

# EMI 2023 IC

## PROGRAM

**PALERMO August 27-30, 2023**



**Prof. Massimo MIDIRI**

Congress Chair  
University of Palermo, Italy



**Prof. Antonina Pirrotta**

Congress Chair  
University of Palermo, Italy



**Prof. Pol D. SPANOS**

Honorary Chair  
Rice University, Houston, USA



# EMI 2023 IC

PALERMO August 27-30, 2023

## Program

Version 10 - Date 06/Sep/2023

### Sunday - August 27, 2023

18:00 - 20:30 Registration and Welcome Cocktail

Orto Botanico

### Monday - August 28, 2023

08:00 Registration

Aula Magna Business School Building 13

08:30 - 09:15 SESSION 1: Opening Session

Aula Magna Business School Building 13

SESSION 2

Aula Magna Business School Building 13

09:15 - 09:55	Title	Speaker
	<a href="#">Plenary Lecture: Modeling and simulation of soil-structure-vehicle interaction of railway bridges subjected to high-speed trains</a>	Christoph Adam

10:00 - 11:00 SESSION 3

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23  
International Conference (23SM&MS23)  
in honor of Emeritus Professor Mario Di Paola**

AULA 5

**CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta**

	Title	Author(s)	Speaker
10:00	Prelude		
10:20	<a href="#">The stochastic differential calculus for non-Gaussian delta-correlated input: the Di Paola-Falsone calculus after thirty years</a>	Giovanni Falsone	Giovanni Falsone
10:40	<a href="#">Fragility Curves for Wooden Houses in Japan Based on Integrated Damage Data from the 2016 Kumamoto Earthquake</a>	Fumio Yamazaki, Kazuaki Torisawa	Fumio Yamazaki
	<b>MS05 - Computational modelling of Complex Flows with evolving interfaces</b>		AULA Seminari B
	<b>CHAIRS: Michele La Rocca, Andrea Montessori, Sinan Özeren, Pietro Prestininzi</b>		
	Title	Author(s)	Speaker
10:00	<a href="#">SPH modelling of high-density ratio multiphase flows with complex interfaces</a>	Nicolò Salis, Alessandro Reali, Sauro Manenti	Nicolò Salis
10:20	<a href="#">Internal solitary wave trains: interaction and grouping into multi-humped configurations</a>	Giovanni La Forgia, Giampiero Sciortino, Valentina Lombardi, Pietro Prestininzi	Pietro Prestininzi

	<b>MS06 - Industrial Hydraulics</b>		<b>AULA 10</b>
	<b>CHAIRS: V. Armenio, B. Brunone, A. Carravetta, M. De Marchis, O. Giustolisi, S. Malavasi</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">A comparison between commercial devices for energy recovery in a real Water Distribution Network</a>	Gabriella Balacco, Michele Stefanizzi, Gaetano D. Fiorese, Domenico Filannino, Marco Torresi, Orazio Giustolisi	Gabriella Balacco
10:20	<a href="#">Water Loss Estimation and Pipe Deformation in Water Distribution Network: Laboratory and Numerical experiments</a>	Mauro De Marchis, Federica Bruno, Domenico Saccone, Fabrizio Traina, Enrico Napoli	Mauro De Marchis
10:40	<a href="#">Bayesian Identification of brackish water infiltration by Lagrangian sensors</a>	Gabriele Freni, Mariacrocetta Sambito	Gabriele Freni
	<b>MS09 - Uncertainty Quantification, reliability and sensitivity analysis under limited data</b>		<b>AULA 8</b>
	<b>CHAIRS: Alba Sofi, David Moens, Edoardo Patelli, Matthias Faes, Michael Hanss</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Invited Keynote Lecture: Probabilistic Approaches for Uncertainty Quantification with Sparse and Interval Data</a>	Sankaran Mahadevan	Sankaran Mahadevan
10:40	<a href="#">Uncertainty propagation on the thunderstorm gust response factor via interval analysis</a>	Luca Roncallo, Federica Tubino, Alba Sofi, Giuseppe Muscolino	Luca Roncallo
	<b>MS16 - Multiscale Mechanics and Nanostructures</b>		<b>AULA 7</b>
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	Prelude		
10:20	<a href="#">A hybrid continuous/discontinuous multiscale approach for analyzing damage localization phenomena in anisotropic composite microstructures</a>	Daniele Gaetano, Fabrizio Greco, Lorenzo Leonetti, Arturo Pascuzzo	Lorenzo Leonetti
10:40	<a href="#">A multiphase approach to peridynamics</a>	Federico Cluni, Vittorio Gusella, Dimitri Mugnai, Edoardo Proietti Lippi, Patrizia Pucci	Federico Cluni

	<b>MS24 - Recent advances, applications and challenges of coupled free flow and porous media flow systems</b>		<b>AULA 3</b>
	<b>CHAIRS: Martin Schneider, Holger Class, Rainer Helmig, Costanza Aricò, Donatella Termini</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Invited Keynote Lecture: Coupled Free and Porous-Medium Flow Processes – Models, Concepts and Analysis</a>	Rainer Helmig, Martin Schneider, Edward Coltman, Anna Mareike Kosteletzky, Maziar Veyskarami, Hanchuan Wu, Costanza Arico'	Rainer Helmig
10:40	<a href="#">Homogenization-Based Analytical Solution for Laminar Flow Problems in Channels Bounded by Rough/Permeable Walls</a>	Essam Nabil Ahmed, Alessandro Bottaro	Essam Ahmed
	<b>MS26 - Innovations in Biomechanics and Bio-Inspired Engineering</b>		<b>AULA 9</b>
	<b>CHAIRS: Marco Amabili, Emanuela Bologna, Massimiliano Zingales</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Assessing the mechanical stimuli of bone remodeling through multiscale, micromechanics-inspired modeling</a>	Stefan Scheiner, Christian Hellmich, Nenad Filipovic	Stefan Scheiner
10:20	<a href="#">Atlas-based Quantification of the Biomechanics of Patients with Transcatheter Aortic Valve Replacement</a>	Chiara Catalano, Roberta Scuoppo, Stefano Cannata, Caterina Gandolfo, Salvatore Pasta	Salvatore Pasta
10:40	<a href="#">Uncertainty quantification of dynamic cerebral autoregulation in cardiovascular disease: A Bayesian compressive sampling approach</a>	Leonidas Taliadouros, Maria I. Katsidoniotaki, Ioannis A. Kougioumtzoglou	Leonidas Taliadouros
	<b>MS29 - Bio-fluid mechanics</b>		<b>AULA 4</b>
	<b>CHAIRS: Valerio Caleffi, Giorgio Querzoli, Jan O. Pralits, Rodolfo Repetto, Annunziato Siviglia, Francesca Maria Susin</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Computational study of retinal blood flow coupled to a global circulation model</a>	Alessia Casalucci, Rodolfo Repetto, Lucas Omar Muller, Annunziato Siviglia, Eleuterio Francisco Toro	Alessia Casalucci

10:20	<a href="#">From cine-MRI to Computational Models of Blood Flow in the Right Heart</a>	Francesca Renzi, Marco Fedele, Christian Vergara, Vincenzo Giambruno, Alfio Quarteroni, Giovanni Puppini, Giovanni Battista Luciani	Francesca Renzi
10:40	<a href="#">Blood Flow Simulation in an Improved Blalock-Taussig Shunt in Patient Specific Geometries</a>	Ramesh Agarwal	Ramesh Agarwal
<b>MS31 - Multiscale and Multiphysics Modelling for 'Complex Materials' (MMCM18)</b>			<b>AULA 6</b>
<b>CHAIRS: Marco Pingaro, Patrizia Trovalusci, Emanuele Reccia, Greta Ongaro</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Multiscale approach for modeling the elastic and fracture properties of nanomodified epoxy resins</a>	Greta Ongaro, Razie Izadi, Marco Pingaro, Patrizia Trovalusci, Roberta Bertani	Greta Ongaro
10:20	<a href="#">Buckling Property of Woven Fabric Composite Laminate with a Small Number of Plies</a>	Keishiro Yoshida, Tatsuya Kitao, Keita Oda	Keishiro Yoshida
10:40	<a href="#">Computational thermo-elastic steady-state homogenization of polycrystals by boundary elements</a>	Ivano Benedetti, Alberto Milazzo	Ivano Benedetti
<b>MS39 - Computational intelligence in structural engineering &amp; structural optimization</b>			<b>AULA 1</b>
<b>CHAIRS: Fabio Di Trapani, Josephine Voigt Carstensen, Cristoforo Demartino, Giuseppe Carlo Marano</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Advances of a GA-based optimization procedure for seismic upgrading of RC structures</a>	Francesco Nigro, Enzo Martinelli	Francesco Nigro
10:20	<a href="#">Structural optimization for designing sustainable structures under seismic condition</a>	Emanuele Crespino, Sigrid Adriaenssens, Aguinaldo Fraddosio, Carlo Olivieri, Mario Daniele Piccioni	Emanuele Crespino
10:40	<a href="#">Free vibrations of shear deformable beams and frames in presence of multiple cracks</a>	Francesco Cannizzaro, Ilaria Fiore, Salvatore Caddemi, Ivo Calì	Francesco Cannizzaro

11:00 - 11:40 Coffee break

11:40 - 12:40 SESSION 4

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23  
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AULA 5

**CHAIRS:** *Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta*

	Title	Author(s)	Speaker
11:40	<a href="#">Efficient stochastic response determination of nonlinear systems based on a reduced-order formulation of the Wiener path integral technique in conjunction with high-performance computing strategies</a>	Ketson R. M. dos Santos, Ioannis A. Kougioumtzoglou	Ketson R. M. dos Santos
12:00	<a href="#">Stochastic response determination of an array of coupled nonlinear micromechanical oscillators based on an efficient reduced-order formulation of the Wiener path integral technique</a>	Maria I. Katsidoniotaki, Ioannis Petromichelakis, Ioannis A. Kougioumtzoglou	Maria I. Katsidoniotaki
12:20	<a href="#">Solving Partial Differential Equations with Quantum Approximate Bayesian Optimization Algorithm</a>	Jungin Kim, Jinhwan Sul, Yan Wang	Yan Wang

**MS04 - First new science, on the resistance of solid bodies to be broken. A mini-symposium in honor of Roberto Ballarini on the occasion of his 65th birthday**

AULA 2

**CHAIRS:** *Jia-Liang Le, Gianni Royer-Carfagni*

	Title	Author(s)	Speaker
11:40	<a href="#">Invited Keynote Lecture: Structural Testing at micrometer and nanometer scales</a>	Roberto Ballarini	Roberto Ballarini
12:20	<a href="#">Flextegrity and sheartegritty demonstration models for the multiscale analysis of structured materials and metamaterials</a>	Gianni Royer Carfagni, Claudio Boni	Gianni Royer Carfagni

**MS06 - Industrial Hydraulics**

AULA 10

**CHAIRS:** *V. Armenio, B. Brunone, A. Carravetta, M. De Marchis, O. Giustolisi, S. Malavasi*

	Title	Author(s)	Speaker
11:40	<a href="#">Total drag estimation of turbulent flow over industrial rough surfaces</a>	Federica Bruno, Mauro De Marchis, Stefano Leonardi	Federica Bruno
12:00	<a href="#">Data-driven models for water distribution networks: A promising Machine Learning approach for improving efficiency and sustainability</a>	Gabriele Restuccia, Ilenia Tinnirello, Fulvio Lo Valvo, Giacomo Baiamonte, Domenico Garlisi, Costantino Giaconia	Gabriele Restuccia
12:20	<a href="#">Numerical study of noise reduction by air-sheet barriers in water</a>	Naira Hamid	Naira Hamid

	<b>MS16 - Multiscale Mechanics and Nanostructures</b>		<b>AULA 7</b>
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Computational Methods for Wave Dispersion Analysis in Stress-Driven Nonlocal Rayleigh Beam Lattices</a>	Andrea Francesco Russillo, Giuseppe Failla, Gioacchino Alotta	Giuseppe Failla
12:00	<a href="#">Steady vibration problems in the coupled theory of thermoviscoelasticity for triple porosity materials</a>	Maia M. Svanadze, Merab Svanadze	Merab Svanadze
12:20	<a href="#">A viscoelastic nonlocal model for microtubules used as vibrational biosensors</a>	Francesco Paolo Pinnola, Francesco Marotti de Sciarra	Francesco Paolo Pinnola
	<b>MS24 - Recent advances, applications and challenges of coupled free flow and porous media flow systems</b>		<b>AULA 3</b>
	<b>CHAIRS: Martin Schneider, Holger Class, Rainer Helmig, Costanza Aricò, Donatella Termini</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">A framework for data-driven multi-scale parametrizations in coupled porous media and free-flow systems</a>	Edward Coltman, Martin Schneider, Rainer Helmig	Edward Coltman
12:00	<a href="#">Fluid-Structure Interaction in Reverse Osmosis membrane modules</a>	G. Battaglia, L. Ranieri, B. Blankert, G. Micale, C. Picioreanu	Giuseppe Battaglia
12:20	<a href="#">A Finite Element approach to address the 3D coupled thermo-mechanical and neutron diffusion problem on cementitious materials</a>	Jiangkun Zhang, Beatrice Pomaro, Gianluca Mazzucco, Beaudin Freinrich Dongmo, Valentina Salomoni, Carmelo Majorana	Beatrice Pomaro
	<b>MS26 - Innovations in Biomechanics and Bio-Inspired Engineering</b>		<b>AULA 9</b>
	<b>CHAIRS: Marco Amabili, Emanuela Bologna, Massimiliano Zingales</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Large Scale Biomimicry Impact of Three-Dimensional Annulus Shape and Leaflet Lateral Profile on Engineered Mitral Valve Mechanics, a Numerical Analysis</a>	Elisa Lanzalaco, Joan Dario Laubrie Soto, Federica Cosentino, Giuseppe Raffa, Michele Pilato, Vincenzo La Carrubba, Antonio Pantano, Antonio D'Amore	Elisa Lanzalaco

