Monday, September 7

9:00-12:00 — Opening at Teatro Grande

09:00	**09:30**	**Saluti istituzionali**	- **Il ViceSindaco del Comune di Brescia, Dr. Federico Manzoni** - **Il Presidente della Provincia di Brescia, Dr. Emanuele Moraschini** - **Il Magnifico Rettore dell'Università di Brescia, Prof. Francesco Castelli** - **Il Direttore del Dipartimento di Matematica e Fisica "Niccolò Tartaglia" dell'Università Cattolica del Sacro Cuore, Prof. Alessandro Musesti** - **Il Vicepresidente di Confindustria, Dott. Mario Bonomi** - **Il Presidente dell'AIMETA, Prof. Umberto Perego**	
09:30	**09:50**	**Lezione storico - artistica**	**Giuseppe Fusari** *Prosperità e bellezza: Brescia e la sua immagine*	
09:50	**10:50**	**Eccellenze bresciane nella meccanica**	Chair: Introductory Address	Speaker: Title
09:50	**10:10**		Saverio Gaboardi: *L'automotive nell'era della transizione*	**Aldo Bonomi** *Mille Miglia, l'eccellenza bresciana nell'automotive dalla nascita ai nostri giorni*
10:10	**10:30**		Rodolfo Faglia: *La meccanica, la ricerca e l'impresa: una prospettiva accademica*	**Marco Bassoli** *Beretta ed il 500° anniversario: legacy forges tomorrow*
10:30	**10:50**		Lucio Fattori: *La meccanica, la ricerca e l'impresa: una prospettiva imprenditoriale*	**Marco Ronchi** *Il ruolo della meccanica nella transizione energetica: il caso A2A*
11:00	**11:40**	**Plenary lecture accademica**	Roberto Verzicco	**Ugo Piomelli** *The good, the bad, and the beautiful: Leonardo's studies of turbulence*
11:40	**12:00**	**Plenary lecture industriale**	Roberto Verzicco	**David Pasquale** *Turbomachinery design for industrial decarbonization technologies*

12:00-14:20 — Walk to Palazzo Calini ai Fiumi / Lunch Break

14:20-16:00 — Session 1

		MS05		MS03		ST02		MS01	
		Chair: Enrico Ciulli	Room: Sala dei putti	Chair: Daniele Zulli	Room: Aula A2	Chair: Antonio Ghidoni	Room: Sala delle candelabre	Chair: Giovanni Garcea	Room: Aula A1
14:20	**14:40**	**Federico Colombo** *A comparison between different approaches of the Narrow Groove Theory for grooved gas bearings*		**Stefano Corazza** *A Two-Step Approach for the Dynamic Analysis of Submerged Floating Tunnels under Wave Loading*		**Roberto Verzicco** *Intra– versus supra–annular deployment of the mechanical aortic valve: a fluid–structure interaction investigation*		**Lucia Lottici** *A position-based finite element formulation for the nonlinear static and dynamic analysis of structures*	
14:40	**15:00**	**Marco De Stefano** *Experimental investigation on the tribocorrosion of different materials used in dual mobility hip implants*		**Federica Tubino** *Human-structure interaction: dynamic characterization of the coupled system*		**Teresa Mautone** *Thermal regelation of irregular particles: a comparison with idealized spheres*		**Giulio Ferri** *An isogeometric geometrically exact Reissner–Mindlin shell formulation for shape-changing structures*	
15:00	**15:20**	**Alessandro Sicilia** *Differential Algebraic Equations simulating Elasto-Hydrodynamic Lubrication*		**Maurizio De Angelis** *A New Inerter device for vibration suppression in slender structures.*		**Daniele Chiappini** *Vapour chamber performance analysis through Lattice Boltzmann method*		**Antonio Madeo** *A Hybrid Virtual Element formulation for Mindlin-Reissner shells with drilling rotations*	
15:20	**15:40**	**Enrico Ciulli** *Wear coefficient evolution during wear tests*		**Silvio Sorrentino** *Self-excited vibration in automotive clutch-differentials*		**Gianni Pedrizzetti** *Vortex Ring Formation in a Confined Chamber*		**Daniele Scano** *X-dof method for beams, plates, and shells*	
15:40	**16:00**			**Said Quqa** *A reduced-order model for the dispersion analysis of nonlinear periodic metamaterials*				**Giuliano Picciani** *A non-linear kernel-based method for the large deflection analysis of thin polygonal plates*	

