

# 5<sup>th</sup> International Conference on Protection of Historical Constructions (PROHITECH) Napoli (Italy) 26 - 28 March, 2025

Congress Centre, Università degli Studi di Napoli Federico II



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5<sup>th</sup> International Conference on Protection of Historical Constructions (PROHITECH)



It is a great pleasure to welcome you in Naples for the "5<sup>th</sup> International Conference PROHITECH - Protection of Historical Constructions".

The PROHITECH Conferences originates from the successful European project "*PROHITECH: Earthquake Protection of Historical Buildings by Reversible Mixed Technologies*" (Sixth Framework Program, Priority Fp6-2002-Inco-Mpc-1, Specific Measures in support of international cooperation Mediterranean Partner Countries 2004-2008), coordinated by Professor F. M. Mazzolani. The first PROHITECH International Conference was held in Rome in 2009, as final event of the project, for the dissemination of the huge achievements. Since then, this prestigious conference series has continued with triennial gatherings in Antalya, Turkey (2014), Lisbon, Portugal (2017), and Athens, Greece (2020, rescheduled to 2021 due to Covid). After four editions, the conference has returned to Italy, marking the first edition following the global pandemic.

The "5<sup>th</sup> International Conference PROHITECH - Protection of Historical Constructions" in Naples is hosted from 26 to 28 March, 2025, by the Department of Structures for Engineering and Architecture (DiSt) at the University of Naples "Federico II" (UNINA), this edition of the PROHITECH International Conference holds special significance as DiSt has recently been recognized as a Department of Excellence by the Italian Ministry of University and Research.

The PROHITECH Conference series offers by now an important opportunity to researchers, engineers, architects specialists and companies to present, share and discuss a vast variety of subjects related to the protection of historical constructions, according to a multi-scale and multi-disciplinary perspective. The Conference covers a wide range of topics, spanning across structural and earthquake engineering, materials and technologies, architecture and urban planning, conservation and archaeology, repair, rehabilitation and intervention strate gies, featuring a rich array of case studies covering various construction materials. Furthermore, emerging topics such as sustainability, energy efficiency, re-use, life cycle, adaptation to climate change, monitoring, maintenance, management, digitalization and Artificial Intelligence are also addressed in the 5<sup>th</sup> edition.

In particular for the PROHITECH 2025 the following main themes have been proposed:

- Architecture, Archaeology and Urban Conservation;
- Materials, Technologies and Innovative Devices;
- Structural Engineering and Modelling Approaches;
- Earthquake Engineering;
- Climate Change Effects and Mitigation Strategies;
- Structural Health Monitoring, Maintenance and Management;
- Digital Twin Engineering and Artificial Intelligence;
- Case Studies.





More than 145 papers from 31 countries all over the world (Afghanistan, Algeria, Belgium, Brazil, Bulgaria, China, Costa Rica, Ecuador, France, Germany, Greece, Hungary, Italy, Japan, Lebanon, Lithuania, Mexico, New Zealand, Palestine, Poland, Portugal, Romania, Saudi Arabia, Slovakia, Slovenia, Spain, Thailand, Turkey, Ukraine, United Kingdom, United States) have been peer reviewed. They will be presented in parallel sessions during the three conference days. They are published in two proceeding volumes of about 1200 pages in all.

The conference program includes keynote lectures dealing with subjects of great relevance from notable scientists. In particular a special event is dedicated to the Archeologic Park of Pompei.

The 5<sup>th</sup> edition encompasses for the first time the sponsor talks, a plenary timeslot dedicated to companies active in the sector of the existing constructions monitoring and retrofit, testifying on one side the attention for safeguarding the built heritage and on the other side the high level of technologies developed in this field.

PROHITECH 2025 takes place at the Congress Centre via Partenope of UNINA, conveniently located in an historical building at the city center along the picturesque seafront of Naples, offering breathtaking views of Castel dell'Ovo and Borgo Marinari, at walking distance from the Royal Palace of Naples and several historical and monumental sites. Also the social events locations, such as the roof top Royal Continental hotel at the Partenope waterfront close to the conference venue for the welcome party and the monumental complex of St. Chiara in the historic centre of Naples for the social dinner, have been carefully selected for providing a suggestive immersion in the Neapolitan built heritage, in line with the mission of the conference.

Definitely, over the years, as confirmed by the 5<sup>th</sup> edition, the PROHITECH conference has evolved into a prominent platform for disseminating scientific advancements and fostering professional, industrial and institutional discussions and collaborations pertaining to the protection of historical constructions.

We wish all a great conference.

With our warmest regards,

Federico M. Mazzolani (*Honorary Chairman*)

Jederico Waydam

Raffaele Landolfo (Chairman) Beatrice Faggiano (Co-Chairman)

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Bestwee fgrano

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Scuola Politecnica e delle Scienze di Base Università degli Studi di Napoli Federico II





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Napoli (Italy) 26 - 28 March, 2025

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EVENTI E CONGRESSI

Rione Sirignano, 5 - 80121 Napoli, Italy ph. + 39 081 7611085 email: info@mcmcongressi.it www.mcmcongressi.it



# KEYNOTE LECTURERS



Angelo Di Tommaso
Accademia delle Scienze di Bologna

Angelo Di Tommaso was adjunct professor of STATICS at the University of Florence (1970-74) full professor of SCIENCE OF CONSTRUCTION at the University of Bologna (1975-1997) and then at the IUAV University of Venice (1997-2011).

He carried out pioneering research in the field of Fracture Mechanics and the use of composite materials in civil engineering, applying his knowledge to practical engineering cases. He has published three widely circulated textbooks and numerous scientific memoirs. He is currently a member emeritus of the Academy of Sciences in Bologna.



Maurizio Indirli ENEA Past Director of Research

Maurizio Indirli, born November 4th, 1955, San Donà di Piave (Venice, Italy). Living at Bologna and Trento (Italy). Secondary School Scientific Degree: Liceo Galilei, Verona (Italy). MSc Degree: Nuclear Mechanics Engineering, University of Bologna, Italy (1985). Engineer's qualifying examination: 1985. PhD: University of Trento (Italy) on Structural Engineering, Modelling, Preservation and Control of Materials and Structures (2010). At ENEA (Italian National Agency for New technologies, Energy and Sustainable Economic Development) since 1988: activities on prevention of natural catastrophes, structural engineering, antiseismic innovative techniques (as base isolation and energy dissipation), to improve industrial plants, strategic construction/ infrastructure, residential housing, cultural heritage. Reviewer for several International/National journals. Author/co-author of more than 130 publications (scientific papers, chapters of books, etc.).