12:00	<a href="#">A MicroCT in situ protocol to reveal the structure-function relation in electrospun hierarchical scaffolds for tendon/ligament regeneration</a>	Gregorio Marchiori, Alberto Sensini, Nicola Sancisi, Gianluca Tozzi, Massimiliano Zingales, Gaia Prezioso, Andrea Zucchelli, Gianluca Giavaresi	Gregorio Marchiori
MS29 - Bio-fluid mechanics			AULA 4
CHAIRS: Valerio Caleffi, Giorgio Querzoli, Jan O. Pralits, Rodolfo Repetto, Annunziato Siviglia, Francesca Maria Susin			
	Title	Author(s)	Speaker
11:40	<a href="#">Homogenization of osmotic flows across thin permeable membranes</a>	Kevin Wittkowski, Edoardo Carlo Giordano, Pier Giuseppe Ledda, François Gallaire, Giuseppe Antonio Zampogna	Kevin Wittkowski
12:00	<a href="#">A fluid structure interaction model of the vibration frequencies of the eye bulb</a>	Tomassetti Giuseppe, Tambroni Nicoletta, Rodolfo Repetto	Tomassetti Giuseppe
12:20	<a href="#">Effect of Heart Contraction on Coronary Arteries’ Flow Rate</a>	Seyyed Mahmoud Mousavi, Gianluca Zitti, Jolanda J. Wentzel, Marco Pozzi, Maurizio Brocchini	Seyyed Mahmoud Mousavi
MS31 - Multiscale and Multiphysics Modelling for 'Complex Materials' (MMCM18)			AULA 6
CHAIRS: Marco Pingaro, Patrizia Trovalusci, Emanuele Reccia, Greta Ongaro			
	Title	Author(s)	Speaker
11:40	<a href="#">Investigating elastic- and entropic-driven rupture mechanisms of biomembranes</a>	Salvatore Buonocore, Rosario Capozza, Francesco De Angelis	Salvatore Buonocore
12:00	<a href="#">Bearing capacity of truss lattice structures</a>	Mattia Schiantella, Federico Cluni, Vittorio Gusella	Mattia Schiantella
12:20	<a href="#">Coupling Virtual Element Method (VEM) and Interface Elements for modelling fracture propagation in Grain Boundaries materials</a>	Cistrina Gatta, Marco Pingaro, Daniela Addessi, Patrizia Trovalusci	Marco Pingaro



	<b>MS40 - Innovations in Structural Dynamics Models and Experiments</b>		<i>AULA Seminari A</i>
	<b>CHAIRS: Giovanni Fabbrocino, Giacomo Navarra, Massimiliano Goffrè, Francesco Lo Iacono, Stefano Ercolessi</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Dynamic characterization and shake-table experimental validation of an innovative base-isolation device for seismic protection of statues</a>	Giacomo Navarra, Francesco Lo Iacono, Elena Alberti, Maria Oliva	Giacomo Navarra
12:00	<a href="#">Numerical modeling of the seismic response and damage of full-scale masonry arches and vaults</a>	Roberta Scungio, Chiara Pepi, Massimiliano Goffrè	Roberta Scungio
12:20	<a href="#">Preliminary experimental tests and numerical modelling of an innovative base isolation system</a>	Francesco Lo Iacono, Giuseppe Mugnos, Giacomo Navarra, Alessandro Bianchi, Roberto Giacchetti	Francesco Lo Iacono
	<b>MS39 - Computational intelligence in structural engineering &amp; structural optimization</b>		<i>AULA 1</i>
	<b>CHAIRS: Fabio Di Trapani, Josephine Voigt Carstensen, Cristoforo Demartino, Giuseppe Carlo Marano</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Cost and embodied carbon-based optimization of seismic retrofit of RC frame structures using evolutionary algorithms</a>	Fabio Di Trapani, Antonio Pio Sberna, Josephine V. Carstensen, Giuseppe Carlo Marano	Fabio Di Trapani
12:00	<a href="#">Iterative partial stiffening process for the reduction of shell buckling</a>	Alex Seiter, Thorsten Pofahl, Martin Trautz	Alex Seiter
12:20	<a href="#">Research on Intelligent Design Method for Structural Topology of Complex Architectural Plans</a>	Chong Zhang, Chen Wang, Muxuan Tao, Jiansheng Fan	Chong Zhang
	<b>MS05 - Computational modelling of Complex Flows with evolving interfaces</b>		<i>AULA Seminari B</i>
	<b>CHAIRS: Michele La Rocca, Andrea Montessori, Sinan Özeren, Pietro Prestininzi</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Allied Denoising Convolutional Neural Network for State-of-Health Estimation for Lithium-Ion Batteries</a>	Sun Geu Chae, Suk Joo Bae	Sun Geu Chae
12:00	<a href="#">Emulsion dynamics in an idealized porous matrix</a>	Stefano Miliani, Andrea Montessori, Michele La Rocca, Pietro Prestininzi	Pietro Prestininzi
12:40 - 14:00 Lunch			

14:00 - 16:00 SESSION 5 (Junior Sessions)

BUILDING 19

**Junior MS02 - Mathematical models and methods for Structural Systems**

AULA 5

**CHAIRS:** Andrea Burlon, Rossella Laudani

	Title	Author(s)	Speaker
14:00	<a href="#">Wave propagation modeling in periodic magneto-electro-elastic materials via multi-field continualization</a>	Rosaria Del Toro, Maria Laura De Bellis, Andrea Bacigalupo	Rosaria Del Toro
14:20	<a href="#">A Dimension Reduction Approach based on the Wiener Path Integral For Determining The Stochastic Response Of Nonlinear Systems With Fractional Derivative Elements</a>	Ilias Mavromatis, Ioannis Kougiumtzoglou	Ilias Mavromatis
14:40	<a href="#">A low energy and slow timescale control device for the re-tuning of a suboptimal tuned mass damper</a>	Anass Mayou, Vincent Denoël	Anass Mayou
15:00	<a href="#">Sensitivity of a granular homogeneous and isotropic second-gradient continuum model with respect to uncertainties</a>	Gabriele La Valle, Bilen Emek Abali, Giovanni Falsone, Christian Soize	Gabriele La Valle
15:20	<a href="#">Mechanical behaviour of polymeric cords used in tyres</a>	Lucas Pires da Costa, Marco Moscatelli, Paola Caracino, Claudia Comi, Giorgio Novati	Lucas Pires da Costa
15:40	<a href="#">Diffusion of the aging fluid in a bidimensional homogeneous body</a>	Angelo Scrofani, Emilio Barchiesi, Bernardino Chiaia, Anil Misra, Luca Placidi	Angelo Scrofani

**Junior MS03 - Probabilistic methods for uncertainty quantification and Bayesian solutions to structural identification problems**

AULA 6

**CHAIRS:** Chiara Pepi, Silvia Monchetti, Cecilia Viscardi

	Title	Author(s)	Speaker
14:00	<a href="#">Approximate Bayesian Computation and surrogate modeling for structural identification of simple structural systems</a>	Chiara Pepi, Silvia Monchetti, Cecilia Viscardi, Massimiliano Gioffrè, Gianni Bartoli, Roberta Scungio	Roberta Scungio
14:20	<a href="#">A probabilistic approach for regional post-earthquake damage assessment in bridges using Bayesian networks</a>	Pooria Mesbahi, Enrique García-Macías, Marco Breccolotti, Filippo Ubertini	Pooria Mesbahi

14:40	<a href="#">Global sensitivity analysis of metabarriers for seismic surface wave attenuation using surrogate modeling</a>	Farhad Zeighami, Leonardo Sandoval, Alberto Guadagnini, Vittorio Di Federico	Farhad Zeighami
15:00	<a href="#">Modeling creep-assisted failure of viscoelastic materials based on the phase field approach</a>	Ajinkya Dusane, Pietro Lenarda, Marco Paggi	Ajinkya Dusane
15:20	<a href="#">Bayesian updating of a multi-storey timber building</a>	Blaž Kurent, Noemi Friedman, Boštjan Brank	Blaž Kurent
15:40	<a href="#">Parametric Algorithm-Aided design of optimal long-span hollow-section steel beams</a>	Alessandra Fiore, Iris Tarallo, Giuseppe Carlo Marano	Iris Tarallo
<b>Junior MS04 - Toward novel theoretical methods and experimental techniques for structural health monitoring of civil structures</b>			<b>AULA 7</b>
<b>CHAIR: Domenico Camassa</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:00	<a href="#">Signal processing techniques for bridge damage identification using vehicle monitoring</a>	Giulia Sansone, Jean-Luc Dion, Stefania Lo Feudo, Paolo Lonetti, Arturo Pascuzzo	Giulia Sansone
14:20	<a href="#">On-site application of radar interferometry to the estimation of axial force in tie rods for historical masonry constructions</a>	Domenico Camassa, Anna Castellano, Antonio Curri, Aguinardo Fraddosio, Mario Daniele Piccioni	Antonio Curri
14:40	<a href="#">Measurements of vibrations induced by vehicles according to ISO 2631-1 and ISO 5349-1</a>	Giovanni Artale, Valentina Cosentino, Dario Fiandaca, Francesco Oddo, Antonina Pirrotta	Francesco Oddo
15:00	<a href="#">Modal identification of concrete bridge decks with dapped-end girders</a>	Matteo Mazzeo, Dario De Domenico, Davide Messina, Antonino Recupero, Roberta Santoro	Matteo Mazzeo
15:20	<a href="#">A Comparative Analysis of Nonlinear Hysteretic Models in Oscillating Systems</a>	Raffaele Capuano, Davide Pellecchia, Tommaso Coppola, Nicolò Vaiana	Davide Pellecchia
15:40	<a href="#">Detection of Water Content Profile of Concrete Using Ground Penetrating Radar</a>	Zihan Xia, Liyu Xie, Zheng Lu, XiaoLi Fu, Chao Shen	Zihan Xia

	Junior MS05 - Sustainable Urban Mobility for Liveable Neighbourhood			AULA 8
	CHAIR: Gabriele D'Orso			
	Title	Author(s)	Speaker	
14:00	<a href="#">A microtransit pilot study in Palermo, Italy</a>	Martina Citrano, Marco Migliore	Martina Citrano	
14:20	<a href="#">Measuring Walkability and Cyclability in Urban Areas around Railway Stations: A GIS-Based Approach in Palermo, Italy</a>	Muhammad Yasir, Marco Migliore	Muhammad Yasir	
14:40	<a href="#">Walkability assessment for improving the attractiveness of the public transport system in the suburban areas.</a>	Leonardo Minaudo, Marco Migliore	Leonardo Minaudo	
15:00	<a href="#">The potential of Demand Responsive Transport (DRT) to enhance accessibility in suburban areas: the case of Palermo (Italy)</a>	Pierfrancesco Leonardi, Vincenza Torrisi, Matteo Ignaccolo	Pierfrancesco Leonardi	
15:20	<a href="#">Reduction of Hand-Arm Vibrations (HAV) when driving electric scooters</a>	Salvatore Russotto, Salvatore Orlando, Andrea Evola, Antonina Pirrotta, Alessandro Albano, Antonella Plaia, Antonio Galvano, Valerio Gristina, Antonio Russo	Salvatore Orlando	
Coffee break				
SESSION 6 (Junior Sessions)				BUILDING 19
	Junior MS02 - Mathematical models and methods for Structural Systems			AULA 5
	CHAIRS: Andrea Burlon, Rossella Laudani			
	Title	Author(s)	Speaker	
16:20	<a href="#">Non linear invariant beam formulations: The Kirchhoff-Love rod case</a>	Leopoldo Greco, Massimo Cuomo, Domenico Castello, Simone Scalisi	Domenico Castello	
16:40	<a href="#">Closed-form solutions for mass moments of domains having inhomogeneous density distribution and arbitrary shape</a>	Davide Pellecchia, Nicolò Vaiana, Agnese Spedicato, Anna Castellano	Davide Pellecchia	
17:00	<a href="#">Uncertainty in the model of out-of-plane mechanisms for masonry structures</a>	Matteo Mazzeo, Rossella Laudani, Roberta Santoro	Matteo Mazzeo	
17:20	<a href="#">An inerter-based isolation system for the vibration control of a continuous girder bridge under longitudinal seismic action</a>	Silvia Sciutteri, Dario De Domenico, Giuseppe Ricciardi	Silvia Sciutteri	