16:00-16:20 — Coffee Break

16:20-17:40 — Session 2

		ST04		MS03		ST02		MS01	
		Chair: Luigi Solazzi	Room: Sala dei putti	Chair: Silvio Sorrentino	Room: Aula A2	Chair: Gianni Pedrizzetti	Room: Sala delle candelabre	Chair: Massimiliano Cremonesi	Room: Aula A1
16:20	**16:40**	**Guglielmo Paoletti** *Balancing Rotating Machinery with Wolfram System Modeler and Mathematica*		**Paolo Pagni** *Some new results on the stability analysis of a rocking rigid block under periodic input*		**Michele Ronzoni** *Discontinuous Galerkin Framework for Turbomachinery Adjoint Shape Optimization*		**Enzo Marino** *Explicit high-order time and space accurate isogeometric collocation method for the dynamics of geometrically exact beams*	
16:40	**17:00**	**Christian Schioppetto** *Experimental analysis and optimization of friction losses and kinematic chains in knitting machine*		**Federico Zullo** *On the dynamics of equilbration processes*		**Carlo Belpietro** *Enhanced turbomachinery shape optimization through POD and Machine Learning*		**Andrea Leonetti** *Path-following for periodic solutions in high-dimensional nonlinear dynamics via space-time finite elements*	
17:00	**17:20**	**Ivan Tomasi** *Validation of a mechanism for the generation of alternative motion with adjustable stroke by deformation of an elastic ring*		**Simona Di Nino** *Nonlinear Resonant Dynamics of a Buckled Beam with Two-to-One Internal Resonance: Analytical and Experimental Investigation*		**Matteo Rosellini** *Data-Driven Correction of RANS Models for Urban Flow Prediction via Data Assimilation and Machine Learning*		**Xueyan Hu** *Solid elements with beam and plate capabilities*	
17:20	**17:40**	**Monica Tiboni** *Dynamic Characterization and Motion Optimization of a Cartesian Medication Handling Robot*		**Stefano Corazza** *Fatigue reliability of tethers for Submerged Floating Tunnels: an efficient multiscale methodology*		**Maria Vittoria Salvetti** *A Novel Non-Equilibrium Wall Model for Large-Eddy Simulations with Strong Pressure Gradients*		**Giacomo Rizzieri** *Numerical Modelling of Extrusion-Based Additive Manufacturing with a Unified Fluid-Solid Constitutive Model*	

18:00-19:30 — **Meccanica 60 years anniversary reception**

Legenda

Presentazioni a carattere industriale

Presentazioni dei vincitori migliori tesi di dottorato GIMC, GMA, GBMA

Presentazioni dei vincitori premi AIMETA JUNIOR

Tuesday, September 8

8:30-9:10	Scientific Plenary lecture	Chair	Speaker	Title
		Alessandro Ruggiero	Daniele Dini	*Dealing with the Devil: In-Silico Experiments Across the Scales to Design Better Engineering Interfaces*

9:20-10:40 Session 3

MS07 — Chair: Daniela Addessi — Room: Aula A2

Start	End	Speaker	Title
09:20	09:40	**Nicole Belli**	*Numerical Analysis of Gyroid Structure Performances in Heat Sink Environment*
09:40	10:00	**Andrea Colombi**	*Architected metamaterials for autonomous sensing and actuation*
10:00	10:20	**Rachele Zuppi**	*Numerical and experimental investigation of wave attenuation in 3D-printed lattice metamaterials*
10:20	10:40	**Luigi Cabras**	*Elastic wave transmission in hierarchical ternary waveguides*

MS09 — Chair: Alessandro Nitti e Nicola Sancisi — Room: Sala dei putti

Start	End	Speaker	Title
09:20	09:40	**Leonardo Leonetti**	*Advanced Isogeometric Path-Following for Growth-Induced Deformations in Shells*
09:40	10:00	**Michele Torre**	*Isogeometric simulations of Gastruloids*
10:00	10:20	**Sofia Damian**	*A Simplified and Effective Poroelastic Model for Lamina Cribrosa*
10:20	10:40	**Mattia Serpelloni**	*A Staggered Computational Framework for coupling 3D Cell Mechanics and 2D Chemo-Diffusive Dynamics on Evolving Surface*

ST02 — Chair: Michele Ronzoni — Room: Sala delle candelabre

Start	End	Speaker	Title
09:20	09:40	**Francesco Serafini**	*Buoyant particle dispersion in open channel turbulent stratified flow*
09:40	10:00	**Francesco Tripoli**	*0D-1D multiscale cardiovascular modelling for spaceflight applications*
10:00	10:20	**Tommaso Andreussi**	*Modelling of air-breathing spacecraft and low-temperature plasma instabilities*
10:20	10:40	**Cristian Marchioli**	*Long flexible fibers: A proxy for microplastics in turbulence*

ST01 — Chair: Roberto Brighenti — Room: Aula Magna

Start	End	Speaker	Title
09:20	09:40	**Michele Gatti**	*Verifica strutturale di un'isola di valvole mediante simulazione numerica*
09:40	10:00	**Enrico Radi**	*Analytical Modeling of Clearance-Fit Pinned Joints with Functionally Graded Interlayers*
10:00	10:20	**Valerio De Biagi**	*Catenary action in axially restrained RC members: a fracture mechanics-based approach to progressive collapse assessment*