# KEYNOTE LECTURERS

Napoli (Italy) 26 - 28 March, 2025

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- Johanna Leissner Scientific Representative for Fraunhofer

Trained as a chemist and materials scientist. She has been working and managing cultural heritage research for over 20 years, focusing on the impact of climate change on cultural heritage, environmental monitoring of cultural assets, and promoting the green transition by implementing the concept of sustainability for green museums and cultural heritage buildings and collections. She has chaired the EU OMC (Open Method of Coordination) Expert Group of European Member States "Strengthening Cultural Heritage Resilience for Climate Change" and is a member of the EU Commission Expert Group Cultural Heritage Forum, established in 2019. 2022 – 2023 Coordinator of the EIT (European Institute of Technology) Programme Culture & Creativity from 2022-2029 and from 2020 to 2023 Coordinator of the German research project KERES "Protecting cultural heritage from extreme climate events and increasing resilience" and of the EU project Climate for Culture from 2009 to 2014. She is a partner in the Austrian Academy of Sciences project "Modelling the impact of future climate change on museum pests and fungi" (2021- 2024) and in the German project "Damage prevention for cultural assets in times of climate change" (2022-2024). German delegate to the Council of Europe Strategy "European Cultural Heritage in the 21st Century" (2018) and to the UNESCO World Heritage Expert Group on Climate Change Impacts on Cultural Heritage (2017). Since 2005, scientific representative of the Fraunhofer-Gesel-Ischaft at the European Union in Brussels. Co-founder of the German Research Alliance for the Protection of Cultural Heritage in 2008 and of the Fraunhofer Sustainability Network. From 2001 to 2005 National Expert of the Federal Republic of Germany for "Technologies for the Protection of the European Cultural Heritage" at the European Commission in Brussels.



Humberto Varum University of Porto

Humberto Varum is Full Professor at the Civil Engineering Department of the Faculty of Engineering of the University of Porto, Portugal. He is Integrated Member of CONSTRUCT research unit: Institute of R&D in Structures and Construction. He has been Seconded National Expert to the ELSA laboratory, Joint Research Centre, European Commission, Italy, in the period July 2009 to August 2010. Since May 2015, he his member of the directorate body of the Construction Institute from the University of Porto, and President since 2019. He is Member of the National Committee of the International Council on Monuments and Sites (ICOMOS), since 2009, and Expert Member of the ICOMOS's International Scientific Committee of Earthen Architectural Heritage (ISCEAH). He is member of the Mexican Academy of Engineering, since 2018. He has participated to post-earthquake field reconnaissance missions, in particular to L'Aquila (Italy, 2009), Lorca (Spain, 2011), Emilia-Romagna (Italy, 2012), Gorkha (Nepal, 2015) and Puebla (Mexico, 2017). His main research interests include: assessment, strengthening and repair of structures, earthquake engineering, historic constructions conservation and strengthening.

# PROGRAM AT A GLANCE









# PROGRAM AT A GLANCE

	W	ednesday, March 26		
08:00		Registration		
	MAIN HALL			
09:15   10:00		OPENING SESSION		
10:00   10:45	KEYNOTE LECTURE I Climate change and cultural heritage. A European perspective on protection and adaptation Johanna Leissner Scientific Representative for Fraunhofer			
10:45   11:15		Coffee break		
		PARALLEL SESSION		
	MAIN HALL	ROOM A	ROOM B	
11:15   13:00	SESSION H1 Structural engineering and modeling approaches	SESSION A1 Earthquake engineering	SESSION B1 Case studies	
13:00   14:00		Lunch		
		MAIN HALL		
14:00   14:45	KEYNOTE LECTURE II Structural protection of architectural heritage using appropriate composite tech-material. Some case histories in Italy after experimental research Angelo Di Tommaso			
	PARALLEL SESSION			
	MAIN HALL	ROOM A	ROOM B	
14:45   15:45	SESSION H2 Architecture, archeology and urban conservation	SESSION A2 Structural health monitoring, maintenance and management	SESSION B2 Digital twin engineering and artificial intelligence	
15:45   16:15		Coffee break		
	MAIN HALL			
16:15   16:30	SPONSORED TALK Monitoring the Acropolis of Cuma: an example of technological integration for the protection of the archaeological heritage Giuseppe Latte Bovio Chief Technical Officer BOVIAR Srl			
	PARALLEL SESSION			
	MAIN HALL	ROOM A	ROOM B	
16:30   18:00	SESSION H3 Materials, technologies and innovative devices	SESSION A3 Structural engineering and modeling approaches	SESSION B3 Case studies	
18:30   21:00		Welcome Reception		

	Tł	nursday, March 27		
	PARALLEL SESSION			
	MAIN HALL ROOM A ROOM B			
09:00   11:00	SESSION H4 Architecture, archeology and urban conservation	SESSION A4 Earthquake engineering	SESSION B4 Digital twin engineering and artifical lintelligence	
11:00   11:30	Coffee break			
		MAIN HALL		
11:30   13:00	SPECIAL SESSION Pompeii between structural safety and conservation Gabriel Zuchtriegel General Director of the Archaeological Park of Pompeii Vincenzo Calvanese Technical Office Area Chief of the Archeological Park of Pompeii			
	President of the Italian S	Society for Architectural Conservation	on/Restoration (SIRA)	
13:00   14:00	Lunch			
14:00   14:45	KEYNOTE LECTURE III Heritage and engineering. Bridging knowledge and conservation Humberto Varum University of Porto			
	PARALLEL SESSION			
	MAIN HALL	ROOM A	ROOM B	
14:45   15:45	SESSION H5 Climate change effects and mitigation strategies	SESSION A5 Structural health monitoring, maintainance and management	SESSION B5 Materials, technologies and innovative devices	
15:45   16:15		Coffee break		
	MAIN HALL			
16:15   16:30	SPONSORED TALK Innovative connections for timber/concrete and timber/steel hybrid constructions Daniele Cunego Technical Consultant Rotho Blaas srl			
		PARALLEL SESSION		
	MAIN HALL	ROOM A	ROOM B	
16:30   17:45	SESSION H6 Materials, technologies and innovative devices	SESSION A6 Structural engineering and modeling approaches	SESSION B6 Case studies	
20:00   23:00		Guided Tour & Social Dinner		