17:40	<a href="#">Cloaking surface defects from Rayleigh waves using anisotropic symmetric yet feasible materials</a>	Zinon Chatzopoulos, Antonio Palermo, Andre Diatta, Sebastien Guenneau, Alessandro Marzani	Zinon Chatzopoulos
18:00	<a href="#">Wave-based vibration analysis of jointed metamaterial rods</a>	Bartłomiej Piwowarczyk, Michael Leamy, Paweł Paćko	Bartłomiej Piwowarczyk
18:20	<a href="#">Stability of a periodic grid with rigid finite-sized joints</a>	Nicola Marasciuolo, Francesco Trentadue, Domenico De Tommasi	Nicola Marasciuolo
18:40	<a href="#">Experimentally validated stochastic generation of numerical samples of hydrated cement paste</a>	Felix Mett, Matteo Broggi, Michael Beer	Felix Mett
<b>Junior MS06 - Modeling and analysis of advanced materials and structures</b>			<b>AULA 6</b>
<b>CHAIRS: Gioacchino Alotta, Francesco Paolo Pinnola</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
16:20	<a href="#">A flextegrity structure inspired by Leonardo da Vinci's triangular segmental construction</a>	Claudio Boni, Gianni Royer Carfagni	Claudio Boni
16:40	<a href="#">Some insights for a new constitutive model of snow</a>	Gianmarco Vallero, Monica Barbero, Fabrizio Barpi, Mauro Borri-Brunetto, Valerio De Biagi	Gianmarco Vallero
17:00	<a href="#">Creep due to the humidity variations in a polymeric bidimensional homogeneous beam</a>	Angelo Scrofani, Emilio Barchiesi, Anil Misra, Luca Placidi	Angelo Scrofani
17:20	<a href="#">Multifield nonlocal identification of periodic thermoelastic materials with two relaxation times</a>	Rosaria Del Toro, Maria Laura De Bellis, Andrea Bacigalupo	Rosaria Del Toro
17:40	<a href="#">A poromechanical approach for subcutaneous drug delivery</a>	Simona Lo Franco	Simona Lo Franco
18:00	<a href="#">New perspectives into the non-smooth contact dynamics of rigid masonry blocks</a>	Mario Argenziano, Enrico Babilio, Yoshiki Ikeda, Massimiliano Fraldi	Mario Argenziano

<b>Junior MS07 - New trends in structural health monitoring and retrofitting for sustainable maintenance of structures and infrastructures</b>				<b>AULA 8</b>
<b>CHAIRS: Marianna Crognale, Melissa De Iuliis, Cecilia Rinaldi</b>				
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
16:20	<a href="#">Digital Twin for Cultural Heritage Monitoring</a>	Cosimo Pellecchia, Marianna Crognale, Melissa De Iuliis, Cecilia Rinaldi, Gian Paolo Cimellaro, Vincenzo Gattulli	Cosimo Pellecchia	
16:40	<a href="#">BIM/FEM interoperability for modeling and management of the Moulay Abdellah arch dam</a>	Cecilia Mastroiacovo, Cecilia Rinaldi, Riccardo Zoggia, Amine Bendarma, Vincenzo Gattulli	Cecilia Mastroiacovo	
17:00	<a href="#">Dynamic identification of slender structures by means of stochastic subspace identification method.</a>	Massimo Cuomo, Leopoldo Greco, Simone Scalisi, Domenico Castello	Domenico Castello	
17:20	<a href="#">Scan-to-BIM procedures for the management of built environment</a>	Francesco Di Benedetto, Luana Pinnetti, Marianna Crognale, Melissa De Iuliis, Cecilia Rinaldi, Vincenzo Gattulli	Marianna Crognale	
17:40	<a href="#">Seismic isolation of art objects via inverted pendulum devices: from theory to practise</a>	Giuseppe Tommaso Di Venti, Francesco Cannizzaro, Salvatore Caddemi, Ivo Calì	Giuseppe Tommaso Di Venti	
<b>Junior MS01 - Innovative applications and modeling of additive manufacturing in biomechanics and biomedical engineering</b>				<b>AULA 7</b>
<b>CHAIR: Emanuela Bologna</b>				
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
16:20	<a href="#">A workflow for crystallinity prediction of 3D printed poly-ether-ether-ketone</a>	Francesca Rotini, Gianluca Alaimo, Stefania Marconi	Francesca Rotini	
16:40	<a href="#">Influencing parameters of additive manufacturing on the viscous encapsulation phenomena of PLA-PCL blending</a>	Fabiana Amiri , Pierpaolo Fucile, Gianmarco Nuzzo, Massimiliano Zingales, Lorenzo Moroni	Fabiana Amiri	
17:00	<a href="#">Phase transformation in the presence of anomalous heat transfer: a fractional order theory</a>	Gianmarco Nuzzo, Fabiana Amiri, Emanuela Bologna, Massimiliano Zingales	Gianmarco Nuzzo	

17:20	<a href="#">The free energy function for advanced manufactured materials</a>	Emanuela Bologna, Gaia Prezioso, Massimiliano Zingales	Gaia Prezioso
17:40	<a href="#">Comparison of three design of customized stent-graft for AAA realized in additive manufacturing.</a>	Sara Ragusa, Katia Siciliano, Emanuela Bologna, Massimiliano Zingales, Felice Pecoraro	Sara Ragusa
18:00	<a href="#">Polysaccharide-based bio-ink for 3D printing of scaffolds for cartilage reconstruction</a>	Emanuela Muscolino, Simona Galvano, Anna Barbara Di Stefano, Francesca Toia, Maria Antonietta Sabatino, Marco Trapani, Francesco Moschella, Adriana Cordova, Daniela Giacomazza, Clelia Dispenza	Emanuela Muscolino
18:20	<a href="#">Bio-Inspired Parametric Design of Graded Cell Size Primitive based in B-Spline Interpolation</a>	Massimo Cuomo, Golshan Farzi	Golshan Farzi
<b>Junior MS08 - Recent advances in Structural Health Monitoring and Structural vibration control</b>			<b>AULA 4</b>
<b>CHAIRS: Chiara Masnata, Salvatore Russotto</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
16:20	<a href="#">Innovative passive structural control systems including a nonlinear fluid inerter: an experimental-numerical study</a>	Miriam Chillemi, Thomas Furtmüller, Christoph Adam, Antonina Pirrotta	Miriam Chillemi
16:40	<a href="#">Numerical Modelling and Experimental Analysis on a Scaled Unreinforced Masonry Building</a>	Mariagrazia Elena Alberti, Francesco Lo Iacono, Giuseppe Mugnos, Giacomo Navarra	Mariagrazia Elena Alberti
17:00	<a href="#">Sensitivity Analysis on a Novel Continuous Particle Swarm Optimization Algorithm for EMA Model Updating</a>	Giuseppe Mugnos, Francesco Lo Iacono, Giacomo Navarra, Angela Ricciardello	Giuseppe Mugnos
17:20	<a href="#">Structural vibration control through Sliding Tuned Liquid Column Damper: an experimental study</a>	Chiara Masnata, Salvatore Dario Di Trapani, Antonina Pirrotta	Salvatore Dario Di Trapani

17:40	<a href="#">Operational Modal Analysis of quasi-periodic multi-span bridges: a model-based approach for Hierarchical Clustering</a>	Elisa Tomassini, Enrique García-Macías, Edwin Reynders, Filippo Ubertini	Elisa Tomassini
	<b>Junior MS09 - Generative Design strategies and applications in the Architecture, Engineering, and Construction Industry</b>		
	<b>CHAIRS: Laura Sardone, Beibei Xiong</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
18:00	<a href="#">Development of a low-cost Vehicle-Bridge Interaction based approach for the structural modal identification of a bridge</a>	Dario Fiandaca	Dario Fiandaca
18:20	<a href="#">Bridge model updating by parametric design and SHM</a>	Rebecca Asso, Pietro Palumbo, Luis Bohorquez, Valentina Boretti, Luigi Liberti, Davide Masera	Rebecca Asso
18:40	<a href="#">Parametric optimization of steel truss structures using cutting Stock Problem (CSP)</a>	Raffaele Cucuzza, Giuseppe Carlo Marano, Marco Rosso, Luca Martinelli	Raffaele Cucuzza
19:00	<a href="#">Parametric design for an accurate and cost-effective Civil Engineering</a>	Pietro Palumbo, Rebecca Asso, Luis Bohorquez, Luigi Liberti, Valentina Boretti, Davide Masera	Rebecca Asso



## Tuesday - August 29, 2023

SESSION 7

Aula Magna Business School Building 13

Title

Speaker

09:15 - 09:55

[Plenary Lecture: Nano-Scale Mechanical Systems:Recent Trends in Nano-Structural Mechanics](#)

Raimondo Luciano

10:00 - 11:00 SESSION 8

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23  
International Conference (23SM&MS23)  
in honor of Emeritus Professor Mario Di Paola**

AULA 5

*CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta*

Title

Author(s)

Speaker

10:00

[Efficient Stochastic Response Determination of Nonlinear Systems By Leveraging the Unique Extrapolation Capabilities of the Wiener Path Integral Technique](#)

Ilias Mavromatis, Ioannis  
Kougioumtzoglou

Ilias Mavromatis

10:20

[A Wiener Path Integral Formalism for Treating Nonlinear Systems with Non-Markovian Response Processes](#)

Ilias Mavromatis,  
Apostolos Psaros, Ioannis  
Kougioumtzoglou

Ioannis  
Kougioumtzoglou

10:40

[Estimation of Evolutionary Power Spectra of Univariate Stochastic Processes by Energy-Based Reckoning](#)

Hanshu Zhang, Qingxia  
Yue, Alberto Di Matteo,  
Pol D. Spanos

Alberto Di Matteo

**MS02 - Linear and Nonlinear Vibrations of Systems in honor of Emeritus Professor  
Fabrizio Vestroni**

AULA 2

*CHAIRS: Marco Amabili, Walter Lacarbonara, Francesco Pellicano*

Title

Author(s)

Speaker

10:00

Prelude

10:20

[An efficient performance-based design optimization approach for nonlinear systems subject to non-stationary excitation via arbitrary polynomial chaos expansion](#)

Ketson R. M. dos Santos,  
André T. Beck, Rafael H.  
Lopez

Ketson R. M. dos  
Santos

10:40

[Transverse and axial vibrations of masonry beams: nonlinear interactions](#)

Maria Girardi

Maria Girardi

	<b>MS06 - Industrial Hydraulics</b>		<b>AULA 10</b>
	<b>CHAIRS: V. Armenio, B. Brunone, A. Carravetta, M. De Marchis, O. Giustolisi, S. Malavasi</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Behaviour of complex systems under random damage</a>	Lorenza Abbracciavento, Valerio De Biagi	Lorenza Abbracciavento
10:20	<a href="#">The effect of different turbulence model on the hydroacoustic of a pump.</a>	Renato Montillo, Armando Carravetta, Oreste Fecarotta	Renato Montillo
10:40	<a href="#">Effects of compressibility and cavitation on flow reattachment in orifice plates</a>	Luca Nicola Quaroni, Stefano Malavasi	Stefano Malavasi
	<b>MS10 - Modeling and performance assessment of bridges</b>		<b>AULA Seminari A</b>
	<b>CHAIRS: Alessandro Contento, Angelo Aloisio, Junqing Xue, Giuseppe Quaranta, Paolo Gardoni, Bruno Briseghella</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Vehicle-bridge dynamics during braking</a>	Angelo Aloisio, Alessandro Contento, Giuseppe Quaranta	Alessandro Contento
10:20	<a href="#">Formulation of a fiber beam element based on plastic damage models for prestressed concrete bridges</a>	Luca Parente, Daniela Addressi, Enrico Spacone	Luca Parente
10:40	<a href="#">Bridge-Vehicle Interaction for Dislocating of Electrical Conduits</a>	Fangyin Zhang, Zhi Zhang, Liling Cao	Zhi Zhang
	<b>MS15 - Recent advances in input motion modelling for the design of earthquake-resistant systems</b>		<b>AULA Seminari B</b>
	<b>CHAIRS: Alessandro Palmeri, Giuseppe Muscolino, Federica Genovese</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Filter equations for simulation of ground motion of multi-layered soil model</a>	Rossella Laudani	Rossella Laudani
10:20	<a href="#">Effect of vertical acceleration component on the seismic performance of an earth dam</a>	Andrea Nardo, Giovanni Biondi, Ernesto Cascone	Andrea Nardo
10:40	<a href="#">Accounting for earthquake- and environmentally-induced damage accumulation in single-building loss assessment</a>	Kenneth Otárola, Leandro Iannacone, Roberto Gentile, Carmine Galasso	Kenneth Otárola
	<b>MS16 - Multiscale Mechanics and Nanostructures</b>		<b>AULA 7</b>
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Vibration problems in the coupled theory of triple porosity thermoelastic materials</a>	Merab Svanadze	Merab Svanadze
10:20	<a href="#">Closed form solution of the elastoplastic constitutive problem in three-dimensional continua</a>	Fabio De Angelis	Fabio De Angelis
10:40	<a href="#">Nonlinear Phenomena in Electrically Coupled MEMS resonators</a>	Hassen Ouakad, Ayman Al-Naimi	Hassen Ouakad

<b>MS24 - Recent advances, applications and challenges of coupled free flow and porous media flow systems</b>			<b>AULA 3</b>
<b>CHAIRS: Martin Schneider, Holger Class, Rainer Helmig, Costanza Aricò, Donatella Termini</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">A CFD-based analysis on the effects of bundle porosity in regularly packed hollow fiber membrane contactors</a>	Nunzio Cancilla, Luigi Gurreri, Michele Ciofalo, Andrea Cipollina, Alessandro Tamburini, Giorgio Micale	Nunzio Cancilla
10:20	<a href="#">Drag reduction on porous coated cylinders invested by a fluid</a>	Daniele Puleo, Calogero Picone, Costanza Aricò	Costanza Aricò
10:40	<a href="#">A study on permeability in Portland pastes with high water-cement ratio</a>	Roberto Serpieri, Michela Monaco	Roberto Serpieri
<b>MS26 - Innovations in Biomechanics and Bio-Inspired Engineering</b>			<b>AULA 9</b>
<b>CHAIRS: Marco Amabili, Emanuela Bologna, Massimiliano Zingales</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Complex biomechanics: from atoms to patients</a>	Christian Hellmich, Johannes Kalliauer, Niketa Ukaj, Stefan Scheiner	Christian Hellmich
10:20	<a href="#">Mechanical validation of meniscal tissue contrast enhancement micro-CT protocols</a>	Gregorio Marchiori, Melania Maglio, Gianluca Giavaresi, Giorgio Cassiolas, Gaia Prezioso, Massimiliano Zingales	Gregorio Marchiori
10:40	<a href="#">Proof-of-concept of a new tonometer based on solitary waves</a>	Madison Hodgson, Piervincenzo Rizzo, Samuel Dickerson	Piervincenzo Rizzo
<b>MS29 - Bio-fluid mechanics</b>			<b>AULA 4</b>
<b>CHAIRS: Valerio Caleffi, Giorgio Querzoli, Jan O. Pralits, Rodolfo Repetto, Annunziato Siviglia, Francesca Maria Susin</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Modeling the effects of orthostatic stress on a global multiscale cardiovascular model</a>	Chiara Colombo, Lucas Omar Müller, Annunziato Siviglia	Chiara Colombo
10:20	<a href="#">Analysis of the thromboembolic risk in the left atrial appendage under atrial fibrillation through a fluid-structure interaction numerical approach</a>	Giulio Musotto, Alessandra Monteleone, Danila Vella, Ruggero Cannova, Bernardo Zuccarello, Andrew Cook, Giorgia Maria Bosi, Gaetano Burriesci	Giulio Musotto
10:40	<a href="#">A monophasic fluid-structure interaction approach for cardiovascular applications</a>	Alessandra Monteleone, Sofia Di Leonardo, Alessia Viola, Enrico Napoli, Gaetano Burriesci	Alessandra Monteleone