10:40-11:00 Coffee Break

11:00-12:20 Session 4

MS07 — Chair: Giorgio Carta — Room: Aula A2

Start	End	Speaker	Title
11:00	11:20	**Federico O. Falope**	*On a unified framework for the consistent comparison of experimental tests in isotropic hyperelasticity*
11:20	11:40	**Giulia Scalet**	*Recent modeling approaches for multi-phase semi-crystalline networks featuring the shape memory effect*
11:40	12:00	**Diego Misseroni**	*Restabilization Beyond Euler Buckling in Origami Metastructures*
12:00	12:20	**Paolo S. Valvo**	*A numerical study on the use of fully uncoupled multi-directional specimens for Edge Crack Torsion tests*

MS01 — Chair: Stefano De Miranda — Room: Aula A1

Start	End	Speaker	Title
11:00	11:20	**Lorenzo Sanavia**	*Multiphysics modelling of hydro-thermal cracks in geomaterials with the phase-field approach*
11:20	11:40	**Giuseppe Giambanco**	*Phase-Field Regularized Lumped Damage Mechanics for Beams via Mumford-Shah Functional Homogenization*
12:00	12:20	**Domenico D'Urso**	*A co-rotational Discrete Macro-Element for large displacement analysis of inelastic beam-like stuctures*

MS04 — Chair: Fabrizio Vestroni — Room: Sala delle candelabre

Start	End	Speaker	Title
11:00	11:20	**Giovanni Pallini**	*Estimation of the torsional damping of a turbomachinery shaftline*
11:20	11:40	**Eleonora Massarelli**	*Comparative analysis of system identification algorithms for damping estimation in bridges*
11:40	12:00	**Riccardo Giacometti**	*Genetic Algorithm-based optimization of active vibration control in frame structures*
12:00	12:20	**Daniel Chindamo**	*Towards Rapid Suspension Development: An Integrated Framework for Elastokinematic Design through Automatic Optimisation*

ST01 — Chair: Francesca Fantoni — Room: Aula Magna

Start	End	Speaker	Title
11:00	11:20	**Angelo Carini**	*On variational theorems in fracture mechanics*
11:20	11:40	**Roberta Massabò**	*Orthotropy rescaling of fracture mechanics solutions in thin bodies*
11:40	12:00	**Matteo Viscoti**	*Higher-order modeling for multifield analysis of anisotropic doubly-curved shells*
12:00	12:20	**Andrea Nobili**	*On the completion of Eringen's theory of nonlocal elasticity and its connection to surface elasticity*

12:20-14:00 Lunch Break

14:00-15:40 Session 5

MS07 — Chair: Diego Misseroni — Room: Aula A2

Start	End	Speaker	Title
14:00	14:20	**Emma La Malfa Ribolla**	*Lattices structures for energy absorption: modelling and experimental study*
14:20	14:40	**Nicola Marasciuolo**	*Chirality in the elastic stability behaviour of periodic lattices*
14:40	15:00	**Paolo Badino**	*Spectrally Consistent Multiband Continualization for Actively Controlled Periodic Chiral Metafilters*
15:00	15:20	**Luca Lanzoni**	*On the shear models in finite elasticity*
15:20	15:40	**David Faraci**	*Thermal shrinkage of PET fibers: experiments and modeling*

MS01 — Chair: Greta Ongaro — Room: Aula A1

Start	End	Speaker	Title
14:00	14:20	**Farshad Rahmani**	*A coupled thermo-viscoelastic isogeometric formulation for shape morphing of complex beam structures*
14:20	14:40	**Francesca Nerilli**	*Mixed hybrid finite element formulation for masonry arches and axisymmetric domes*
14:40	15:00	**Nicola Grillanda**	*Non-smooth contact dynamics of curved rigid block structures*
15:00	15:20	**Fabio De Angelis**	*Closed form solution of the constitutive problem in three-dimensional elastoplastic solids with nonlinear kinematic hardening*
15:20	15:40	**Simona Lo Franco**	*On the point of compaction and its implications for porous media modeling*

MS11 — Chair: Daniela Addessi — Room: Sala dei putti

Start	End	Speaker	Title
14:00	14:20	**Francesca Taddeo**	*Multiscale modelling and mechanical characterisation of woven natural fibre composites*
14:20	14:40	**Marianna Puccia**	*Computational modelling of fracture in random two-phase materials*
14:40	15:00	**Luca Reali**	*Upscaling atomistic fracture processes: a step towards simulating the reliability of polycrystalline silicon for MEMS*
15:00	15:20	**Elio Sacco**	*A Comparative Assessment of Reduced-Order Homogenization Techniques for Nonlinear Composites*
15:20	15:40	**Chiara Pepi**	*Correlation-Driven Effects in Stochastic Lattice Models of Graphene with Spatially Structured Disorder*