# PROGRAM AT A GLANCE

		Friday, M	larch 28		
		MAIN HALL			
09:00   09:45	KEYNOTE LECTURE IV The concept of resilience from classic times to Anthropocene era Maurizio Indirli ENEA past Director of Research				
		PARALLE	L SESSION		
	MAIN HALL	ROC	A MC	ROOM B	
09:45   10:45	SESSION H7 Architecture, archeology and urban conservation	SESS Climate char mitigation	SION A7 nge effects and n strategies	SESSION B7 Digital twin engineering and artificial intelligence	
10:45   11:15		Coffee	e break		
	PARALLEL SESSION				
	MAIN HALL	ROC	A MC	ROOM B	
11:15   13:00	SESSION H8 Structural engineering and modeling approaches	SESS Earthquake	ON A8 engineering	SESSION B8 Structural health monitoring, maintenance and management	
13:00   14:00	Lunch				
	MAIN HALL				
14:00   14:15	SPONSORED TALK Advanced technologies for the preservation of historic structures: applications of active mass dampers Fabio Menardo Head of Structural Team ISAAC srl				
	PARALLEL SESSION				
	MAIN HALL			ROOM A	
14:15   15:30	SESSION H9 Materials, technologies innovative devices	and		SESSION A9 Case studies	
	MAIN HALL				
15:30   16:00		CLOSING	CERIMONY		
16:00   17.00	Farewell Toast				



# ROGRAM Ĺ FINAL









08:00	Registration				
	MAIN HALL				
09:15   10:00	OPENING SESSION				
	Federico M. Mazzolani, Raffaele Landolfo, Beatrice Faggiano				
		Chair: Beatrice Faggiano			
40.00   40.45	Climate change and cultural	heritage. A European perspective	on protection and adaptation		
10:00   10:45	Sc	Johanna Leissner sientific Representative for Fraunho	fer		
10:45   11:15		Coffee break			
		PARALLEL SESSION	1		
	MAIN HALL	ROOM A	ROOM B		
11:15   13:00	SESSION H1 Structural engineering and modeling approaches	SESSION A1 Earthquake engineering	SESSION B1 Case studies		
	<i>Chairs:</i> Philippe Van Bogaert, Stefano Belliazzi, Francesca Roscini	<i>Chairs:</i> Marius Mosoarca, Antonio Formisano	<i>Chairs:</i> Gianfranco De Matteis, László I. Horváth		
11-15   11-30	Applied element analysis of intact and deteriorated masonry structures subjected to soil	Rocking steel coupled frames for seismic retrofit of RC buildings	Preliminary assessments for evacuation plans: the case study of Popoli Terme, Pescara, Italy		
	settlements <u>Ciro Canditone</u> , Fulvio Parisi	Pecorari, <u>Simeone Parolisi</u> , Alberto Mandara	Letizia Mancini, Giorgia Cianchino, Maria Giovanna Masciotta, Enrico Spacone, Giuseppe Brando		
11.20   11.45	Insights on seismic strengthening measures for the Portuguese masonry heritage	A design method for seismic retrofit of RC buildings using dissipative exoskeletons	Wooden elements on the Montevideo's building heritage façades		
11:30   11:45	Matteo Salvalaggio, VascoBernardo, Paulo B. Lourenco	Massimiliano Ferraioli, <u>Salvatore</u> <u>Mottola,</u> Osvaldo Pecorari	Leticia Roxana Olivera Morixe		
	Multi-setup ambient vibration test and modal updating of a	Seismic exposure model at regional and over-regional scales	Aging of historical masonry towers: the Garisenda case study		
	historical masonry complex	to analyse local masonry building typologies through the	Angelo Di Tommaso, <u>Stefano</u>		
11:45   12:00	Alessandra De Angelis, Roberto Tartaglia, <u>Vera Rillo</u> , Giuseppe Maddaloni	Cartis database: the application on Northen Italy	I <u>nvernizz</u> i, Giuseppe Lacidogna, Pedro Marin Montanari		
	Maddaloffi	Ylenia Di Lallo, <u>Giorgia Cianchino</u> , Giovanni Sangiuliano, Maria Giovanna Masciotta, Giuseppe Brando			
12:00   12:15	Non-linear behavior of reinforced concrete cross-sections with dimensionless equations in closed form	Nonlinear analyses of industrial steel buildings with semi-rigid joints	Enhancing seismic resilience of historical masonry buildings in low seismicity regions: a case study of Annaba City, Algeria		
	<u>Stefano Belliazzi</u> , Gian Piero Lignola, Francesco Fabbrocino, Edoardo Cosenza	De Matteis, Giuseppe Brando	Hatem Seboui, Allaeddine Athmani, Giovanna Longobardi, Antonio Formisano		
			15		

	MAIN HALL	ROOM A	ROOM B
12:15   12:30	Numerical analysis of a reduced-scale RC structure reinforced by an aluminum alloy-timber exoskeleton Emilia Meglio, Antonio Formisano	Seismic vulnerability assessment of masonry churches in Bondeno: a comparative analysis of damage indices <u>Giovanna Longobardi</u> ,Gabriele Milani, Antonio Formisano	Best historical practice: the retaining wall by military engineer Daniel de Bosquet on the landslide-prone slopes of the Kyiv-Pechersk Lavra Yuriy Slyusarenko, Yurii Ischenko, Yurii Melashenko, Nina Kosheleva, Yevheniia Pavliuk, Viktor Shokarev, Andrey Shokarev, Svetlana Glazkova, Viktoriia Vapnichna, Yaroslav Berchun, Viktoriia Berchun, Taras Kaliukh, Iurii Kaliukh
12:30   12:45	Mechanical characterization of ancient timber members through destructive test in bending Dante Marranzini, Salvatore Verre, Giacomo Iovane, Nicola Ruggieri, Michele Brunetti, Michela Nocetti, Marco Togni, Luciano Ombres, Beatrice Faggiano	Seismic behaviour assessment of masonry building aggregates of small historical centres: a case study in the Basilicata region of Italy Roberta Di Chicco, Antonio Formisano	Heat waves and terrorist acts: a behavioural-based approach for multi-risk assessment and mitigation in historic public squares Gabriele Bernardini, Elena Cantatore, Ilaria Isacco, Silvana Bruno, Gessica Sparvoli, Enrico Quagliarini, Fabio Fatiguso, Graziano Salvalai
12:45   13:00	Modeling approaches for a modern heritage building with an unusual floor system Fernando Peña, Joel Ramos	Subsoil geophysical conditions and seismic response of the Mining Palace, Mexico <u>Martín Cárdenas-</u> Soto, Jesús Sánchez-González, David Escobedo-Zenil, Jose Antonio Martinez-Gonzalez, Ana Luz Caccavari Garza, Gerardo Cifuentes-Nava	Brutalist university building energy refurbishment - case study Catalina M. Bocan, Dragos Bocan, Alexandra Keller
13:00   14:00		Lunch	
	MAIN HALL		
14:00   14:45	Structural protection of arch Some case	KEYNOTE LECTURE II Chair: Mario Como itectural heritage using appropriat histories in Italy after experimenta Angelo Di Tommaso Accademia delle Scienze di Bologna	te composite tech-material. Il research