**MS31 - Multiscale and Multiphysics Modelling for 'Complex Materials' (MMCM18)**

AULA 6

**CHAIRS:** Marco Pingaro, Patrizia Trovalusci, Emanuele Reccia, Greta Ongaro

	Title	Author(s)	Speaker
10:00	<a href="#">A fast adaptive PD-FEM coupling model for predicting cohesive crack growth</a>	Reza Alebrahim, Sonia Marfia	Sonia Marfia
10:20	<a href="#">Implementation of higher order kinematics using isogeometric analysis for curvilinear fibre composites</a>	Trilok M Shende, Devesh Punera	Devesh Punera
10:40	<a href="#">Parallel, high-performance Uneyama-Doi model for analyzing diblock copolymer and solvent mixtures using semi-implicit Fourier spectral method</a>	Farshid Mossaiby, Arman Shojaei, Gregor Ibbeken, Christian Cyron, Marcus Müller	Farshid Mossaiby

11:00 - 11:40 Coffee break

11:40 - 12:40 SESSION 9

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23****International Conference (23SM&MS23)**

AULA 5

**in honor of Emeritus Professor Mario Di Paola****CHAIRS:** Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta

	Title	Author(s)	Speaker
11:40	<a href="#">A perspective on conditional spectrum-based determination of response statistics of nonlinear systems: stationary and non-stationary cases</a>	Pol D. Spanos, Beatrice Pomaro	Beatrice Pomaro
12:00	<a href="#">Prediction via Gaussian Process of moment quantities of an offshore wind turbine using operational SCADA data</a>	Bridget Moynihan, Eleonora Maria Tronci, Babak Moaveni, Finn Rüdinger, Ross, Eric Hines	Eleonora M. Tronci
12:20	<a href="#">Mesoscale random behavior of concrete-earth material: from CT to numerical modelling</a>	Francesco Faralli, Federico Cluni, Vittorio Gusella	Francesco Faralli

**MS06 - Industrial Hydraulics**

AULA 10

**CHAIRS:** V. Armenio, B. Brunone, A. Carravetta, M. De Marchis, O. Giustolisi, S. Malavasi

	Title	Author(s)	Speaker
11:40	<a href="#">Acoustic response of a vibrating elongated cylinder in a hydrodynamic turbulent flow</a>	Giacomo Rismondo, Marta Cianferra, Vincenzo Armenio	Vincenzo Armenio
12:00	<a href="#">Analytical model of an OWC embedded in a large floating circular platform</a>	Antonino Simone Spanò, Giovanni Malara, Felice Arena	Antonino Simone Spanò

	<b>MS09 - Uncertainty Quantification, reliability and sensitivity analysis under limited data</b>			<b>AULA 8</b>
	<b>CHAIRS: Alba Sofi, David Moens, Edoardo Patelli, Matthias Faes, Michael Hanss</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
11:40	<a href="#">Predicting the burst strength of composite pressure vessels through machine learning</a>	Rafael Santos, Dirk Vandepitte, David Moens	Rafael Santos	
12:00	<a href="#">Application of unsupervised machine learning algorithms on determining the rate of random impulses forcing an oscillator</a>	Przemysław Frankiewicz, Natalia Frankowska, Marek Sulewski, Agnieszka Ozga	Przemysław Frankiewicz	
12:20	<a href="#">Bootstrapping-based determination of power spectral density intervals from limited data</a>	Marco Behrendt, Chao Dang, Michael Beer	Marco Behrendt	
	<b>MS15 - Recent advances in input motion modelling for the design of earthquake-resistant systems</b>			<b>AULA Seminari B</b>
	<b>CHAIRS: Alessandro Palmeri, Giuseppe Muscolino, Federica Genovese</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
11:40	<a href="#">A New Correlation Structure for the Wavelet-Based Stochastic Generation of Fully Non-Stationary Artificial Accelerograms</a>	Federica Genovese, Alessandro Palmeri	Federica Genovese	
12:00	<a href="#">Closed-form solutions for the spectral characteristics of the stochastic response of linear systems subjected to fully non-stationary excitations consistent with target seismic accelerograms</a>	Federica Genovese, Giuseppe Muscolino	Giuseppe Muscolino	
12:20	<a href="#">Wavelet-Based Generation of Ensemble of Ground Motions Compatible with a Probabilistic Target Response Spectrum</a>	Suparno Mukhopadhyay, Sandip Das, Vinay K. Gupta	Suparno Mukhopadhyay	
	<b>MS16 - Multiscale Mechanics and Nanostructures</b>			<b>AULA 7</b>
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
11:40	<a href="#">Perturbations for static problems of Timoshenko beams of local/non-local mixture</a>	Giuseppe Ruta, Ugurcan Eroglu	Ugurcan Eroglu	
12:00	<a href="#">Local-nonlocal stress-driven model for multi-cracked shear deformable nanobeams</a>	Andrea Caporale, Raimondo Luciano	Andrea Caporale	
12:20	<a href="#">Nonlocal gradient bending of elastic nanobeams for piecewise regular fields</a>	Marzia Sara Vaccaro, Raffaele Barretta, Andrea Caporale, Raimondo Luciano	Marzia Sara Vaccaro	

	<b>MS24 - Recent advances, applications and challenges of coupled free flow and porous media flow systems</b>		<b>AULA 3</b>
	<b>CHAIRS: Martin Schneider, Holger Class, Rainer Helmig, Costanza Aricò, Donatella Termini</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">A fully implicit coupled pore-network/free-flow model for the pore-scale simulation of drying processes</a>	Anna Mareike Kosteletzky, Martin Schneider, Maziar Veyskarami, Hanchuan Wu	Rainer Helmig
12:00	<a href="#">Control-Volume Finite-Element Schemes for Coupling Free Flow with Porous-Medium Flow</a>	Martin Schneider, Edward Coltman, Timo Koch, Rainer Helmig	Martin Schneider
12:20	<a href="#">Gravel bed rivers: bed roughness structure and interface flow characterization</a>	Donatella Termini, Federica Lavignani	Federica Lavignani
	<b>MS26 - Innovations in Biomechanics and Bio-Inspired Engineering</b>		<b>AULA 9</b>
	<b>CHAIRS: Marco Amabili, Emanuela Bologna, Massimiliano Zingales</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Predicting the growth of wood structures based on a micromechanics-informed beam model</a>	Antonia Wagner, Stefan Scheiner	Stefan Scheiner
12:00	<a href="#">Anomalous diffusion of membrane receptors in endocytosis process</a>	Gianmarco Nuzzo, Mario Argenziano, Emanuela Bologna, Massimiliano Zingales	Gianmarco Nuzzo
12:20	<a href="#">Some insights into caterpillar's locomotion for soft robots applications</a>	Mario Argenziano, Massimiliano Fraldi, Massimiliano Zingales	Mario Argenziano
	<b>MS29 - Bio-fluid mechanics</b>		<b>AULA 4</b>
	<b>CHAIRS: Valerio Caleffi, Giorgio Querzoli, Jan O. Pralits, Rodolfo Repetto, Annunziato Siviglia, Francesca Maria Susin</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Eulerian and Lagrangian analysis of stented coronary flow</a>	Paolo Peruzzo, Chiara Conforto, Francesca Maria Susin, Stefano Lanzoni	Paolo Peruzzo
12:00	<a href="#">Flow dynamics of silicone oil tamponade in steady and unsteady conditions</a>	Pier Giuseppe Ledda, Federico Angius, Maria Grazia Badas, Tommaso Rossi, Giorgio Querzoli	Pier Giuseppe Ledda
12:20	<a href="#">On the comparison between the airflow in pre- and post-surgery nasal anatomies via Computational Fluid Dynamics (CFD)</a>	Eric Segalerba, Jan Oscar Pralits, Maurizio Quadrio	Eric Segalerba

**MS31 - Multiscale and Multiphysics Modelling for 'Complex Materials' (MMCM18)****AULA 6****CHAIRS: Marco Pingaro, Patrizia Trovalusci, Emanuele Reccia, Greta Ongaro**

	Title	Author(s)	Speaker
11:40	<a href="#">On XFEM modelling of static crack propagation in brittle micropolar elastic plates based on linear elastic fracture mechanics (LEFM)</a>	Meral Tuna, Patrizia Trovalusci, Marco Pingaro, Nicholas Fantuzzi	Meral Tuna
12:00	<a href="#">Reinforced Concrete Slab Panels under Oblique Projectile Impact- Numerical Study</a>	Roouf Un Nabi Dar, Dr. P. Alagappan	Roouf Un Nabi Dar
12:20	<a href="#">Printable beam-based lattices: A novel geometry generation algorithm and thermo-mechanical characterization via Asymptotic Homogenization</a>	Francesco De Canio, Patrizia Trovalusci, Marco Pingaro	Francesco De Canio

**MS04 - First new science, on the resistance of solid bodies to be broken. A mini-symposium in honor of Roberto Ballarini on the occasion of his 65th birthday****AULA 2****CHAIRS: Jia-Liang Le, Gianni Royer-Carfagni**

	Title	Author(s)	Speaker
11:40	<a href="#">Analytical multi-shape composite mechanics: going beyond the limits of Mori-Tanaka homogenization</a>	Nabor Jimenez Segura , Bernhard Pichler, Christian Hellmich	Christian Hellmich
12:00	<a href="#">A dynamically reprogrammable surface with self-evolving shape morphing</a>	Yonggang Huang	Yonggang Huang
12:20	<a href="#">Modelling Uniaxial Compressive Fracture of Concrete with Nonlocal Macro-Meso-Scale Consistent Damage Model</a>	Yudong Ren, Jianbing Chen, Guangda Lu	Yudong Ren

**MS40 - Innovations in Structural Dynamics Models and Experiments****AULA Seminari A****CHAIRS: Giovanni Fabbrocino, Giacomo Navarra, Massimiliano Giofrè, Francesco Lo Iacono, Stefano Ercolessi**

	Title	Author(s)	Speaker
11:40	<a href="#">Virtual dynamic tests on soil-structure interaction data-driven assessment using HPC resources</a>	Tony Fierro, Stefano Ercolessi, Giovanni Fabbrocino, Filippo Santucci de Magistris, Carlo Rainieri	Tony Fierro
12:00	<a href="#">Sensitivity of displacement measures in detecting damages induced by shaking table tests on masonry barrel vaults with hemp bio composite strengthening</a>	Elena Alberti, Massimiliano Giofrè, Francesco Lo Iacono, Giacomo Navarra, Maria Oliva, Chiara Pepi	Francesco Lo Iacono
12:20	<a href="#">Evaluation of cracks in masonry arches with Artificial Neural Networks.</a>	Antonino Iannuzzo, Vincenzo Musone, Danilo Di Giacinto, Eugenio Ruocco	Eugenio Ruocco

12:40 - 14:20 Lunch

14:20 - 16:40 SESSION 10

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23**  
**International Conference (23SM&MS23)**  
**in honor of Emeritus Professor Mario Di Paola**

AULA 5

**CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta**

	Title	Author(s)	Speaker
14:20	<a href="#">Probabilistic Response of Rigid Foundations on Uniform Soil with Uncertain Shar-Wave Velocities Under Horizontal Vibrations</a>	Jun-Yang Shi	Jun-Yang Shi
14:40	<a href="#">Probabilistic response determination of high-dimensional nonlinear systems enforced by multiple Poisson white noises</a>	Jian-Bing Chen, Meng-Ze Lyu	Meng-Ze Lyu
15:00	<a href="#">Generalized complex fractional moment for the probabilistic characteristic of random vectors</a>	Lizhi Niu, Mario Di Paola, Wei Xu, Antonina Pirrotta	Lizhi Niu
15:20	<a href="#">A Bayesian approach for tie rod tensile force identification</a>	Chiara Pepi, Massimiliano Gioffrè	Chiara Pepi
15:40	<a href="#">Probabilistic modelling of hemp ropes strength</a>	Maria Eleonora Pipistrelli, Massimiliano Gioffrè, Mircea Dan Grigoriu	Maria Eleonora Pipistrelli
16:00	<a href="#">Integer- and non-integer-order filter approximations for determining the stochastic response of wind-excited structural systems</a>	Luca Roncallo, Ilias Mavromatis, Ioannis A. Kougioumtzoglou, Federica Tubino	Luca Roncallo
16:20	<a href="#">An adaptive Kriging-based approach for random vibration analysis of the freight wagon–turnout system</a>	Jun Lai, Yan Shi, Jingmang Xu, Ping Wang, Michael Beer	Jun Lai