MS10 — Chair: Giulio Lucci — Room: Sala delle candelabre

Start	End	Speaker	Title
14:00	14:20	**Michele Terzano**	*Calibration and validation of a poro-viscoelastic material model for soft tissue-mimicking hydrogels*
14:20	14:40	**Gaia Prezioso**	*Theoretical and experimental model for pure shear tests: application to the knee meniscus tissue*
14:40	15:00	**Francesca Bogoni**	*Experimental investigation of viscoelasticity and damage-related effects in aortic tissue*
15:00	15:20	**Saverio Gardellin**	*Experimental Characterization of the Inelastic Properties of Porcine Coronary Arteries*
15:20	15:40	**Damiano Bertolo**	*A structural micromechanical model of the retina*

ST01 — Chair: Roberta Massabò — Room: Aula Magna

Start	End	Speaker	Title
14:00	14:20	**Ernesto Pagliaro**	*Utilizzo di tecno-polimeri avanzati per la progettazione di componenti elettromeccanici in automotive*
14:20	14:40	**Matteo Pelliciari**	*Deriving rubber elasticity from a microscale structural mechanics model of polymer networks*
14:40	15:00	**Stefano Sirotti**	*Large-strains beam formulation from hyperelasticity with application to polymer nanocomposites*
15:00	15:20	**Giacomo Petraglia**	*Continuum modeling of fractional viscoelastic materials: a finite strain framework coupled with plastic remodeling and Phase Field damage*
15:20	15:40	**Davide Pellecchia**	*A functionally graded enhanced beam model including transverse deformations*

15:40-16:00 Coffee Break

16:00-17:20 Session 6

MS07 — Chair: Elio Sacco — Room: Aula A2

Start	End	Speaker	Title
16:00	16:20	**Anna Pandolfi**	*A poromechanical Cam-clay model for fault gouge*
16:20	16:40	**Giorgio Carta**	*Topological properties of heterogeneous flexural systems and analogy with the SSH model*
16:40	17:00	**Francesca Fantoni**	*Continuum–molecular modeling of viscoelasticity: a convolution-driven approach for multiscale analysis of heterogeneous media*
17:00	17:20	**Vito Diana**	*Dispersive wave propagation in oriented peridynamic continua with non-central interactions*

MS01 — Chair: Francesca Nerilli — Room: Aula A1

Start	End	Speaker	Title
16:00	16:20	**Elisabetta Monaldo**	*A cohesive interface approach to modeling high-cycle fatigue damage*
16:20	16:40	**Domenico Careccia**	*An Immersed Boundary approach for thin-walled structures in high-speed flows*
16:40	17:00	**Greta Ongaro**	*Optimized Nodal Influence Weights for Surface and Boundary Corrections in Bond-Based Peridynamics*
17:00	17:20	**Antonino Spada**	*A FEM-VEM crack tracking algorithm using the Desmorat's anisotropic damage model*

MS11 — Chair: Marco Pingaro — Room: Sala dei putti

Start	End	Speaker	Title
16:00	16:20	**Lorenzo Castiglioni**	*Simulation Driven Contributions to Product Development in Beretta*
16:20	16:40	**Roberto Fedele**	*Experimental characterization and finite element modelling of Fiber Metal Laminates subjected to ballistic impact*
16:40	17:00	**Manuel Berlato**	*Modeling of Electrolyte Concentration Polarization-Induced Phase Transformation in Low-Temperature Li-Ion Batteries*
17:00	17:20	**Giambattista Romano**	*Size Effects and Gradient-Dependent Response in Bending and Stretching- Dominated Mechanical Metamaterials*

MS04 — Chair: Annamaria Pau — Room: Sala delle candelabre

Start	End	Speaker	Title
16:00	16:20	**Daniele Zulli**	*Parameter identification of a post-buckled beam in 2:1 internal resonance conditions*
16:20	16:40	**Francesco Cannizzaro**	*Identification of multiple cracks in beams and frames through influence functions*
16:40	17:00	**Michela Basili**	*Enhancing vibration serviceability of footbridges using motion-amplified inerter absorbers*
17:00	17:20	**Patrizio Lollobrigida**	*Mechanics-Informed Automation for Generating Modal Datasets for Structural Damage Identification*