	PARALLEL SESSION			
	MAIN HALL	ROOM A	ROOM B	
14:45   15:45	SESSION H2 Architecture, archeology and urban conservation <i>Chairs:</i> Joan Andreescu, Saverio D'Auria	SESSION A2 Structural health monitoring, maintenance and management <i>Chairs:</i> Na Yang, Giacomo Iovane	SESSION B2 Digital twin engineering and artificial intelligence Chairs: Nakhorn Poovarodom, Enrico Babilio	
14:45   15:00	BIM for heritage infrastructure conservation Salvatore Antonio Biancardo, Mattia Intignano, Gianluca Dell'Acqua	Survey and investigation on a coenobium recently discovered in Maratea (Italy) with an innovative device for crack detection Linda Giresini, Stefania Imperatore, Cristina Monteleone, Fabio Pitti	How to preserve valuable 20th century layers in historic context Yıldız Salman, Nilüfer Yöney	
15:00   15:15	Comparative study of bradyseismic crises and their impacts on the city of Pozzuoli (Italy) <u>Roberto Castellucci</u> o, Mariacarla Fraiese, Veronica Vitiello, Massimo Ramondini	Satellite-based monitoring of a multi-span pre-stressed concrete bridge crossing the Po river Andrea Miano, Pier Francesco Giordano, Diego Di Martire, Federico Giulivo, Riccardo Liuzzo, Rita Tufano, Giuseppe Bausilio, Francesco Ballio, Domenico Calcaterra, Raffaele Landolfo, Maria Pina Limongelli, Andrea Prota	Historical fires and their causes investigations of the timber covered bridge heritage in Southeastern China Boyu Pan, Rongzhu Gu, Chen Cao, Cong Tao, Jie Liu	
15:15   15:30	Human-centric participatory approach for safe & comfortable housing in Afghanistan's mountainous areas Ahmad Rasa Arsallan, Amit Kumar, Merajuddin Hussaini, Haris Haidari	Evaluation of the mechanical performance of mortars for structural rehabilitation of historic masonry buildings Maria Teresa Cristofaro, Angelo D'Ambrisi, Mario De Stefano, Marco	Identification of monitoring variables' impact ranges for the National Theater of Costa Rica's digital twin Enmanuel Salazar-Ceciliano, Jose Pablo Bulgarelli-Bolanos,	
15:30   15:45	Approach and implementation strategy for safe and resilient mountainous roads -sase study from Afghanistan <u>Noorudin Akbari</u> , Khwaja Momin Walizada, Amit Kumar, Mohammadelyas Hamidi, Muzafar Mukhtari	Tanganelli Estimation of particle velocities at the town of Cerro San Pedro, San Luis Potosí (Mexico) and its interaction with the temple of San Pedro Jose Antonio Martinez-Gonzalez, Martín Cárdenas-Soto, Efraín Ovando-Shelley	Ileana Hernández-Salazar Multiscale data acquisition of historic centers: a hierarchical approach for enhancing urban conservation and planning Giorgia Cianchino, Cristina Cantagallo, Maria Giovanna Masciotta, Luciano Caroprese, Massimiliano Pepe, Giuseppe Brando, Enrico Spacone	
15:45   16:00	Coffee break			

	MAIN HALL			
16:15   16:30	SPONSORED TALK Chair: Giuseppe Brando Monitoring the Acropolis of Cuma: an example of technological integration for the protection of the archaeological heritage Giuseppe Latte Bovio Chief Technical Officer BOVIAR Srl			
		PARALLEL SESSION		
	MAIN HALL	ROOM A	ROOM B	
16:30   18:00	SESSION H3 Materials, technologies and innovative devices <i>Chairs:</i> Florea Dinu, Maria Teresa De Risi	SESSION A3 Structural engineering and modeling approaches Chairs: Gabriele Milani, Alexandra I. Keller	SESSION B3 Case studies Chairs: Ivan Roselli, Vatyu Tanev	
16:30   16:45	Innovative v-shaped column design for one-way 3D truss systems in preserving archaeological sites Giusy Terracciano, <u>Gianmaria</u> <u>Di Lorenzo</u> , Antonio Formisano, Raffaele Landolfo	On the dynamics of a masonry church: discontinuous vs continuous approaches Mattia Schiavoni, Martina Di Giosaffatte, <u>Francesca Roscini</u> , Francesco Clementi	Structural features of the San Leucio historical site in Caserta, Italy Marco Ciano, <u>Ebrahim Aminifar</u> , Corrado Chisari, Maddalena Della Pietra, Luciana Di Gennaro, Giorgio Frunzio, Mariateresa Guadagnuolo, Luigi Massaro, Mattia Zizi, Gianfranco De Matteis	
16:45   17:00	Dissipative exoskeletons based on self-centering SMA braces for seismic retrofit of RC buildings Massimiliano Ferraioli, <u>Osvaldo</u> <u>Pecorar</u> i, Angela Diana	A simplified analysis for assessing the response of Mycenaean Tholos Tombs and similar monumental structures with corbelled stone courses Dimitrios Egglezos, Emmanouil Tzannidakis	Questionable approaches for historical construction preservation: the case of Politeama Verdi Theater in Carrara Pasquale Bencivenga,Costantino Dell'Aversano, Maddalena Della Pietra, Mattia Zizi, <u>Gianfranco</u> <u>De Matteis</u>	
17:00   17:15	In-plane and out-of-plane behaviour of RC frames reinforced with lightweight steel exoskeletons Emilia Meglio, Antonio Formisano	Deformations of the masonry arch produced by uniform changes of temperature Simona Coccia, <u>Mario Como</u>	Progressive collapse mitigation of hospital buildings using different retrofit strategies Massimiliano Ferraioli, <u>Alberto</u> <u>Mandara</u> , Angelo Lavino, Gianfranco De Matteis	



	MAIN HALL	ROOM A	ROOM B
17:15   17:30	Vertical addition of a public masonry building by a cold-formed steel structure Antonio Formisano, Anna Marzo	Structural assessment of the double-shell dome in San Gennaro Chapel, Naples (Italy) Claudia Cennamo, Luciana Di Gennaro, <u>Giorgio Frunzio</u> , Luigi Massaro	Exploration of the origin and evolution of Kangliang structural technique in the wooden architecture of Eastern Fujian, China <u>Jie Liu</u> , Yuqing Cai, Jieyi Wu, Yu Ding
17:30   17:45	Experimental investigation on FRCM system for shear strengthening of masonry panels Marielisa Di Leto, <u>Maria Concetta</u> <u>Oddo</u> , Piero Colajanni, Lidia La Mendola	Evaluating the impact of knowledge levels on the seismic capacity of piers belonging to existing bridges <u>Andrea Miano</u> , Francesco Bovenzi, Marco Di Ludovico, Andrea Prota	Multi-technique characterization of the stone façade of church of the company of Jesus of Quito (Ecuador) <u>Marco Lenin Lara Calderon</u> , Sol López Andrés, David Sanz Arauz, Ines Del Pino
17:45   18:00	Technologies for energy retrofitting supported by exoskeletons to reinforce historic buildings. A case study focused on mitigating summer overheating Giuseppe Aruta, Nicola Bianco, Filippo de' Rossi, Anna Iaccheo, Teresa Iovane, Fabrizio Ascione	Study for the protection of historic buildings due to the construction of a tunnel through TBM in the city of Guadalajara, Mexico Oscar San Roman Iturbide, <u>Eduardo Botero-Jaramillo,</u> Efrain Ovando Shelley	Innovative engineering in Ancient Rome: analyzing the temple of Diana's dome Salvatore Sessa, Pasquale Cesarano, Francesco Marmo
18:30   21:00		Welcome Reception	