**MS02 - Linear and Nonlinear Vibrations of Systems in honor of Emeritus Professor Fabrizio Vestroni**

AULA 2

**CHAIRS: Marco Amabili, Walter Lacarbonara, Francesco Pellicano**

	Title	Author(s)	Speaker
14:20	<a href="#">Stick-slip and Fully-stuck motion regimes: can frictional nonlinearity enhance damage detection?</a>	Giancarlo Santamato, Massimiliano Solazzi, Antonio Frisoli	Giancarlo Santamato
14:40	<a href="#">Effect of pre-existing crack on the negative stiffness characteristics of thermally actuated bistable composite laminate</a>	Amar Nath Roy Chowdhury, Suraj K Singh	Amar Nath Roy Chowdhury
15:00	<a href="#">Vibrations of shells interacting with a Non-Newtonian fluid</a>	Francesco Pellicano	Francesco Pellicano
15:20	<a href="#">Non-linear metamaterials for shock absorption and locomotion</a>	Andrea Colombi, Bao Zhao	Andrea Colombi



15:40	<a href="#">Hysteretic Tuned Mass Damper for seismic protection: Experimental investigation and Numerical modelling</a>	Pranath Kumar Gourishetty, Vinay Yadav Janga, Biagio Carboni, Giuseppe Quaranta, Walter Lacarbonra	Pranath Kumar Gourishetty
16:00	<a href="#">Exploiting global nonlinear dynamics of mechanical systems and structures</a>	Giuseppe Rega	Giuseppe Rega
<b>MS03 - Damaged elements and structures: models, resolution techniques, detection devices, experimental approaches</b>			<i>AULA Seminari B</i>
<b>CHAIRS: Uğurcan Eroğlu, Giuseppe Ruta</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">Optimal Control of a Swarm of Sensors for Structural Health Monitoring</a>	Luigi Severa, Silvia Milana, Nicola Roveri, Antonio Culla, Antonio Carcaterra	Luigi Severa
14:40	<a href="#">Vibration of shallow arches with an edge crack</a>	Ugurcan Eroglu, Giuseppe Ruta, Ekrem Tüfekci	Giuseppe Ruta
15:00	<a href="#">Numerical modelling of a benchmark wind turbine blade and damage detection from experimental benchmark data</a>	Mohamed Sajeer Modamangalavan, Aniruddha Das, Dhiraj Ghosh, Adrita Kundu, Suparno Mukhopadhyay, Satish Nagarajaiah	Mohamed Sajeer Modamangalavan
15:20	<a href="#">On the Use of Bartlett and MVDR Beamformers in Damage Identification by Modal Curvature Variations</a>	Ugurcan Eroglu, Annamaria Pau	Ugurcan Eroglu
15:40	<a href="#">SmartRail: a system for the continuous monitoring of the track geometry based on embedded arrays of fiber optic sensors</a>	Giancarlo Santamato, Lorenzo Tozzetti, Massimiliano Solazzi, Fabrizio Di Pasquale, Gianluca De Vita, Mirko Ermini, Eugenio Fedeli, Stefano Faralli	Giancarlo Santamato
16:00	<a href="#">Waste Feather Fibre Reinforcement for Cement-Based Materials</a>	Ruben Paul Borg, Elizabeth Spiteri Cornish, Everaldo Attard	Elizabeth Spiteri Cornish
16:20	<a href="#">Surface Erosion of Structured Coatings of Wind Turbine Blades: Computational Analysis</a>	Leon Mishnaevsky Jr.	Leon Mishnaevsky Jr.

	<b>MS09 - Uncertainty Quantification, reliability and sensitivity analysis under limited data</b>			<b>AULA 8</b>
	<b>CHAIRS: Alba Sofi, David Moens, Edoardo Patelli, Matthias Faes, Michael Hanss</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">Dynamic Reliability Analysis of Large-Span Structures under Human Activities Considering the Uncertainties on Human-Structure Coupling System</a>	Dongjun Zeng, Haoqi Wang	Haoqi Wang	
14:40	<a href="#">First-passage reliability analysis of high-dimensional nonlinear systems involving randomness from both parameters and excitations</a>	Meng-Ze Lyu, Jian-Bing Chen	Meng-Ze Lyu	
15:00	<a href="#">Static analysis of steel frames with semi-rigid connections in the presence of interval uncertainties</a>	Federica Genovese, Alba Sofi	Federica Genovese	
15:20	<a href="#">Inverse Uncertainty Quantification using Likelihood-free Inference for Automotive Passive Safety</a>	Maternus Herold	Maternus Herold	
15:40	<a href="#">Bayesian Updating of Overall Failure Probability Based on Gauss-Legendre Numerical Integration and Information Reuse</a>	Pei-Pei Li, Matthias G.R. Faes, Marcos A. Valdebenito, Matteo Broggi	Pei-Pei Li	
16:00	<a href="#">Analytical solution for non-stationary response of 1/2-order fractional linear stochastic MDOF dynamical systems</a>	Yi-jian Xu, Fan Kong, Ren-jie Han	Fan Kong	
	<b>MS16 - Multiscale Mechanics and Nanostructures</b>			<b>AULA 7</b>
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">On the use of fractal geometry for the design of tensegrity braces</a>	Julia de Castro Motta, Baidehi Das, Ada Amendola, Julian Rimoli, Fernando Fraternali	Baidehi Das	
14:40	<a href="#">A multiscale approach to design of seismic metaisolators</a>	Valentina Adinolfi, Saeedeh Qaderi, Giovanni Germano, Julia de Castro Motta, Gianmario Benzoni, Ada Amendola, Massimo Ruzzene, Fernando Fraternali	Valentina Adinolfi	
15:00	<a href="#">Twisted nanobeams on rotation-driven nonlocal foundations</a>	Marzia Sara Vaccaro, Raffaele Barretta, Raimondo Luciano, Francesco Marotti de Sciarra	Marzia Sara Vaccaro	

15:20	<a href="#">Application of the surface stress-driven nonlocal theory of elasticity for the study of the bending response of FG cracked nanobeams</a>	Giuseppe Lovisi	Giuseppe Lovisi
15:40	Clustered cable-actuation strategies of a family of V-Expander tensegrity cells	Chen, Fraddosio, Micheletti, Pavone, Piccioni. Skelton	Gaetano Pavone
16:00	On the effect of carbon nanotubes in Ultra-High Performance Fibers Reinforced Concrete: preliminary results.	Annavirginia Lambiase, Luciano Feo, Giuseppe Lovisi, Enzo Martinelli, Marco Pepe, Rosa Penna	Annavirginia Lambiase
16:20	<a href="#">Characterization of viscoelastic 3D printed truss-based metamaterials under impact loading</a>	Kaoutar Radi, Lukas Morf, Dennis M. Kochmann	Dr. Kaoutar Radi
<b>MS22 - Multi-scale and multi-field interface mechanics: modeling, computation and experimental aspects</b> <span style="float: right;"><b>AULA 9</b></span>			
<b>CHAIRS: Michele Serpilli, Raffaella Rizzoni, Maria Letizia Raffa, Frédéric Lebon, Reinaldo Rodríguez-Ramos</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">An axisymmetric problem for a nano-sized material surface on a boundary of an elastic semi-space</a>	Anna Zemlyanova	Anna Zemlyanova
14:40	<a href="#">Stability during fracture-like nucleation in frictional sliding</a>	David Kammer, Gabriele Albertini, Miguel Castellano, Flavio Lorez	David Kammer
15:00	<a href="#">Modelling damage in adhesive joints via asymptotic methods</a>	Maria Letizia Raffa, Raffaella Rizzoni, Frédéric Lebon, Michele Serpilli, Reinaldo Rodríguez-Ramos	Maria Letizia Raffa
15:20	<a href="#">Non-linear analysis of quasi-brittle materials through a FEM-VEM approach</a>	Giuseppe Giambanco, Marianna Puccia, Elio Sacco, Antonino Spada	Antonino Spada
15:40	<a href="#">Numerical modeling of thermoelastic nanocomposites</a>	Fahmi Grine, Ludovic Cauvin, Delphine Brancherie, Djimédo Kondo	Fahmi Grine
16:00	<a href="#">Asymptotic behaviour of micro-scale adhesively bonded joints based on strain gradient elasticity</a>	Michele Serpilli, Raffaella Rizzoni, Frédéric Lebon, Maria-Letizia Raffa, Reinaldo Rodríguez-Ramos	Michele Serpilli
16:20	<a href="#">Concentration tensors in micropolar periodic laminates with imperfect interfaces</a>	Raffaella Rizzoni, Michele Serpilli, Reinaldo Rodríguez-Ramos, Frédéric Lebon, Yoanh Espinosa-Almeyda, Maria Letizia Raffa	Raffaella Rizzoni

**MS23 - Structural health monitoring for urban and extra-urban environments****AULA 10****CHAIRS: Michele Betti, Nicola Cavallaghi, Francesco Clementi, Ernesto Grande**

	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">Monitoring of trees in urban areas for the assessment of the global stability and the evaluation of the efficacy of safeguard interventions</a>	Andrea Santacroce, Raffaella Franceschini, Ernesto Grande	Ernesto Grande
14:40	<a href="#">Output-only tree dynamic experimental investigation</a>	Giacomo Zini, Gianni Bartoli, Michele Betti, Francesco Clementi, Luca Facchini, Francesco Ferrini, Andrea Giachetti, Ernesto Grande	Michele Betti
15:00	<a href="#">Rapid Assessment of Serviceability Requirements for Buildings under Geothermally Induced Micro-seismic Events</a>	Aditi Kumawat	Aditi Kumawat
15:20	<a href="#">Integrated 3D-Printed components for monitoring cultural heritage</a>	Michele Arturo Caponero, Ernesto Grande, Maura Imbimbo, Valentina Tomei	Ernesto Grande
15:40	<a href="#">A novel mode shape identification approach for operational modal analysis of structures</a>	Domenico Camassa, Anna Castellano, Aguinaldo Fraddosio, Mario Daniele Piccioni	Domenico Camassa
16:00	<a href="#">Low-Cost Vibration Monitoring for Anomaly Detection and Localization on Masonry Towers</a>	Francesca Bianconi, Gianluca Standoli, Mattia Schiavoni, Francesco Clementi	Francesco Clementi

**MS25 - Mechanics and Physics of Granular Materials and Systems****AULA 3****CHAIRS: Marcial Gonzalez, Mahdia Hattab, Anil Misra, Anthony D. Rosato, Erick Franklin**

	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">Dunes interacting with obstacles</a>	Willian Righi Assis, Danilo da Silva Borges, Erick Franklin	Willian Righi Assis
14:40	<a href="#">The cooperative nature of the motion of sets of intruders moving amid grains</a>	Douglas Carvalho, Erick Franklin	Douglas Carvalho
15:00	<a href="#">Cratering by the impact of aggregates</a>	Erick Franklin, Douglas Carvalho, Nicolao Lima	Erick Franklin
15:20	<a href="#">Multi-scale investigation of clay behaviour related to particle structuring</a>	Mengyu MA, Hakim NAOUI, Fares BENNAI, Mahdia HATTAB, Pierre- Yves HICHER	Mengyu MA

15:40	<a href="#">Granular-based continuum elasto-plastic–damage variational formulation for strain gradient solids</a>	Luca Placidi, Anil Misra, Francesco dell'Isola, Emilio Barchiesi, Erden Yıldızdağ, Valerii Maksimov, Dmitry Timofeev, Nurettin Yilmaz, Abdou Kandalaft	Luca Placidi
16:00	<a href="#">Effects of Graphene Nanoplatelets on Rheological and Mechanical Properties of 3D Printed Cementitious Composites</a>	Ugur Kilic, Mahyar Ramezani, Muhammad M. Sherif, Osman E. Ozbulut	Osman E. Ozbulut
16:20	<a href="#">Identification of kaolinite fabric – 3D reconstruction from SEM-FIB images</a>	Fares Bennai, Ismail Myouri, Julien Guyon, Mahdia Hattab	Fares Bennai
<b>MS32 - Sustainable mobility</b>			<b>AULA 4</b>
<b>CHAIR: Rosario Miceli</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">A simulation-based study to assess safety and performance efficiency of Traffic Calming Measures combined with Connected and Automated Vehicle Technologies</a>	Maria Luisa Tumminello, Elżbieta Macioszek , Anna Granà , Tullio Giuffrè	Maria Luisa Tumminello
14:40	<a href="#">Walking to access shared mobility services: a case study in Palermo, Italy</a>	Gabriele D'Orso, Marco Migliore	Gabriele D'Orso
15:00	<a href="#">Performance Analysis of a Cascaded H-Bridge Multilevel Inverter in Asymmetric Configuration</a>	Massimo Caruso, Antonino Oscar Di Tommaso, Gerlando Frequente, Rosario Miceli, Gioacchino Scaglione, Nicola Campagna	Gerlando Frequente
15:20	<a href="#">Comparison between Voltage Oriented Control and Synchronous Power Control for Grid-Connected Inverter Applications</a>	Antonino Oscar Di Tommaso, Rosario Miceli, Giuseppe Sorrentino, Giuseppe Schettino, Claudio Nevoloso, Gioacchino Scaglione, Nicola Campagna	Giuseppe Sorrentino
15:40	<a href="#">Development of a Decision Support System for increasing the resilience of urban road network</a>	Giuseppe Salvo, Luigi Sanfilippo	Luigi Sanfilippo