ST03 — Chair: Angelo Carini — Room: Aula Magna

Start	End	Speaker	Title
16:00	16:20	**Paola Nardinocchi**	*Analysis of the spatial and material flow rules which govern remodeling in active gel discs*
16:20	16:40	**Paolo Tesini**	*Eulerian Modeling of Large Deformations in Deposition Processes*
16:40	17:00	**Roberto Brighenti**	*Simulation and testing of polymer-based piezoelectric energy harvesters*
17:00	17:20	**Eric Guiot**	*A study of the dynamics of a class of spirals, with applications to astrodynamics*

17:20 AIMETA GROUP MEETINGS

Group	Room
GIMC - GMA - GBMA	MAGNA
Cinematica e dinamica dei sistemi multibody	A1
Dinamica e stabilità	Putti
Meccanica multiscala e nanostrutture	A3
Meccanica stocastica	A2
Tribologia	Candelabre

Wednesday, September 9

8:30-9:10	Scientific Plenary lecture	Chair	Speaker	Title
		Stefano Lenci	**Luca Deseri**	*Rearrangeable matter: multiscale mechanics in engineered and biological structures*

9:20-10:40 — Session 7

		MS09 Room Aula A2	MS01 Room Aula A1	MS11 Room Sala dei putti	MS08 Room Sala delle candelabre	ST01 Room Aula Magna
		Chair: Michele Torre ed Elisabetta Monaldo	Chair: Francesco Marmo	Chair: Michele Marino	Chair: Rossella Laudani, Chiara Masnata	Chair: Vincenzo Minutolo
09:20	09:40	**Pierfrancesco Gaziano** *An advanced patient-specific computational framework for fracture-risk assessment in pathological femurs*	**Giovanni Castellazzi** *Enhanced stress recovery for the Q4RS quadrilateral shell element via Recovery by Compatibility in Patches*	**Marco Colatosti** *Identification of micropolar yield parameters in composites from discrete simulations*	**Matteo Mazzeo** *Damage detection in beams via a stochastic approach*	**Marco Luciani** *Nonlinear Response of Spar-Type Floating Offshore Wind Turbines to Parametric Sea Waves and External Wind Loads*
09:40	10:00	**Alessandro Nitti** *Characterization of turbulent flow past mechanical aortic valves*	**Domenico Magisano** *Increasing the Buckling Capacity with Modal Geometric Imperfections*	**Maria Laura De Bellis** *Generalized Macrohomogeneity Condition for Multiscale Modeling of Micropolar Continua*	**Roberta Santoro** *Explicit Frequency Response of Multi-Cracked Beams Under Uncertain Damage*	**Maria Chiara Comella** *Nucleation in rank-one gradient plasticity: exact solutions and geometry-dependent regimes*
10:00	10:20	**Simone Borrelli** *Obesity in musculoskeletal models: the interaction of BMI and lordosis on spinal loads*	**Vincenzo Mallardo** *Three-dimensional mechanical response of dry-joint masonry on elastic soil*	**Daniele Ussorio** *On spacetime evolutive equilibrium of multiscale 1-D elastic structures*	**Giuseppe Mugnos** *A simplified numerical–experimental framework for seismic fragility assessment of high-voltage voltage transformers*	**Jacopo Maria De Ponti** *Localized Topological States for Advanced Microscale Sensing*
10:20	10:40	**Eric Puntel** *Surface growth and residual stress in a cylindrical vessel*	**Nicola A. Nodargi** *A variational non-smooth contact dynamics framework for nonlinear static pushover analysis of 3D historical masonry structures*	**Andrea Caporale** *A robust FEM-based iterative framework for stress-driven integral nonlocal analysis of shear-deformable nanoplates*	**Hamed Hasani** *Condition-aware AI Framework for Automated Structural Health Monitoring*	**Federica Ongaro** *Low-frequency broadband acoustic metamaterials via hierarchical Helmholtz resonators*