	PARALLEL SESSION			
	MAIN HALL	ROOM A	ROOM B	
09:00   11:00	SESSION H4 Architecture, archeology and urban conservation <i>Chairs:</i> Linda Giresini, Cenk Ustundag	SESSION A4 Earthquake engineering <i>Chairs:</i> Alberto Mandara, Mohammad Samaaneh, Petya D. Gruewa	SESSION B4 Digital twin engineering and artifical lintelligence Chairs: Enmanuel Salazar-Ceciliano, Alessia Monaco	
09:00   09:15	Damage and temporary consolidation of a Hittite urban wall in the archaeological site of Arslantepe (Turkey) Omar Al Shawa, Linda Giresini	Analysis of the failure modes of historical buildings damaged by multiple earthquakes Marius Mosoarca, Filippo Casarin, Anthimos Anastasiadis, Yohei Endo, <u>Mihai Fofiu</u>	Automated assessment of historic tiles degradation by deep learning approach and HBIM implementation: application cases in Seville Enrique Nieto-Julián, David Marín García, <u>Valeria Giannuzzi</u>	
	Heritage and urbanism in the Galapagos Islands, applicability of methodological strategies for their valuation	Mechanical modelling for simplified seismic analysis of existing RC churches and fragility curves	Revolutionizing water management: digital twins and Al for predictive maintenance and sustainabilitye	
09:15   09:30	Marco Lenin Lara Calderon, Carlos Calderón Guerrero, Nicole Valeria Merizalde Zapata, Silvina Arslanian Torre	<u>Marco Postiglione</u> , Giuseppe Brandonisio, Bruno Calderoni, Antonio Sandoli, Giovanni Fabbrocino	<u>Toqeer Ali Syed</u> , Muhammad Tayyab Naqash, Muhammad Shoaib Siddiqui, Saad Said Alqahtany, Abdullah Al Shanqiti, Antonio Formisano	
09:30   09:45	Virtual tour for periodic condition assessment of archaeological sites <u>Antonio Sandoli</u> , Adriana Marra, Francesca Savini, Ilaria Trizio,	Structural survey and empirical seismic vulnerability assessment of churches in the historical center of Cusco, Peru Giulia Cocco, <u>Giuseppe Brando</u>	Digital twins applying to the assessment of the Hostynnyi Dvir historical monument destruction Volodymir Titarenko, I <u>urii Kaliukh</u>	
09:45   10:00	Integration of HBIM and machine learning processes for cultural heritage maintenance. A case of Piazza d'Armi in the Aragonese Castle of Ischia Saverio D'Auria, Armando Franzese, Maurizio Nicolella, Pierpaolo D'Agostino	Seismic retrofitting of historical masonry structures by FRCM systems subjected to degradation phenomena <u>Rodolfo Labernarda</u> , Fabio Mazza, Luciano Ombres	Digital Twins and BIM technologies for the high-rise building's restoration Viktor Banakh, Andrii Banakh, Ihor Hrebeniuk, Olena Hrebeniuk, Anatolii Yerofieiev, Serhii Yerofieiev, Volodymir Titarenko, Volodymyr Siedin, Vladyslav Kovba, Igor Myronenko, Viktoriy Lytvynenko, Hanna Slobodianyk, Vladyslav Shekhovtsov, Oleg Klymenkov, Roman Telychko, <u>Iurii</u> Kaliukh	
10:00   10:15	Restoration of the Marble Sea Gates of Ciragan Palace in Istanbul Cenk Ustundag, Betul Degirmenci Breitenfeldt, Jörg Breitenfeldt	Behavioral comparison of individual and aggregated structural units in Timişoara before and after an Integrated seismic-energy retrofit intervention Giovanna Longobardi, Marius Mosoarca, Antonio Formisano	Construction safety and efficiency: Digital Twin integration for risk management from design to execution Antonio Salzano, Andrea Miano, Enrico Pasquale Zitiello,Andrea Prota, Maurizio Nicolella	



	ΜΑΙΝ ΗΑΙ Ι	ROOM A	ROOM B
10:15   10:30	Preserving of historical buildings in Budapest Laszlo Horvath, László Dunai, Péter Váczi	Recommendations for seismic assessment of heritage buildings and methods of strengthening Emad Abdulahad, <u>Ghoson</u> Danhash	Application of faster region convolutional networks for damage detection in historical masonry structures Phromphat Thansirichaisree, Onpriya Klinchareon, Apichat Buatik, Bhakapong Bhadrakom, Oudeer Hussain, Nazam Ali
10:30   10:45	The Clock Tower, symbol of the city of Giurgiu - 90 years since the first major restoration <u>George Croitoru</u> , Ciresica Micu-Croitoru	Simplified vulnerability model for masonry bell towers based on digital elevation model data Maddalena Della Pietra, Corrado Chisari, Mattia Zizi, Gianfranco De Matteis	Applicability of a parametric and semantic model for the HBIM project of the Church of the Company of Jesus in Quito Enrique Nieto-Julián, Daniel Antón, Marco Lenin Lara Calderon
10:45   11:00	Blueprints of resilience: The design and modularity of Greek refugee settlements post 1922 Eirini Tsetine		
11:00   11:30		Coffee break	1
	MAIN HALL		
11:30   13:00	SPECIAL SESSION Pompeii between structural safety and conservation Chair: Raffaele Landolfo		
11:30   12:00	Current challenges for the Archaeological Park of Pompeii Gabriel Zuchtriegel General Director of the Archaeological Park of Pompeii		
12:30   12:30	Protection and consolidation of archaeological evidences of the Ancient City of Pompeii Vincenzo Calvanese Technical Office Area Chief of the Archeological Park of Pompeii		
12:30   13:00	Archaeological restoration and conservation. Recent experiences in Pompeii Renata Picone President of the Italian Society for Architectural Conservation/Restoration (SIRA)		
13:00   14:00		Lunch	