<b>MS35 - Challenges and emerging trends in vibration mitigation</b>			<b>AULA 1</b>
<b>CHAIRS: Giuseppe Failla, Roberta Santoro</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">Effectiveness of rubber bearings on the response of seismic isolation system in the case of vertical actions</a>	Rossella Laudani, Giovanni Falsone	Rossella Laudani
14:40	<a href="#">Performance-based seismic design of self-centering dissipative braces for seismic retrofit of substandard reinforced concrete buildings</a>	Dario De Domenico, Alberto Gioitta, Antonino Recupero	Alberto Gioitta
15:00	<a href="#">A Floating Absorber for Motion Mitigation in Floating Wind Turbines</a>	Giuseppe Failla, Gioacchino Alotta, Valentina Laface, Carlo Ruzzo, Felice Arena	Giuseppe Failla
15:20	<a href="#">Experimental investigation of surface wave propagation in locally resonant metamaterials</a>	Farhad Zeighami, Antonio Palermo, Denis Bogomolov, Alessandro Marzani	Farhad Zeighami
15:40	<a href="#">Vibration mitigation in pipelines by resonant supports with inerter devices</a>	Silvia Scutтери, Andrea Francesco Russillo, Roberta Santoro, Giuseppe Ricciardi, Giuseppe Failla	Silvia Scutтери
16:00	<a href="#">Architected plates based on the Schwarz primitive cell for elastic wave mitigation and guiding</a>	Aida Hejazi Nooghabi, Henrik Thomsen, Andrea Colombi	Aida Hejazi Nooghabi
<b>MS36 - Anti-Collapse Performance Evaluation and Reliability Improvement of Engineering Structures</b>			<b>AULA 6</b>
<b>CHAIRS: Youbao Jiang, Adhikari Sondipon, Yanchao Shi, Yi Li, Christoph Adam, Michele Barbato</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">Experimental investigation of progressive collapse of precast concrete beam-column assemblies using dry connections</a>	Zidong Zhao, Xiaowei Cheng, Yi Li, Yi An	Zidong Zhao
14:40	<a href="#">Response of structures subjected to debris impact: a simplified model</a>	Elahe Zeinali, Foad Kiakojouri, Valerio De Biagi	Elahe Zeinali
15:00	<a href="#">Seismic-collapse selective retrofitting using the Applied Element Method</a>	Cosimo Pellecchia, Gian Paolo Cimellaro, Alessandro Cardoni, Ahmed Amir Khalil, Emiliano De Iuliis	Cosimo Pellecchia
15:20	<a href="#">Threat-dependent and Threat-independent Progressive Collapse Study: Analogy and Contrast in Methodology and Results</a>	Foad Kiakojouri, Valerio De Biagi, Bernardino Chiaia	Foad Kiakojouri

15:40	<a href="#">Progressive collapse resistance mechanism and design method considering RC beams, floor slabs and infill walls</a>	Shuang Li, Sidi Shan, Haoran Wang	Shuang Li
16:00	<a href="#">Multi-phase Image Degradation Modelling and Abnormal Detection based on Change-Point Spatio-Temporal Process (CP-STP)</a>	Munwon Lim, Suk Joo Bae	Suk Joo Bae
16:20	<a href="#">Neural Network based reliability analysis of pipelines with randomly distributed internal corrosion</a>	Michael Olatunde, Srinivas Sriramula, Amir Siddiq, Alfred Akisanya	Michael Olatunde
<b>MS39 - Computational intelligence in structural engineering &amp; structural optimization</b>			<i>AULA Seminari A</i>
<b>CHAIRS: Fabio Di Trapani, Josephine Voigt Carstensen, Cristoforo Demartino, Giuseppe Carlo Marano</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
14:20	<a href="#">A Graph Neural Network-Based Model for Elastic Structural Analysis</a>	Ling-Han Song, Chen Wang, Jian-Sheng Fan	Ling-Han Song
14:40	<a href="#">Reliability-based sizing optimization of an exhibition center</a>	Luca Rizzian, Mariapia Marchi	Luca Rizzian
15:00	<a href="#">Parametric design and structural optimization of arches with the Estimation of Distribution Algorithm (EDA)</a>	Jonathan Melchiorre, Amedeo Manuella, Marco Martino Rosso, Vincenzo Morganti, Gabriele Rosi, Giuseppe Carlo Marano	Marco Martino Rosso
15:20	<a href="#">Reliability-based structural optimization framework for seismic retrofitting of non-ductile reinforced concrete frame structures</a>	Antonio P. Sberna, Angshuman Deb, Fabio Di Trapani, Joel P. Conte	Antonio P. Sberna
15:40	<a href="#">Interpretable Machine-Learning Models for Damage Assessment and Predicting Maximum Displacements in RC Beams Under Impact Loading</a>	Cristoforo Demartino, Dade Lai	Cristoforo Demartino
16:00	<a href="#">A derivative-free directionality-based paradigm for solving inverse problems: Application in structural engineering.</a>	Saikat Sarkar	Saikat Sarkar
16:20	<a href="#">Reinforcement learning for the rational design of metamaterials: applications to wave control and energy harvesting</a>	Luca Rosafalco, Jacopo Maria De Ponti, Luca Iorio, Richard V. Craster, Alberto Corigliano, Raffaele Ardito	Luca Rosafalco

16:40 - 17:00 Coffee break

17:00 - 18:20 SESSION 11

BUILDING 19

**MS30 - Structural Monitoring and Identification of Complex Dynamical Systems**

AULA Seminari A

**CHAIRS:** Alberto Di Matteo, Kalil Erazo

	Title	Author(s)	Speaker
17:00	<a href="#">System Identification and Model Updating of Cross-Laminated Timber Floating Floors</a>	Thomas Furtmüller, Michael Kawrzra, Christoph Adam	Thomas Furtmüller
17:20	<a href="#">Structural identification of a hospital building under unknown excitation induced by air conditioning systems and elevators</a>	Cecilia Rinaldi, Aliasghar Talebi, Francesco Potenza, Vincenzo Gattulli	Cecilia Rinaldi
17:40	<a href="#">A reliable low-cost structural health monitoring system based on Siemens IOT 2020</a>	Francesco Maria Raimondi, Gaetano D'Alessandro, Francesco Oddo	Francesco Oddo
18:00	<a href="#">Truncated Unscented Kalman Filter for Incorporating Constraints in Joint State-Parameter Estimation</a>	Adrita Kundu, Suparno Mukhopadhyay	Adrita Kundu

**MS04 - First new science, on the resistance of solid bodies to be broken. A mini-symposium in honor of Roberto Ballarini on the occasion of his 65th birthday**

AULA 2

**CHAIRS:** Jia-Liang Le, Gianni Royer-Carfagni

	Title	Author(s)	Speaker
17:00	<a href="#">Observing Fracture of Brittle Materials</a>	Xiaoran Wang, Luigi Biolzi, Joseph Labuz	Joseph Labuz
17:20	<a href="#">Error-in-constitutive-relation framework for the characterization of viscoelastic solids</a>	Bojan Guzina, Marc Bonnet, Prasannakumar Salasiya	Bojan Guzina
17:40	<a href="#">Generative AI for modeling earthquake damage</a>	Vedhus Hoskere, Subin Varghese, Reza Bazrygary	Vedhus Hoskere
18:00	<a href="#">The mechanics of a photo induced hydrogel swimming robot</a>	Chen Xuan	Chen Xuan

**MS11 - Modeling and performance assessment of rocking elements**

AULA 5

**CHAIRS:** Alessandro Contento, Angelo Di Egidio, Danilo D'Angela, Gennaro Magliulo

	Title	Author(s)	Speaker
17:00	<a href="#">Novel perspectives for developing rocking and overturning spectra associated with nonstructural elements housed in buildings</a>	Danilo D'Angela, Gennaro Magliulo, Francesco Mario Calenzo	Danilo D'Angela
17:20	<a href="#">Visco-elastic coupling of rigid blocks subjected to seismic excitation</a>	Alessandro Contento, Angelo Di Egidio	Alessandro Contento



17:40	<a href="#">Demand to capacity seismic assessment of unanchored building contents</a>	Gennaro Magliulo, Danilo D'Angela, Francesco Mario Calenzo	Gennaro Magliulo
18:00	<a href="#">Peak rotation hazard-curve comparisons of alternative rocking modelling approaches</a>	Christian Málaga-Chuquitaype	Christian Málaga-Chuquitaype
	<b>MS16 - Multiscale Mechanics and Nanostructures</b> <i>AULA 7</i>		
	<b>CHAIRS: Ada Amendola, Raffaele Barretta, Fernando Fraternali, Antonina Pirrotta</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">An analytical approach to investigate the dynamics of time-modulated elastic metasurfaces</a>	Antonio Palermo, Xingbo Pu, Alessandro Marzani	Antonio Palermo
17:20	<a href="#">Out-of plane behavior of single-layer graphene membrane: the interatomic potentials</a>	Michele Curatolo, Giovanni Formica, Franco Milicchio, Ginevra Salerno	Michele Curatolo
17:40	<a href="#">Eigenfrequencies of a cantilever nanobeam with a tip point mass partially immersed in fluid</a>	Ante Skoblar, Goranka Štimac Rončević, Marko Čanađija, Roberto Žigulić	Ante Skoblar
18:00	<a href="#">Structural Deterioration and Mechanical Degradation of Limestone Calcined Clay Cement (LC3) under Elevated Temperature</a>	K.M.Liew, G. LI, Jinhua Sun, Venkatesh Kumar R. Kodur	G. LI
	<b>MS33 - A careful approach to the study and preservation of cultural heritage</b> <i>AULA 4</i>		
	<b>CHAIRS: Delia Francesca Chillura Martino, Anna Maria Gueli</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">Deterioration Detection in tiles focusing on Historical Buildings in Portugal Based on Novel Deep Learning Methods</a>	Narges Karimi, Mayank Mishra, Paulo B. Lourenço	Mayank Mishra
17:20	<a href="#">The HBIM process for the management of architectural heritage: geometric and material knowledge to develop an effective conservation end enhancement strategy</a>	Manuela Aricò, Alessandra Ferro, Mauro Lo Brutto, Antonino Maltese, Gaspare Massimo Ventimiglia	Manuela Aricò
17:40	<a href="#">Pickering Emulsions Stabilized by Halloysite Nanotubes: a versatile starting material for geopolymers and coating layers preparation</a>	Martina Maria Calvino, Lorenzo Lisuzzo, Giuseppe Cavallaro, Giuseppe Lazzara, Stefana Milioto	Martina Maria Calvino
18:00	<a href="#">Methodological approaches for underwater archeological metals investigation</a>	Francesco Armetta, Maria Luisa Saladino	Francesco Armetta

<b>MS35 - Challenges and emerging trends in vibration mitigation</b>			<b>AULA 1</b>
<b>CHAIRS: Giuseppe Failla, Roberta Santoro</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">Vibration Control and Fatigue Life Enhancement of Horizontal Axis Wind Turbine Blade Using Shape Memory Alloy Tendon</a>	M Mohamed Sajeer, Arunasis Chakraborty	Mohamed Sajeer Modamangalavan
17:20	<a href="#">Flexural-torsional wave bandgaps in locally-resonant thin-walled beams</a>	Andrea Burlon, Giuseppe Failla	Andrea Burlon
17:40	<a href="#">Experimental characterization and modelling of non-conventional TMD utilized for seismic retrofitting of existing structures</a>	Michela Basili, Maurizio De Angelis	Michela Basili
<b>MS41 - Emerging Mathematical Tools in Advanced Modelling: The Fractional-Order Calculus, in honor of Emeritus Professor Teodor Atanackovic</b>			<b>AULA 8</b>
<b>CHAIR: Massimiliano Zingales</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	Prelude		
17:20	<a href="#">Cyclic stress effect on the fractional poroviscoelastic model</a>	Fabiana Amiri, Emanuela Bologna, Gianmarco Nuzzo, Massimiliano Zingales	Fabiana Amiri
17:40	<a href="#">The free energy function for non-linear hereditary materials</a>	Emanuela Bologna, Gaia Prezioso, Massimiliano Zingales	Gaia Prezioso
18:00	<a href="#">Fractional equivalent linearization technique</a>	Chiara Masnata, Antonina Pirrotta	Chiara Masnata
<b>GENERAL SESSION 1</b>			<b>AULA 6</b>
<b>CHAIRS: Lory Brady, Antonio Chella</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">Towards an ethically safe design of autonomous robots</a>	Antonio Chella	Antonio Chella
17:20	<a href="#">Machine Learning Assisted Design of Honeycomb Lattices for Enhanced Energy Absorption and Failure Strength</a>	Bhargav Reddy Isanaka, Tanmoy Mukhopadhyay, Rajendra Kumar Varma, Vinod Kushvaha	Bhargav Reddy Isanaka
17:40	<a href="#">Efficient 3D simulation of material microstructures via transfer learning</a>	Lori Graham-Brady, Ashwini Gupta, Noah Wade	Lori Graham-Brady
18:00	<a href="#">Data-driven AI for the NDE of continuous welded rails</a>	Piervincenzo Rizzo, Matthew Belding, Alireza Enshaeian	Piervincenzo Rizzo

**GENERAL SESSION 2****AULA 9****CHAIRS: Michele Barbato, Fabio De Angelis**

	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">Variational formulations in viscoplasticity with computational applications</a>	Fabio De Angelis	Fabio De Angelis
17:20	<a href="#">Reissner's plate model by SGBEM indirect approach.</a>	Terravecchia Silvio Salvatore, Zito Marianna	Terravecchia Silvio Salvatore
17:40	<a href="#">A manufacturing defects-based finite element modelling of curvilinear fibre composites</a>	Prakash Chettri, Devesh Punera	Devesh Punera
18:00	<a href="#">Applicability of self-sensing capacity to the detection and evaluation of cracks on biomineralized-mediated self-healing cementitious composites</a>	Naru Kim, Daeik Jang, H.K. Lee	Naru Kim