10:40-11:00 — Coffee Break

11:00-12:20 — Session 8

		MS07 Room Aula A2	MS01 Room Aula A1	MS11 Room Sala dei putti	MS03 Room Sala delle candelabre	ST01 Room Aula Magna
		Chair: Laura Galuppi	Chair: Sonia Marfia	Chair: Raffaele Barretta	Chair: Manuel Ferretti	Chair: Paola Nardinocchi
11:00	11:20	**Silvia Monchetti** *Swelling-driven morphing of soft structures through pressure generated by a confined hydrogel beads cluster*	**Enrico Masoero** *Chemo-mechanical simulations at the nanoscale: a fundamental tool to understand damage evolution in concrete for thermal energy storage*	**Federica De Maio** *On the shear correction factor in nonlocal Timoshenko beam theory*	**Annamaria Pau** *Spectral enrichment and guided wavemode interactions in micropolar plates*	**Jonid Vjerdha** *An invariant transformation in finite hyperelasticity: Jacobian structure, boundary singularities and energy coupling*
11:20	11:40	**Kevin Raúl Lucón Rivas** *Towards computational evaluation of angle-closure risk factors using an active-strain iris model.*	**Lorenzo Mingazzi** *Carbonation shrinkage cracking in concrete*	**Fabio De Angelis** *A variational formulation for viscoplasticity with closed form solution of the constitutive problem and nonlinear kinematic hardening*	**Daniele Giardina** *UGW propagation in plates through enhanced Global-Local analysis*	**Claudio Boni** *Static and kinematic invariants in Möbius kaleidocycles. A mathematical framework for designing complex rotating rings*
11:40	12:00	**Claudia Binetti** *Ab Initio Quantized Fracture Thermo-Mechanics (QFTM) of Snow-Slab Avalanche Release*	**Luigi Greco** *High-order phase-field fracture: from accuracy to efficiency*	**Chiara Masnata** *Uncertainty-Aware Line Element-less Method (LEM) Formulation for Kirchhoff Plates*	**Shubo Zhang** *Dynamic crack propagation speed transition in multilayer systems*	**Eleonora Orefice** *Geometric design and nonlinear analysis of reconfigurable deployable gridshells obtained from polyomino assemblies*
12:00	12:20	**Roberto Marchello** *Rayleigh-Taylor surface instability in magnetoelastic soft solids*	**Francesco Chirianni** *A Virtual Element formulation for geometrically exact 2D curved beams*	**Giuseppe Ruta** *Asymptotic expansions for the dispersive properties of cubic lattices*	**Ilaria Fiore** *A spectral multi-cracked Timoshenko beam element*	**Valentina Zega** *Understanding the Dual Focault Pendulum MEMS gyroscope nonlinear dynamics*

12:20-14:00 — Lunch Break

14:00-15:40 — Session 9

		MS07 Room Aula A2	MS12 Room Aula A1	MS06 Room Sala dei putti	MS03 Room Sala delle candelabre	ST01 Room Aula Magna
		Chair: Elena Benvenuti	Chair: Alessio Roccon, Mirko Gallo	Chair: Nicola Sancisi, Giuseppe Vairo	Chair: Federico Zullo	Chair: Vincenzo Mallardo
14:00	14:20	**Marco Pingaro** *Topologically-tunable heterogeneous infills for 3D Printing: a lattice design algorithm*	**Niccolò Tonicello** *On the suitability of phase-field methods for Large-Eddy Simulations of two-phase turbulent flows*	**Angelo Rosario Carotenuto** *A unified continuum approach to growth and morphogenesis in mechanobiology*	**Popovych Oleksiy** *Modellazione termo-meccanica e ottimizzazione del contatto in connessioni elettriche a vite*	**Francesca Linda Perelli** *Fully-Coupled foundation soil modelling approach based on elastic half-space analytical solution.*
14:20	14:40	**Soroush Sepehri** *Directional Friction Mechanisms in Meta-Pipes for Improved Dissipation*	**Mirko Gallo** *Large Deviations and Phase Change*	**Luca Grezzi** *The mechanobiology of biofilms*	**Gianfranco Martellotta** *A Viscoelastic Contact Model for Finite-Duration Impact in the Rocking Dynamics of Rigid Blocks*	**Claudia Cennamo** *A simplified dynamic framework for collapse analysis of masonry arches*
14:40	15:00	**Vito Diana** *Dispersive wave propagation in oriented peridynamic continua with non-central interactions*	**Lorenzo Botti** *A Hybrid High-Order formulation for multicomponent incompressible flows*	**Pietro Lenarda** *A computational framework for wound-healing optimization of 3D bio-printed implants in endoscopic surgery of the gastrointestinal tract*	**Michele Rosso** *On the choice of static and time-varying potentials in nonlinear energy harvesting*	**Monia Spagna** *Nonlinear static and dynamic analysis of EBC-strengthened masonry arch structures using the Discrete Macro-Element Method*
15:00	15:20	**Laura Galuppi** *Electromagnetic wave interactions in laminated transparent composites for the design of space windows in low Earth orbit*	**Alessio Roccon** *Boiling heat transfer by phase-field method*	**Alessandro Giammarini** *A preliminary approach to the mechanics of the human vitreous*	**Lorenzo Ledda** *Free vibrations of symmetric functionally graded spatial Timoshenko circular arches*	**Vincenzo Minutolo** *Reduced-Dimensional Interface Modelling for Masonry Structures*
15:20	15:40	**Francesco D'Annibale** *A multi-scale approach for the design architected composite materials*	**Francesca Pelusi** *How does interfacial stabilization affect transport in thermally driven liquid-liquid dispersions?*	**Alberto Salvadori** *The Chemo-Mechanics of Cell Motility and Blood Clotting*	**Michele Guerini** *Exact Numerical Time Integration method for Moving Load Problems on Paderno d'Adda Bridge (1889)*	