14:00   14:45	<b>KEYNOTE LECTURE III</b> Chair: Satwant Rihal Heritage and engineering. Bridging knowledge and conservation Humberto Varum University of Porto			
		PARALLEL SESSION		
	MAIN HALL	ROOM A	ROOM B	
14:45   15:45	SESSION H5 Climate change effects and mitigation strategies <i>Chairs:</i> Andrea Miano, Seda Nur Alkan	SESSION A5 Structural health monitoring, maintainance and management <i>Chairs:</i> Gianpiero Russo, Anna Marzo	SESSION B5 Materials, technologies and innovative devices Chairs: Hamid Bouchair, Calin Neagu	
14:45   15:00	Built heritage exposed to fast moving landslides. Vulnerability analyses at the urban scale by indicators	Insight on the durability of Steel Reinforced Grout (SRG) systems for the strengthening of historical constructions Sara Fares, Pietro Meriogi	Innovative and functional conservation: integrating modern technologies in the restoration of the Convent of Santa Maria di Costantinopoli	
14:45   15:00	Raffaele Landolfo	Stefano De Santis, <u>Gianmarco</u> <u>de Felice</u>	Emanuela De Feo, Alessia Chiapparrone, Stefania Cusano, Francesca Luongo, <u>Elide Nastri</u>	
15:00   15:15	Vulnerability assessment of reinforced concrete buildings exposed to fast moving landslides - definition and calibration of vulnerability indicators	Smart hygrothermal ventilation, an energy-efficient solution for controlling relative humidity in historical constructions: a case study	Structural, economic and environmental assessment of steel and timber exoskeletons for the retrofit of R.C. buildings	
	<u>Varvara Sagan</u> i, Lucrezia Cascini, Cristiana Tarantino, Raffaele Landolfo	<u>Bruno Palley</u> , Vasco Peixoto de Freitas, Paulo Abreu, Maria Teresa Restivo, Teresa Stingl Freitas	Raffaele Cucuzza, Giacomo Iovane, Tomas Lazzurri, Jana Olivo, Marco Domaneschi, Beatrice Faggiano	
15:15   15:30	A numerical study about hygrothermal performance of traditional timber framed infilled exterior wall Seda Nur Alkan, Fatih Yazıcıoğlu	Optimisation of attic space ventilation in a listed church: integration of microclimatic monitoring and dynamic simulations Michal Poljak, Radoslav Ponechal	Renovation of the historic limestone sculpture placed on the façade of the Juliusz Słowacki Theater in Cracow <u>Mariusz Maslak</u> , Michal Pazdanowski, Janusz Siudut	
15-20   15-45	A damage-based model for estimating building vulnerability to landslide hazards at territorial scale	Satellite interferometry and topographic survey for monitoring subsidence induced by deep excavations	Strengthening historical wood structural floors with adhesive-based timber- concrete composites	
10.00   10.40	<u>Dante Marranzini</u> , Lucrezia Cascini, Francesco Portioli, Raffaele Landolfo	Manuel De Luca, Gianmarco Ruocco, Ilaria Esposito, Diego Di Martire, <u>Gianpiero Russo,</u> Marco Valerio Nicotera	T <u>amas Juhasz</u> , Zoltan Orban, Attila Fulop, Jeno Balogh	
15:45   16:00	Coffee break			





	MAIN HALL			
16.15   16.30	SPONSORED TALK Chair: Lucrezia Cascini Innovative connections for timber/concrete and timber/steel hybrid constructions Daniele Cunego Technical Consultant Rotho Blaas srl			
		PARALLEL SESSION		
	MAIN HALL	ROOM A	ROOM B	
16:30   17:45	SESSION H6 Materials, technologies and innovative devices Chairs: Elide Nastri, Tamas Juhasz	SESSION A6 Structural engineering and modeling approaches Chairs: Eduardo Botero-Jaramillo,	SESSION B6 Case studies Chairs: Olympia Panagouli,	
		Salvatore Sessa	Chiara Calderini	
16:30   16:45	Reuse of existing buildings through exoskeletons structures made of reused steel elements	of pilot-scale prototypes of masonry cross vaults	Comparison of machine learning regressors applied to 3D motion marker data of a historic building prototype	
	Francesco Esposito, Diana Faiella	Marco Alforno, Chiara Ferrero, Emiliano Matta, Giulia Sammartano, Luca Facconi, Emanuele Gandelli, Fausto Minelli	subjected to shake table tests Domenico Palumbo, Chiara Ormando, <u>Ivan Roselli</u>	
16:45   17:00	Evaluating the effectiveness of FRP strengthening of historic stone masonry walls considering results of	The REVHEAL project: preliminary FE simulations of full-scale tests on masonry cross vaults	Structural upgrading and architectural conservation of a historic timber and masonry venetian sawmill	
	various analytical models Ima Kulović, Meta Kržan, Vlatko Bosiljkov	Emanuele Gandelli, Luca Facconi, Samuele Faini, Fausto Minelli, Marco Alforno, Chiara Ferrero, Emiliano Matta, Giulia Sammartano, Fiammetta Venuti, Alessia Monaco	<u>Michele Mirra</u> , Andrea Gerardini	
17:00   17:15	Composite aluminium-steel curtain walls for refurbishment of historical buildings: proposed solution and preliminary experimental tests	Reducing the horizontal bracing of historic arch bridges Philippe Van Bogaert, Hans De Backer	Evaluation of the old sliding bridge over the Euripos strait in Chalkis, Greece <u>Konstantinos Mantas</u> , Ioannis Vayas	
	Antonio Formisano, Munammad Tayyab Naqash			
17:15   17:30	Steel collar connectors for TCC floors: interpretation of the mechanical behaviour through numerical studies	Structural behavior of post-and-plank timber walls subjected to vertical and cyclic horizontal loads	Efficient solutions for the 3D survey of narrow spaces: the case study of the bell tower of the S.S. Trinita church in	
	<u>Giacomo Iovane,</u> Federico Massimo Mazzolani, Beatrice Faggiano	<u>Petya Gruewa,</u> Vatyu Tanev, Dessislava Pashkouleva, Georgi Stoilov	Massimiliano Pepe, <u>Donato</u> <u>Palumbo</u> , Enrico Spacone	
17:30   17:45	Conservation of high porosity stones: compatibility of multilayer treatments	The influence of friction coefficient to the nonlinear dynamic response of multi-drum columns	Public reconstruction after L'Aquila 2009 earthquake: the case study of the ex-nursery	
	A.P. Ferreira Pinto, Inês Almeida, Bruno Sena da Fonseca	Olympia Panagouli, Maria Kafetsi, Euripidis Mistakidis	Laura Ciammitti	
20:00   23:00		Guided Tour & Social Dinner		