**MS06 - Industrial Hydraulics****AULA 3****CHAIRS: V. Armenio, B. Brunone, A. Carravetta, M. De Marchis, O. Giustolisi, S. Malavasi**

	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">How hole chamfer can affect perforated plates' fluid dynamic performance</a>	Giacomo Ferrarese, Stefano Benzi, Marco Maria Agostino Rossi, Stefano Malavasi	Stefano Malavasi
17:20	<a href="#">Analysis and measurement of pressure and velocity in intermittent water distribution networks: a comparison between laboratory and numerical experiments.</a>	Fabrizio Traina, Mauro De Marchis, Fulvio Lo Valvo, Alberto Vella, Giuseppe Costantino Giaconia	Fabrizio Traina
17:40	<a href="#">Hydraulic transients induced by Pressure Reduction Valves – simulation and validation</a>	Alessandro Siviero, Riccardo Vesipa	Riccardo Vesipa

**MS23 - Structural health monitoring for urban and extra-urban environments****AULA 10****CHAIRS: Michele Betti, Nicola Cavalagli, Francesco Clementi, Ernesto Grande**

	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
17:00	<a href="#">A reference digital replica of an urban tree based on ambient vibration tests</a>	Michele Betti, Nicola Cavalagli, Francesco Clementi, Ersilia Giordano, Ernesto Grande, Gianluca Standoli	Francesco Clementi
17:20	<a href="#">Reconstruction of concrete internal defects based on unsupervised domain adaptation algorithm for impact vibration signals</a>	Gao Shang, Jun Chen	Jun Chen
17:40	<a href="#">EMI instrumented wearable piezoelectric ring for bolted connection monitoring</a>	Jianchao Wu, Weijie Li	Jianchao Wu

20:20 Social Dinner

*Teatro Massimo**For those who would like to take a short tour of the Theatre, please come at **19:40***

## Wednesday - August 30, 2023

SESSION 12

Aula Magna Business School Building 13

	Title	Speaker
09:15 - 09:55	<a href="#">Plenary Lecture: A universe of models and data - multilevel methods, multifidelity methods and beyond</a>	Carsten Proppe

10:00 - 11:00 SESSION 13

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23  
International Conference (23SM&MS23)  
in honor of Emeritus Professor Mario Di Paola**

AULA 5

**CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta**

	Title	Author(s)	Speaker
10:00	<a href="#">Post-earthquake rapid seismic demand estimation at unmonitored locations via Bayesian networks</a>	Pooria Mesbahi, Enrique García-Macías , Marco Breccolotti , Filippo Ubertini	Pooria Mesbahi
10:20	<a href="#">Stochastic Response Analysis of Multi-Dimensional Nonlinear Systems via GE-GDEE with Enhanced Tail Accuracy</a>	Yi Luo, Chao Dang, Matteo Broggi, Michael Beer	Yi Luo
10:40	<a href="#">An effective procedure for the full probabilistic characterization of the structural response of large DOF systems subjected to seismic actions</a>	Giacomo Navarra, Francesco Lo Iacono, Maria Oliva	Giacomo Navarra
<b>MS14 - Multi Risk by natural actions: mitigation strategies for structures and infrastructures</b>			<b>AULA 10</b>
<b>CHAIR: Liborio Cavaleri</b>			
	Title	Author(s)	Speaker
10:00	<a href="#">The Durability and Self-Healing performance of Ultra-High Performance Concrete in Aggressive Chloride-rich Environments.</a>	Ruben Paul Borg	Ruben Paul Borg
10:20	<a href="#">Refined numerical analysis of the seismic response of masonry building aggregates</a>	Sofia Villar, Fabio Di Trapani, Marilisa Di Benedetto, Massimo Petracca, Guido Camata	Sofia Villar
10:40	<a href="#">Refined assessment of the internal forces of infilled frames due to frame-infill interaction under seismic loads</a>	Marilisa Di Benedetto, Fabio Di Trapani, Massimo Petracca, Guido Camata	Marilisa Di Benedetto

	<b>MS19 - Experimental Characterization, Identification, Analysis, and Design of Mechanical Systems with Hysteretic Behavior</b>		<i>AULA Seminari B</i>
	<i>CHAIRS: Salvatore Sessa, Nicolò Vaiana, Biagio Carboni</i>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Simulation of the hysteretic behavior of timber connections by the Vaiana-Rosati model: parameters identification based on energy dissipation</a>	Agnese Spedicato, Nicolò Vaiana, Stefania Lo Feudo, Jean-Luc Dion, Luciano Rosati	Agnese Spedicato
10:20	<a href="#">Parametric identification of frictional joints in structures</a>	Jean-Luc Dion, Antonio Baldassarre, Stefania Lo Feudo, Franck Renaud	Jean-Luc Dion
10:40	<a href="#">Optimization strategy for the calibration of a generalized hysteretic model</a>	Salvatore Sessa, Nicolò Vaiana	Salvatore Sessa
	<b>MS24 - Recent advances, applications and challenges of coupled free flow and porous media flow systems</b>		<i>AULA 3</i>
	<i>CHAIRS: Martin Schneider, Holger Class, Rainer Helmig, Costanza Aricò, Donatella Termini</i>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">A new numerical one-domain approach solver for the interaction of free fluid and porous medium at the mesoscale</a>	Costanza Aricò, Martin Schneider, Daniele Puleo, Rainer Helmig	Costanza Aricò
10:20	<a href="#">Numerical investigation of the flat plate solar collector (FPSC) at the mesoscale and and macroscale. Preliminary results</a>	Memoona, Daniele Puleo, Antonina Pirrotta, Costanza Aricò	Memoona
	<b>MS28 - Vibration-based Monitoring of Dynamic Systems</b>		<i>AULA 8</i>
	<i>CHAIRS: Manolis Chatzis, Eleni Chatzi, Vasileios Ntertimanis, Geert Lombaert</i>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Intelligent Automatic Operational Modal Analysis</a>	Marco Martino Rosso, Angelo Aloisio, Giuseppe Carlo Marano, Giuseppe Quaranta	Marco Martino Rosso
10:20	<a href="#">Influence of noise on First Passage Time maps and their use for early damage detection</a>	Kevin Theunissen, Vincent Denoël	Kevin Theunissen
10:40	<a href="#">Characterization of the dynamic response of a curved nine-spans post-tensioned concrete box girder highway bridge with half-joints</a>	Elisa Tomassini, Enrique García-Macías, Francesco Mariani, Ilaria Venanzi, Filippo Ubertini	Elisa Tomassini

	<b>MS29 - Bio-fluid mechanics</b>		<i>AULA 4</i>
	<b>CHAIRS: Valerio Caleffi, Giorgio Querzoli, Jan O. Pralits, Rodolfo Repetto, Annunziato Siviglia, Francesca Maria Susin</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">A mechanical model of exudative macular oedema</a>	Alessia Ruffini, Maria Dvoriashyna, Rodolfo Repetto	Alessia Ruffini
10:20	<a href="#">Hemodynamics in patients supported on VA-ECMO: a preliminary OD model.</a>	Caterina Cara, Paolo Peruzzo, Laura Besola, Nicola Nencioni, Andrea Colli, Francesca Maria Susin	Caterina Cara
10:40	<a href="#">Anchoring and Migration of Balloon in REBOA</a>	Chiang Mei, Yile Li, Simone Michele, Paolo Sammarco, Paul McBeth	Paolo Sammarco
	<b>MS30 - Structural Monitoring and Identification of Complex Dynamical Systems</b>		<i>AULA Seminari A</i>
	<b>CHAIRS: Alberto Di Matteo, Kalil Erazo</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Parameter estimation of stochastic fractional dynamic systems using recursive nonlinear filtering system identification methods</a>	Alberto Di Matteo, Kalil Erazo, Pol D. Spanos	Alberto Di Matteo
10:20	<a href="#">Novel bridge damping identification procedure through vehicle-bridge interaction</a>	Matteo Mazzeo, Roberta Santoro, Alberto Di Matteo	Roberta Santoro
10:40	<a href="#">Fisher Information based Optimal Sensor Locations for Structural Identification: Non-Stationary Inputs and Non-Classically Damped Systems</a>	Dhiraj Ghosh, Suparno Mukhopadhyay	Dhiraj Ghosh
	<b>MS41 - Emerging Mathematical Tools in Advanced Modelling: The Fractional-Order Calculus, in honor of Emeritus Professor Teodor Atanackovic</b>		<i>AULA 6</i>
	<b>CHAIR: Massimiliano Zingales</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
10:00	<a href="#">Asymptotic Homogenization for determining the effective mechanical response of a composite material exhibiting fractional viscoelastic behavior at the microstructural scale</a>	Alfio Grillo, Raimondo Penta, Ariel Ramírez-Torres	Alfio Grillo
10:20	<a href="#">On the wave propagation in fractional nonlocal elastic rods, beams and plates</a>	Noël Challamel, Teodor Atanackovic, YP Zhang, CM Wang	Noël Challamel
11:00 - 11:40 Coffee break			

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23**  
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AULA 5

*CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta*

	Title	Author(s)	Speaker
11:40	<a href="#">Random vibrations in Earthquake engineering: state of the art and future perspectives</a>	Giuseppe Carlo Marano	Giuseppe Carlo Marano
12:00	<a href="#">Boundary value problems for fractional stochastic differential equations under white noise process</a>	Andrea Burlon, Mario Di Paola, Giuseppe Failla, Pol D. Spanos	Andrea Burlon
12:20	<a href="#">Fractional differential equations forced by <math>\alpha</math>-stable white noise</a>	Gioacchino Alotta	Gioacchino Alotta

**MS14 - Multi Risk by natural actions: mitigation strategies for structures and infrastructures**

AULA 10

*CHAIR: Liborio Cavaleri*

	Title	Author(s)	Speaker
11:40	<a href="#">A performance-based hurricane engineering methodology to quantify the effects of climate change and structural aging for single-family wooden houses</a>	Michele Barbato	Michele Barbato
12:00	<a href="#">Mechanical insights on energy dissipating devices behaviour</a>	Francesco Pimpinella, Maddalena Marchelli, Valerio De Biagi	Francesco Pimpinella
12:20	<a href="#">The probabilistic response of masonry structures under Tsunami</a>	Panagiotis G. Asteris, Liborio Cavaleri	Liborio Cavaleri

**MS19 - Experimental Characterization, Identification, Analysis, and Design of Mechanical Systems with Hysteretic Behavior**

AULA Seminari B

*CHAIRS: Salvatore Sessa, Nicolò Vaiana, Biagio Carboni*

	Title	Author(s)	Speaker
11:40	<a href="#">Hysteretic cycles via thermodynamic and variational approaches</a>	Luca Placidi, Francesco D'Annibale	Luca Placidi
12:00	<a href="#">Modeling of hysteretic systems using physics-guided universal ordinary differential equations</a>	Sebastián Delgado-Trujillo, Diego A. Álvarez, Daniel Bedoya-Ruiz, Michael Heredia-Pérez	Michael Heredia-Pérez

	<b>MS28 - Vibration-based Monitoring of Dynamic Systems</b>		<b>AULA 8</b>
	<b>CHAIRS: Manolis Chatzis, Eleni Chatzi, Vasileios Ntirtimanis, Geert Lombaert</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Real-time SHM of laboratory scale structures using Internet of Thing (IoT) enabled technology</a>	Abhishek Dilip Aherwar, T. Jothi Saravanan, Mayank Mishra, Paulo B. Lourenço	Mayank Mishra
12:00	<a href="#">Multi-class and Unknown Damage Detection under Varying Environmental Conditions via Open Set Domain Adaptation</a>	Mingyuan Zhou, Zhilu Lai	Mingyuan Zhou
12:20	<a href="#">Identification of strain influence lines of railway bridges from the structural response at train passage</a>	Said Quqa, Antonio Palermo, Alessandro Marzani	Antonio Palermo
	<b>MS38 - Advances in experimental characterization and numerical modelling of masonry structures retrofitted with traditional and innovative techniques</b>		<b>AULA 9</b>
	<b>CHAIRS: Giovanni Minafò, Gabriele Milani, Maria Concetta Oddo, Piero Colajanni, Giuseppe Ruta, Fabio Di Trapani</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">Debonding sawtooth analytical model for SRG-strengthened joints subjected to direct shear and experimentally tested</a>	Natalia Pingaro, Angelo Savio Calabrese, Gabriele Milani, Carlo Poggi	Angelo Savio Calabrese
12:00	<a href="#">A Genetic Algorithm approach for the calibration of a numerical model for the simulation of the FRCM-to-masonry bond</a>	Giovanni Minafò, Gaetano Camarda, Marielisa Di Leto, Lidia La Mendola	Marielisa Di Leto
12:20	<a href="#">Advanced numerical modelling of masonry arches reinforced with SRG</a>	Natalia Pingaro, Gabriele Milani	Angelo Savio Calabrese
	<b>MS17 - Recent Advances and Challenges in Modelling Masonry Structures</b>		<b>AULA 7</b>
	<b>CHAIRS: Daniela Addessi, Francesco Messali, Jan G. Rots, Elio Sacco</b>		
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>
11:40	<a href="#">A simple micro-mechanically based constitutive model for the analysis of masonry structures</a>	Gregorio Bertani, Luca Patruno, Antonio Maria D'Altri, Giovanni Castellazzi, Stefano de Miranda	Gregorio Bertani
12:00	<a href="#">A three-dimensional interface for the nonlinear axial-flexural behavior of masonry macroelements subjected to biaxial bending</a>	Christian Salvatori, Gabriele Guerrini, Andrea Penna	Christian Salvatori
12:20	<a href="#">Finite Element Micro-Modelling of Masonry Structures: Calibration and Analysis Challenges</a>	Amirhossein Ghezelbash, Francesco Messali, Jan G. Rots	Amirhossein Ghezelbash