15:40-16:00 — Coffee Break

16:00-17:00 — Session 10

		MS07 Room Aula A2	MS02 Room Aula A1	MS04 Room Sala dei putti	MS03 Room Sala delle candelabre
		Chair: Sonia Marfia	Chair: Stefano Mariani	Chair: Francesco Cannizzaro	Chair: Federica Tubino
16:00	16:20	**Matteo Gaibotti** *Towards a unified interface model for capsule-based liquid-filled composites with elastocapillary and bending effects*	**Gregorio Mariggiò** *Physics-Informed Identification of Material Parameters from Raw Grayscale Images*	**Cecilia Rinaldi** *Combined dynamic and DIC-based monitoring for damage detection in reinforced concrete structures*	**Manuel Ferretti** *Cascade of Restabilizations along Linear Fundamental Paths of Axially Soft Multi-Degree-of-Freedom Systems*
16:20	16:40	**Ruggero Macaluso** *Fracture assessment in highly deformable elastic fibrous materials*	**Salvatore Sessa** *Physics-informed kernel learning for ultimate capacity checks of RC sections*	**Costanza Petrungaro** *Damage Identifiability-Based Optimal Sensor Placement in Structural Health Monitoring*	**Ida Mascolo** *Enhanced energy harvesting via parametric excitation through a modified Kapitza approach*
16:40	17:00	**Ariel Surya Boiardi** *Nonreciprocal dynamics in soft active structures*	**Francesco Salvatore Liguori** *Integration of elastoplastic constitutive laws in hybrid finite elements using a physics-informed neural network*	**Fabrizio Vestroni** *Dynamic behaviour of a viscoelastic hysteretic isolator*	

17:00 — **AIMETA ASSEMBLY**

19:30		**APERITIVO**
20:30	**SOCIAL DINNER**	**INIZIO CENA**
22:30		**FINE CENA**

Legenda

Presentazioni a carattere industriale

Presentazioni dei vincitori migliori tesi di dottorato GIMC, GMA, GBMA

Presentazioni dei vincitori premi AIMETA JUNIOR

Thursday, September 10

8:30-10:10 — Session 11

		MS02 Room Aula A1 — Chair Salvatore Sessa		MS06 Room Sala dei putti — Chair Marco D. de Tullio, Marcello Vasta		MS07 Room Aula A2 — Chair Luigi Cabras		MS08 Room Sala delle candelabre — Chair Chiara Pepi	
08:30	08:50	**Elena Benvenuti**	*A Low-Rank QTT-based Finite Element Method For Elasticity Problems*	**Nicola Sancisi**	*An implicit compliant knee model based on an experimentally derived compliance map for OpenSim*	**Michele Brun**	*Dynamically Induced Localisation in Microstructured Media: From Defect Modes and Anisotropy to Topological Interface States*	**Maria Oliva**	*EASM-Based Probabilistic Optimization of Large DOF Structural Systems under Seismic Loading*
08:50	09:10	**Michele Marino**	*A Graph-Based Framework for System Identification in the Mechanobiology of Atherosclerosis*	**Alessia Sportelli**	*Closed-Loop 1D–0D Modeling of Cardiovascular–Ocular Fluid Dynamics*	**Vincenzo Fazio**	*Experiments and modeling of the links between torsion, tensile stress, and supercontraction in spider silk*	**Marco Civera**	*Uncertainty propagation in fast and relaxed vector fitting (FRVF)-based experimental modal analysis*
09:10	09:30	**Stefano Mariani**	*Large language model-based approach to topology optimization of truss structures*	**Dario Collia**	*Patient-Specific Modeling of Mitral Valve Dynamics After MitraClip: Impact of Residual Leaflet Asymmetry on Left Ventricular Flow*	**Serena Scelza**	*Wrinkling modelling of sandwich panels with hierarchical facesheets*	**Luca Roncallo**	*Interval characterization of human-structure interaction and uncertainty propagation on human-induced vibrations*
09:30	09:50	**Attilio Frangi**	*Kalman filter-based calibration of MEMS accelerometers and gyroscopes through electrical input signal only*	**Gino Antonio Reho**	*Mechanobiological feedback in tissue invasion: a continuum model for elastocapillarity and matrix degradation*	**Giuseppe Vairo**	*Theoretical insights into the mechanics of two-dimensional beams with bimodular constitutive behavior*	**Sveva Juliano**	*Analysis of Random Defects in Kresling Origami*
09:50	10:10	**Luca Brambilla**	*A Deep Learning Surrogate Based on the Tensorized Fourier Neural Operator for Time-Dependent Seismic Wave Propagation*	**Fabio Muraro**	*Stereo Particle Image Velocimetry of the Heart Left Ventricle*	**Francesco Scabbia**	*Peridynamic constitutive modeling of soft materials*	**Federico Cluni**	*Bio-Inspired TPMS Architectures for Lightweight Structures: A Stress-Informed Optimisation Approach*