	MAIN HALL				
09:00   09:45	<b>KEYNOTE LECTURE IV</b> Chair: Gianmarco de Felice <b>The concept of resilience from classic times to Anthropocene era</b> <b>Maurizio Indirli</b> ENEA past Director of Research				
	PARALLEL SESSION				
	MAIN HALL	ROOM B			
09:45   10:45	SESSION H7 Architecture, archeology and urban conservation	SESSION A7 Climate change effects and mitigation strategies	SESSION B7 Digital twin engineering and artificial intelligence		
	Manlio Montuori	Teresa lovane			
09:45   15:00	Knowledge and conservation through sustainable fruition: the cave complex of San Michele a Sant'Angelo di Alife (CE) Maria Teresa Como, Nicodemo Abate, Consuelo Capolupo, Alessia Frisetti	A multidisciplinary, innovative, and traditional investigation approach to preserve a historic center affected by complex landslides Donato Infante, <u>Mohammad Amin</u> <u>Khalili</u> , Ciro Sepe, Diego Di Martire, Massimo Ramondini	Digital generative approach research on the facade of Kulangsu modern western-style architecture based on shape grammar Kehan Zhang, Changqing Wang, Yang Liu, Shaosen Wang		
10:00   10:15	The 'vernacular' material of Monte Somma: building traditions and conservation conditions of unknown rural architecture. The case of D'Avino 'turret' Annamaria Ragosta, Corrado Castagnaro	Cultural heritage exposed to water soil interaction threats: a novel approach for risk management Raffaele Landolfo, Leonardo Cascini, Lucrezia Cascini, Francesco P.A. Portioli	Adaptive modular monitoring systems as interfaces with finite element models in the "phygital" dynamical evolution of historical monuments Fabrizio Barone, Marco Casazza		
10:15   10:30	Adaptive reuse in New Zealand: enhancing small-town resilience through heritage buildings Cansu Inal Kaynar, Nigel Isaacs, Andre Brown, Ilan Noy	Rigid block limit analysis of traditional constructions exposed to Fast moving landslides - the case study of the Casa Amalfitana Vincenzo Crisci, Francesco Portioli, Lucrezia Cascini, Raffaele Landolfo	<b>3D point cloud dataset</b> <b>integration for built cultural</b> <b>heritage structural assessment</b> Manlio Montuori		
10:30   10:45	The Heart of the city - Arad fortress reconversion masterplan (case study) <u>Andreescu Ioan</u> , Dinu Dan Razzvan, Rata Marian Andrei	Research on the evaluation of symptom-based reliability for masonry structures under freeze-thaw effect Chong-en Ang, Yong-qiang Xia, Nan Xiao	Ontology development for deep learning and documentation of heritage structures Satwant Rihal, Hisham Assal		
10:45   11:00	Coffee break				





	MAIN HALL	ROOM A	ROOM B
11:15   13:00	SESSION H8 Structural engineering and modeling approaches <i>Chairs:</i> Euripides Mistakidis, Simona Coccia, Emanuele Gandelli	SESSION A8 Earthquake engineering <i>Chairs:</i> Ghoson Danhash, Balázs Kövesdi	SESSION B8 Structural health monitoring, maintenance and management Chairs: Vasco Peixoto de Freitas, Marco Casazza
11:15   11:30	Progressive collapse of historical building under blast load Munther Ibrahim, <u>Mohammad</u> <u>Samaaneh,</u> Firas Al Mahmoud	Seismic vulnerability assessment and rehabilitation of a historic masonry building complex in Naples Antonio Davino, <u>Giovanna</u> Longobardi, Antonio Formisano	The IIWC survey form for existing timber structures Beatrice Faggiano,Giacomo lovane, <u>Dante Marranzin</u> i, Francesco Augelli, Fabio Bernardi, Clara Bertolini, Tiziana Campisi, Pier Paolo Derinaldis, Tanja Marzi, Claudio Menichelli, Olivia Pignatelli, Giulio Mirabella Roberti, Nicola Ruggieri, Chiara Tardini, Paolo Salonia, Antonio Frattari
11:30   11:45	Analysis of brick masonry historic churches with timber vaults - construction techniques and structural behaviour Marius Mosoarca, <u>Alexandra Kelle</u> r	Most vulnerable building technical elements in a multi-hazard scenario Roberto Castelluccio, Rossella Marmo, Veronica Vitiello, Luca Ponticelli	Monitoring for the preservation of cultural heritage and visitor satisfaction Anna Marzo, Patrizia Aversa, Carolina Innella, <u>Giuseppe</u> <u>Marghella</u> , Concetta Tripepi
11:45   12:00	On the stability of masonry arches through limit analysis and a nonlinear finite element-based method Natalia Pingaro, Giuliana Cardani, Dario Coronelli, Gabriele Milani	Fragility curves for low-rise residential masonry buildings in low seismicity Regions <u>Gizem Özge Yalçınkaya</u> , Oguz Celiki	Assessment of vibration effects on masonry structures in Sukhothai and Ayutthaya: UNESCO World Heritage sites in Thailand Nakhorn Poovarodom, Phromphat Thansirichaisree, Naret Limsamphancharoen, Bhakapong Bhadrakom, Amorntep Jirasakjamroonsri, Chaitanya Krishna
12:00   12:15	Limit analysis-based approach for the assessment of local failures in masonry aggregates according to Italian standards <u>Martina Buzzetti</u> , Natalia Pingaro, Alessandro Gandolfi, Gabriele Milani	Seismic assessment of historical masonry structures in Famagusty using finite element modeling <u>Mohammad Samaaneh</u> , Munther Ibrahim, Firas Al MahmoudOguz Celiki	Frequency identification of a masonry building in shake table tests by motion magnification analysis at different video camera speed Vincenzo Fioriti, Chiara Ormando, Flavia Del Grosso, Alessandro Colucci, <u>Ivan Roselli</u>
12:15   12:30	Modeling approaches and software tools for rigid block analysis of historic masonry structures <u>Francesco P.A. Portioli</u> , Lucrezia Cascini, Raffaele Gagliardo, Raffaele Landolfo	Assessing the residual capacity of damaged buildings: a mechanical approach for future perspectives Mariacarla Fraiese, Antonio Formisano, <u>Roberto Castelluccio</u> , Lorenzo Diana	The dynamic loading of Vilnius St. Anne Church - investigation and analysis Arūnas Jaras, Romualdas Kliukas, Ona Lukoševičienė

