda Pinheiro Campos Federal University of Ouro Preto, Brazil
11:05-11:20	Mechanical Evaluation of Adobe Reinforced with Wool and Corn Husk Fibers for Rural Housing
BM25-436	Authors: Valeria Celeste Espinoza Julcapoma and Ana Cristina Carpio Cabanillas Reporter: Valeria Celeste Espinoza Julcapoma Universidad Perúana de Ciencias Aplicadas, Perú
11:20-11:35	Optimizing Lignocellulosic-Based Particleboards for Structural Connections in Sustainable Material Design
BM25-321-A	Authors: Patrycja Hochmańska-Kaniewska, Marta Pędzik, Krzysztof Szymkowiak, Ryszard Gąsiorowski and Dominika Janiszewska-Latterini Reporter: Marta Pędzik Łukasiewicz Research Network-PoznańInstitute of Technology, Poland
11:35-11:50	Obtaining Activated Carbon by Microwave Activation from the Solid Waste Generated in the Pyrolysis Process of Used Tires
BM25-543	Authors: Yvet Loayza-Del Carpio, Jonathan Almirón, Maria Fernanda Palomino-Cervantes, Yosheff Ortiz-Valdivia, Grace Acevedo-Obando, Ronald Rosales-Mesa and Danny Tupayachy-Quispe Reporter: Danny Tupayachy-Quispe Universidad Católica de Santa María, Perú

11:50-12:05	High-Value Use of MDF Waste and Sorghum Biomass in Safe and Eco-Friendly Building Materials
BM25-322-A	Authors: Patrycja Hochmańska-Kaniewska, Ryszard Gąsiorowski, Marta Pędzik, Krzysztof Szymkowiak and Dominika Janiszewska-Latterini Reporter: Patrycja Hochmańska-Kaniewska Łukasiewicz Research Network-PoznańInstitute of Technology, Poland
12:05-12:20	Study of the Mechanical Behavior of Adobe Stabilized with Crushed Barley Straw
BM25-435	Authors: Romel Córdova Shedan and Freyher Lewis Fernandez Reporter: Romel Córdova Shedan Perúvian University of Applied Sciences, Perú
12:20-12:35	Beam Rotation Capacity in Steel Dual Systems: Moment Frames and Eccentrically Braced Frames
SC25-331	Authors: Gerardo Chacón Rojas and Iliá Villalobos-Semenov Reporter: Gerardo Chacon Rojas Universidad Latina de Costa Rica, Costa Rica
12:35-12:50	Refractory Bricks Characterization Manufactured from Geopolymers Based on Volcanic Ash
BM25-125	Authors: Jonathan Almirón, Rossibel Churata, Paul Huanca-Zuñiga, Jeniffer Torres-Almirón, Grace Acevedo-Obando and Danny Tupayachy-Quispe Reporter: Danny Tupayachy-Quispe Universidad Católica de Santa María, Perú

Delegate

Seongwon Hong	Korea National University of Transportation, Republic of Korea
Kazuhiro Hayashi	Chiba University, Japan

Technical Visit

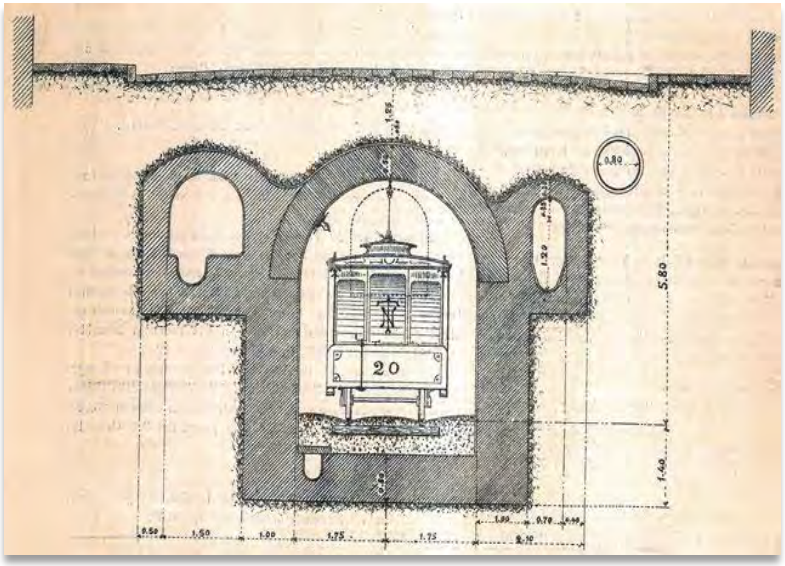
Galleria Borbonica (The Bourbon Tunnel): A Journey Through Naples' Underground History

The Galleria Borbonica, or Bourbon Gallery, is one of Naples' most fascinating and unique attractions. It is not just a single tunnel, but a vast underground labyrinth buried 30-40 meters beneath the city's vibrant streets. This incredible site serves as a "time capsule," preserving nearly 500 years of Neapolitan history, from ancient aqueducts to a World War II air-raid shelter.

Date: October 18, 2025
Assembly Time: 9:50
Meeting Point: Garibaldi – Attestamento Station
Website: https://www.galleriaborbonica.com/it/home
Price: 1. 12 USD/Per Adult 2. 6 USD /Per Children for 11-13 years old 3. free for children under 10 (This fee include entrance fees to attraction, not include meals, tour guide or any souvenirs you may wish to purchase.)
Route Information: https://www.galleriaborbonica.com/it/info
Note: The conference organizing committee is only responsible for organizing Technical Visit and shall not be held liable for any personal or property safety issues during the tour.

On February 19, 1853, Ferdinand II of Bourbon signed a decree commissioning architect Errico Alvino—formerly the extraordinary commissioner for Via Chiaia and San Ferdinando—to design an underground viaduct that, passing under Monte Echia, would connect the Royal Palace with Piazza Vittoria, near the sea and the barracks.

This decree had no social purpose at all; in fact, it provided for the creation of a rapid military route to defend the Royal Palace for the troops quartered in the barracks on Via Pace (now Via Domenico Morelli), as well as a safe escape route for the monarchs themselves, given the risks they had faced during the riots of 1848.



The architect designed an excavation with a trapezoidal cross-section, sloping impost walls, 12 meters wide and high, divided into two tunnels for opposite directions of traffic. These tunnels were to be 4 meters wide each, separated by a thin parapet supporting the gas lamps, and finally equipped with 2-meter-wide sidewalks.

The tunnel leading to Chiaia was to be called "Galleria Reale" or "Strada Regia", while the tunnel in the opposite direction was to be called "Strada Regina". Both would have started at the old cavalry barracks on the former Via Pace, but one would have reached Largo Carolina behind the colonnade of Piazza Plebiscito and the other Via Santa Lucia.

Work to open the tunnel began in April 1853; the mountain was attacked at what is now Via Domenico Morelli (formerly Via Pace) from the clearing that coincided with a former quarry yard where the tunnel's current entrance is located. No attempt was made to excavate from the opposite direction.

Two tunnels started from it, one suitable for vehicles and the other for pedestrians, which ran parallel for 84 m, ending inside the Carafa Quarries which had already been used since the 16th century for the construction of various buildings in the area.

Note

Note