12:40 - 14:20 Lunch



14:20 - 16:40 SESSION 15

BUILDING 19

**MS01 - 20(20)23 Stochastic Mechanics & Meccanica Stocastica 20(20)23**  
**International Conference (23SM&MS23)**  
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AULA 5

**CHAIRS: Vittorio Gusella, Giuseppe Marano, Giuseppe Muscolino, Antonina Pirrotta**

	Title	Author(s)	Speaker
14:20	<a href="#">Stochastic response determination of nonlinear systems with fractional derivative elements via path integral approach using Laplace's method</a>	Alberto Di Matteo, Antonina Pirrotta	Alberto Di Matteo
14:40	<a href="#">A possible description of random variables in quantum computing</a>	Salvatore Sessa	Salvatore Sessa
15:00	<a href="#">Diffusive term of the Fractional Fokker Planck equation handled by self-similarity theory</a>	Salvatore Russotto, Mario Di Paola, Antonina Pirrotta	Salvatore Russotto
15:20	<a href="#">Reliability bounds for structures controlled by external fractional viscoelastic dampers</a>	Alba Sofi, Giuseppe Muscolino, Mario Di Paola	Alba Sofi
15:40	<a href="#">A proposal for the probabilistic distribution of highly-non-Gaussian peak factors for the wind pressure acting on hyperbolic paraboloid roofs</a>	Michele Barbato	Michele Barbato

**MS12 - Mechanical modeling and experimentation of inorganic matrix fiber and textile reinforced composite systems**

AULA Seminari B

**CHAIRS: Andrea Nobili, Tommaso D'Antino, Cesare Signorini**

	Title	Author(s)	Speaker
14:20	<a href="#">Experimental analysis of hemp-matrix biocomposite material for masonry structural strengthening</a>	Roberta Scungio, Chiara Pepi, Pier Francesco Greco, Michele Arturo Caponero, Massimiliano Giofrè	Chiara Pepi
14:40	<a href="#">Probabilistic models for hemp fibers and yarns mechanical properties to use as bio composite reinforcing material</a>	Massimiliano Giofrè, Maria Eleonora Pipistrelli, Chiara Pepi	Maria Eleonora Pipistrelli
15:00	<a href="#">Analytical modelling of the bond behavior of carbon FRCM-masonry joints exposed to high temperature</a>	Veronica Bertolli, Cesare Signorini, Andrea Nobili, Tommaso D'Antino	Tommaso D'Antino
15:20	<a href="#">Influence of glass-fibre epoxy coating on bond and tensile behaviour of FRCM systems: an experimental and analytical investigation</a>	Rebecca Grazzini, Giulia Misseri, Luisa Rovero	Luisa Rovero

<b>MS14 - Multi Risk by natural actions: mitigation strategies for structures and infrastructures</b>				<b>AULA 10</b>
<b>CHAIR: Liborio Cavaleri</b>				
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">Rock blocks impacts on masonry walls: modelling for vulnerability evaluation</a>	Maddalena Marchelli, Valerio De Biagi	Maddalena Marchelli	
14:40	<a href="#">Environmental Durability of Externally Bonded FRP-Repaired Concrete</a>	Ruben Paul Borg, Fabio Spiteri	Ruben Paul Borg	
15:00	<a href="#">A strategy to improve the effectiveness of friction dampers for seismic protection</a>	Liborio Cavaleri	Liborio Cavaleri	
15:20	<a href="#">Joint Effects of Thermal Stresses and Corrosion on Integral Abutment Bridges</a>	Alessandro Contento, Angelo Aloisio, Junqing Xue, Giuseppe Quaranta, Bruno Briseghella, Paolo Gardoni	Alessandro Contento	
15:40	<a href="#">Enhancing Resilience of Circular RC Bridge Piers with CFRP Seismic Retrofitting: Performance Under Vehicular Lateral Impact Loading</a>	Cristoforo Demartino, Sicheng Zhou	Cristoforo Demartino	
16:00	<a href="#">A tropical cyclone intensity model using the conditional generative adversarial network</a>	Tianle Chen, Xu Hong, Liang Hu, Fan Kong	Fan Kong	
<b>MS17 - Recent Advances and Challenges in Modelling Masonry Structures</b>				<b>AULA 7</b>
<b>CHAIRS: Daniela Addressi, Francesco Messali, Jan G. Rots, Elio Sacco</b>				
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">Masonry differential settlements analysis including the soil</a>	Vincenzo Mallardo, Antonino Iannuzzo	Vincenzo Mallardo	
14:40	<a href="#">An iterative linear programming procedure for non-associative kinematic limit analysis of masonry blocks</a>	Mariaceleste Lasorella, Agualdo Fraddosio, Elio Sacco, Mario Daniele Piccioni	Mariaceleste Lasorella	
15:00	<a href="#">Limit analysis of non-periodic masonry by means of Discontinuity Layout Optimization</a>	Mattia Schiantella, Federico Cluni	Mattia Schiantella	
15:20	<a href="#">Macro-mechanical models for the assessment of tunnelling induced damage on masonry structures</a>	Maria Luigia Sangirardi, Cristina Gatta, Daniela Addressi, Angelo Amorosi	Daniela Addressi	
15:40	<a href="#">Novel numerical approaches for the modelling of axial-symmetric masonry domes</a>	Francesca Roscini, Francesca Nerilli	Francesca Roscini	
16:00	<a href="#">Modelling of Masonry with Microporomechanics</a>	Pedro Henrique Rios Silveira, Rita Esposito	Pedro Henrique Rios Silveira	

	<b>MS27 - Rocking mechanics in civil engineering</b>			<b>AULA 4</b>
	<b>CHAIRS: Michela Monaco, Antonino Iannuzzo</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">Revisiting the rocking overturning spectrum of free-standing blocks via shaking table tests</a>	Carla Colombo, Georgios Vlachakis, Nuno Mendes, Anastasios I. Giouvanidis, Nathanaël Savalle, Paulo B. Lourenço	Carla Colombo	
14:40	<a href="#">Rocking analysis of masonry bell towers</a>	Luciana Di Gennaro, Mariateresa Guadagnuolo, Michela Monaco	Luciana Di Gennaro	
15:00	<a href="#">An experimental study on the effects of friction variability</a>	Michelina Monaco, Ester Sallicandro, Roberto Serpieri	Michelina Monaco	
15:20	<a href="#">A modified Drucker Prager numerical approach for the analysis of the San Francesco di Paola dome in Naples</a>	Claudia Cennamo, Concetta Cusano, Arsenio Cutolo, Federico Guarracino, Ida Mascolo	Claudia Cennamo	
	<b>MS38 - Advances in experimental characterization and numerical modelling of masonry structures retrofitted with traditional and innovative techniques</b>			<b>AULA 9</b>
	<b>CHAIRS: Giovanni Minafò, Gabriele Milani, Maria Concetta Oddo, Piero Colajanni, Giuseppe Ruta, Fabio Di Trapani</b>			
	<b>Title</b>	<b>Author(s)</b>	<b>Speaker</b>	
14:20	<a href="#">The intrados strengthening of masonry arches with FRCM. The three-centred arch</a>	Luciana Di Gennaro	Luciana Di Gennaro	
14:40	<a href="#">An adaptive Scan-to-BIM workflow for the Dynamic Simulation of Architectural Heritage</a>	Manuela Aricò, Calogero Cucchiara, Alessandra Ferro, Mauro Lo Brutto, Antonino Maltese, Calogero Vinci	Manuela Aricò	
15:00	<a href="#">From 'in falso' to masonry wall beam</a>	Riccardo Liberotti, Federico Cluni, Francesco Faralli, Vittorio Gusella	Riccardo Liberotti	
15:20	<a href="#">A Genetic Algorithm approach for the prediction of loading scenarios in masonry walls equipped with stress sensors</a>	Gaetano Camarda, Giovanni Minafò, Maria Cetta Oddo, Marielisa Di Leto, Lidia La Mendola	Marielisa Di Leto	
15:40	<a href="#">Crack width prediction and investigation for flexural reinforced concrete members</a>	Zhi Zhang, Fangyin Zhang, Liling Cao, Alaukik Singh	Zhi Zhang	
16:00	<a href="#">Effects of post-tension on the structural capacity of masonry bridges</a>	Laura Niero, Riccardo Piazzon, Paolo Zampieri, Carlo Pellegrino	Laura Niero	
16:20	<a href="#">Seismic Performance Enhancement of Unreinforced Brick Masonry Buildings by Retrofitting with Reinforced Concrete Bands: Full Scale Experiments</a>	Lakshmi Latha, Samit Ray-Chaudhuri, Suparno Mukhopadhyay, Kunwar K. Bajpai	Suparno Mukhopadhyay	

## TRANSFER TO AND FROM THE CONFERENCE VENUE

Transfer timetable from Politeama Theatre pick-up point to the Conference Venue

**(pick-up point address: Via Turati 15)**

### **Monday 28th:**

#### **Buses from the pick-up point to the Conference venue**

Departure 7:30 – 7:50 – 8:10

Return 19:20

#### **Shuttle from the pick-up point and back** (limited seats)

Departure from the pick-up point the Conference venue:

09:30-12:30-14:30-16:30

Departure from the Conference venue to the pick-up point:

10:00-12:00-14:00-16:00-18:00

### **Tuesday 29th:**

#### **Buses from the pick-up point to the Conference venue**

Departure 08:20 – 8:30 – 8:40

Return 18:20

#### **Shuttle from the pick-up point and back** (limited seats)

Departure from the pick-up point the Conference venue:

09:30-12:30-14:30

Departure from the Conference venue to the pick-up point:

10:00-12:00-14:00-16:00

### **Wednesday 30th:**

#### **Buses from the pick-up point to the Conference venue**

Departure 08:20 – 8:30 – 8:40

Return 18:20

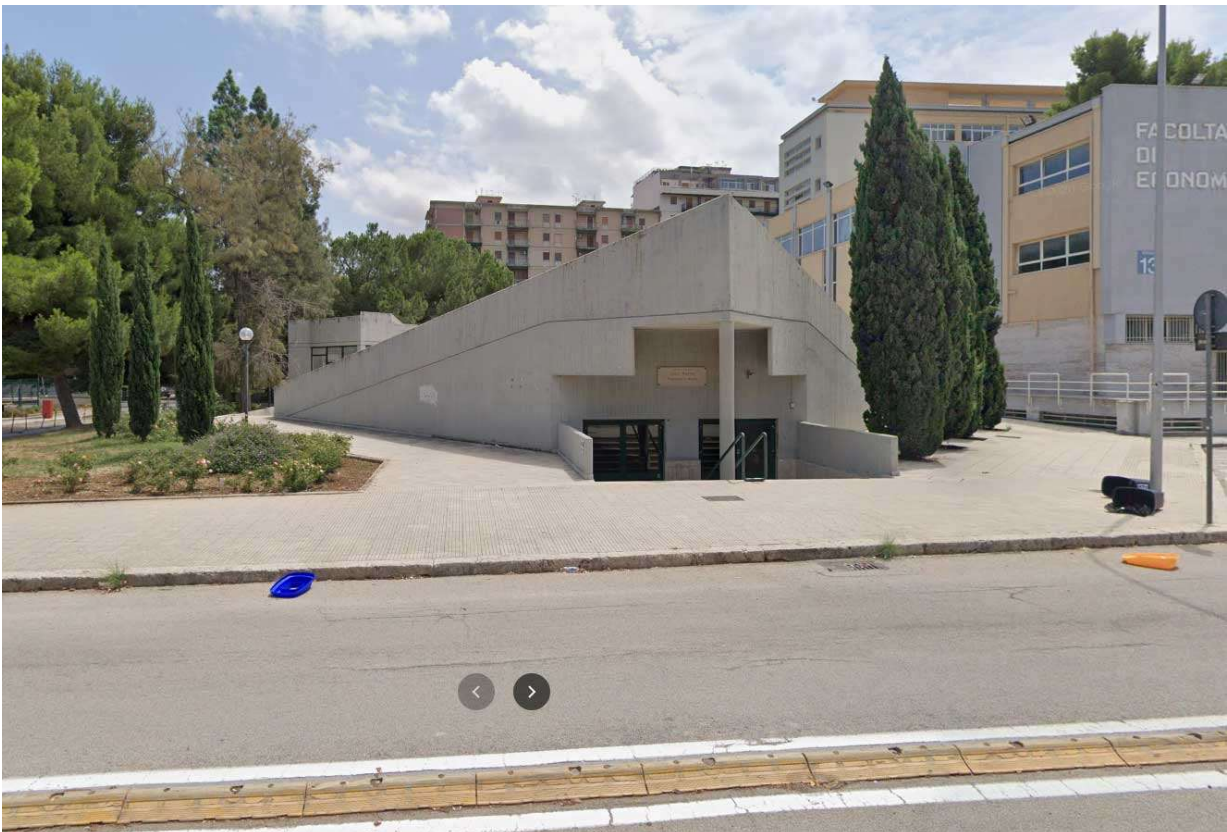


## CONFERENCE VENUE

### Building 19 – Parallel sessions area



### Aula Magna Economia – Plenary sessions hall





## Orto Botanico – Welcome cocktail venue



## I Giardini del Massimo – Social dinner venue



# EMI 2023 IC - POI map

## POIs



Building 19 - Parallel sessions area



Aula Magna Economia - Plenary sessions



Orto Botanico - Welcome cocktail venue



Giardini del Massimo - Social dinner venue



Conference buses pick-up point

In this map you will find the EMI International Conference points of interest