	MAIN HALL	RO	OM A	ROOM B		
12:30   12:45	Dynamic behaviour of Chinese Xizang-style stone-timber structures under harmonic excitations Yue Cui, Na Yang	A multi-performance assessment methodology for the seismic and energy retrofit of buildings <u>Elvira Romano</u> , Antonio Formisano, Raffaele Landolfo, Paolo Negro		Vibration isolation and structural health monitoring of the historical monument "Mourned over the dead Christ" in Naples Mariacristina Spizzuoco, Habibollah Katouli, Giorgio Serino, Daniele Losanno		
12:45   13:00	A new advanced and simple procedure for the nonlinear static analysis of curved masonry structures <u>Martina Buzzetti</u> , Alessandro Gandolfi, Natalia Pingaro, Gabriele Milani			Anomaly detection of static monitoring data of traditional Tibetan timber structures based on LSTM-MHSA-VAE Xiaowen Qian, Na Yang		
13:00   14:00	Lunch					
	MAIN HALL					
14.00   14.15	SPONSORED TALK Chair: Francesco Paolo A. Portioli Advanced technologies for the preservation of historic structures: applications of active mass dampers Fabio Menardo Head of Structural Team ISAAC srl					
	PARALLEL SESSION					
	MAIN HALL		ROOM A			
14:15   15:30	SESSION H9 Materials, technologies and innovative devices Chairs: Elena Mele, Marco L. Lara Calderon		SESSION A9 Case studies Chairs: Catalina-Maria Bocan, Stefano Invernizzi			
10:15   10:30	Demountable shear connectors in steel-concrete beams as solution for ehabilitation Lina Bassil, Sébastien Durif, <u>AbdelHamid Bouchair</u> , Khaled El-Tawil		Typological characterization and mechanical behavior analysis of historic masonry walls in the Campania RegionPaolo Todisco, Francesco Aufiero, Ernesta De Vito, Elide Nastri			
14:30   15:45	Structural upgrade of a hybrid steel-reinforced concrete multistorey building in a marine environment. Strengthening of the composite concrete floor Florea Dinu, Calin Neagu, Dan Dubina, Constantin Stanciu		Virtualization for knowledge and protection: the case of an early medieval church Enrico Babilio, Silvana Rapuano			



	MAIN HALL	ROOM A			
14:45   15:00	Experimental tests on hemp-reinforced adobe bricks Emilia Meglio, Antonio Formisano	Multi-hazard structural damage assessment of historic masonry buildings: the case study of a medieval castle in northern Italy Chiara Ferrero, <u>Chiara Calderini</u> , Giulio Lucio Sergio Sacco			
15:00   15:15	On the effectiveness of pre-stressed steel strips for solving shear failures in existing reinforced concrete buildings: experimental results Maria Teresa De Risi, Carlo Del Gaudio, Paolo Ricci, Gerardo Mario Verderame, Alessandro Vari	Structural strengthening of the landmark Athens Hilton hotel Euripidis Mistakidis, Apostolos Koukouselis, Olympia Panagouli			
15:00   15:30	<b>Dynamic assessment of timber floor</b> <b>strengthening with post-tensioned wire rope</b> Luciana Di Gennaro, Giuseppe Faella, Giorgio Frunzio,Mariateresa Guadagnuolo, Luigi Massaro	Reconstruction of the Széchenyi chain bridge in Budapestel László Dunai, Adrián Horváth, Dénes Kollár, Balázs Kövesdi			
	MAIN HALL				
15:30   16:00	CLOSING CERIMONY				
16:00   17.00	Farewell Toast				

# GENERAL INFORMATION

5th International Conference on Protection of Historical Constructions (PROHITECH)

### CONFERENCE VENUE

Congress Centre, University of Naples Federico II Via Partenope, 36 - 80121 Napoli, Italy

### REGISTRATION DESK AND CONFERENCE SECRETARIAT

Location: Congress Centre, ground floor

- Opening time:
- March 26th : from h. 08.00 to 18.00
- March 27th : from h. 08.30 to 18.00
- March 28th : from h. 08.30 to 17.00

### REGISTRATIONS



\*Student Registration Fee: undergraduate, postgraduate, PhD. A certification should be uploaded during the registration process. \*\*Late e onsite Registration Fee: the social dinner will be subject to availability. In lack of seats for the social dinner the stardard registration fee will be applied. \*\*\*For Spouse only: this fee will not allow the access to the Conference but only to the Social Events.

### DELEGATE AND STUDENT STANDARD fee includes:

- Admission to the technical sessions
- Name badge

- Pubblication of the Full Paper by Springer Nature indexed both in Scopus and Web of Science
- Certificate of attendance
- Coffee breaks, lunches and farewell toast according to the technical program
- Welcome reception on March 26
- Social dinner IS NOT INCLUDED

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- Coffee breaks, lunches and farewell toast according to the technical program
- Welcome reception on March 26
- Social dinner on March 27

### SOCIAL PROGRAM

### Welcome Reception

Wednesday, March 26<sup>th</sup> h. 18:30 | 21:00 *Venue*: Roof Top Hotel Royal (10<sup>th</sup> floor) *Address*: Via Partenope, 38 (seafront district) The venue is located at walking distance from the Congress Centre *Dress code: casual* 

### Guided Tour & Social Dinner (for Delegate and Student Full Fee only)

Thursday, March 27<sup>th</sup> h. 20.00 | 23.00 *Venue*: Monumental Complex of St. Chiara *Address*: Via B. Croce 16, Naples *Transfer by bus will be provided from the conference venue at 19.30 and return at the end of the dinner Dress code: smart casual* 

### NAME BADGE

For identification purpose and admission to the conference venue and to social events, badges are expected to be worn at all times.

### INTERNET WIRELESS

Connection is available at the conference venue conference Network: **guestpartenope** Password: **xs414344** 

### MEALS

Coffee breaks, lunches and farewell toast will be served according to the program schedule at the Congress Centre, first floor.

### AIRPORT & FLIGHT

It is advised that you leave the hotel or the conference venue 3 hours in advance for international flights, and 2 hours in advance for domestic flights.



### GUIDELINES FOR ORAL PRESENTATIONS

Presentations should last no longer than 15 minutes to allow 5 minutes for questions and changeover to the next speaker. All screens are in widescreen (16:9) format.

Each presenter is strongly encouraged to meet with the session chair a minimum of 10 minutes before the commencement of the session.

Each speaker is requested to bring along the presentation on a USB pen and to upload the presentation in the room which is assigned to his/her presentation at least 1 hour before the session starts.

### AUDIO-VISUAL EQUIPMENT

Presentation rooms are equipped with projectors for computer-based presentations. Presentations should be prepared in PowerPoint or PDF.

Presenters will be provided with a remote controller, with integrated laser pointer that can be used to advance slides in PowerPoint. Slides with movies (format .MOV or MP4) must be checked for playback on the laptop.

*For Mac users*: Power Point slides are normally compatible. If you use "Keynote" please take care that the file is converted in PDF.

The use of one's personal laptop is strongly discouraged.













# CONGRESS CENTER FLOOR PLAN FIRST FLOOR



# **GROUND FLOOR**





# Organizing Secretariat



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