10:10-10:40 — Coffee Break

10:40-12:00 — Session 12

		MS02 Room Aula A1 — Chair Salvatore Sessa, Stefano Mariani		MS06 Room Sala dei putti — Chair Alessandro Nitti		MS10 Room Aula A2 — Chair Paola Nardinocchi		MS08 Room Sala delle candelabre — Chair Maria Oliva	
10:40	11:00	**Massimiliano Cremonesi**	*Reduced Order and Machine Learning Approaches for Surrogate Modelling of Free-Surface Fluid Flows*	**Giulio Lucci**	*Non-Monotonic Stretch Response of Fibre-Reinforced Biological Tissues under Biaxial Loading*	**Massimiliano Berardi**	*Mechanical Cues As Functional Biomarkers In 3D in Vitro Models*	**Mattia Schiantella**	*Mechanical behaviour of stochastic TPMS lattice structures*
11:00	11:20	**Vincenzo Gattulli**	*3D Reconstruction and Non-Contact Dynamic Testing of the Equestrian Statue of Marcus Aurelius*	**Marcello Vasta**	*Theoretical Foundations of Statistical Fiber Remodeling in Biological Tissues*	**Chiara Lonati**	*Cell migration dynamics: from phenotype-structured diffusion in tissues to motion in scaffolds*	**Chiara Pepi**	*From High-Fidelity FE Models to Stochastic Equivalent Representations of Historic Masonry Structures: The "Ponte delle Torri" bridge*
11:20	11:40	**Valerio Ferdinandi**	*Classification-Oriented Sensor Placement for Digital Twin-Based SHM of the Calatrava's Città dello Sport in Rome*	**Mattia Corti**	*Mathematical models and numerical methods for neurodegenerative diseases*	**Carlos Alberto García**	*High-Performance-Computing models of 3D wave propagation through cetacean anatomy*	**Rossella Laudani**	*Stochastic differential calculus and corrective terms for a-stable parametric processes*
11:40	12:00	**Wael Alahamd**	*Combining simplified structural models and spaceborne radar measurements for bridge anomaly characterization*	**Beatrice Masante**	*Synergistic combination of stem cell-based approach and automated controlled dynamic culture for advanced dental tissue engineering*	**Lorenzo Zoboli**	*Peridynamic modeling of non-uniform degradation in orthopedic bioresorbable Mg-based screws*	**Nicola Cavalagli**	*Data-Driven Modeling of Thermal Effects for Improved Crest Displacement Forecasting in Concrete Dams*

12:00-14:00: — Lunch Break / Walk to San Cristo

14:00-18:00 — Closing at San Cristo

14:00		**Saluti istituzionali**	**Padre Mario Menin, direttore di "Missione Oggi"**	
14:10	14:30	**Lezione storico - artistica**	**Sara Lombardi**	*Presentazione della Chiesa di San Cristo*
14:30	14:50	**Lezione storico - culturale**	**Sergio Onger**	*L'Ateneo di Brescia, accademia di scienze, lettere ed arti, le Scienze e la Meccanica*
			Chair	Speaker — Title
14:50	15:30	**Plenary lecture accademica**	Giuseppe Puglisi	**Giuseppe Saccomandi** — *Constitutive Modeling in Nonlinear Elasticity: History, Pitfalls, and Perspectives*
15:30	15:50	**Plenary lecture industriale**	Giuseppe Puglisi	**Mara Pagani** — *Numerical Modeling of Structural Nonlinearities with COMSOL Multiphysics*

15:50 - 16:10 — Coffee Break

16:10-16:20 — Proclamazione dei vincitori dei PREMI AIMETA JUNIOR

16:20-18:00 — Session 13 — PREMI AIMETA JUNIOR — Chair Umberto Perego

16:20	16:40	**Ludovico Dassi**	*Nonlinear axial dynamics in thrust bearings: modelling, identification, and mitigation in industrial turbomachinery*
16:40	17:00	**Silvia Paparini**	*Singular Damped Twist Waves in Chromonic Liquid Crystals*
17:00	17:20	**Francesco Serafini**	*Polymer drag reduction in turbulent wall-bounded flows*
17:20	17:40	**Alessandra Bonfanti**	*On the efficient computation of the viscoelastic response of biological tissues*
17:40	18:00	**Nicola A. Nodargi**	*Variational non-smooth contact dynamics for historical masonry structures*

19:00 — **VISITA CANTINA IN FRANCIACORTA**

Legenda

Presentazioni a carattere industriale	Presentazioni dei vincitori migliori tesi di dottorato GIMC, GMA, GBMA	Presentazioni dei vincitori premi AIMETA JUNIOR