

## 13 Settembre 8:30 - 11:30

Time	Room	Event
<b>08:30 - 08:50</b>	<b>A1</b>	<b>Opening</b>
<b>08:50 - 09:20</b>	<b>A1</b>	<b>Plenary - Franco Brezzi: Virtual Element Methods: Basic features and Applications</b>
<b>09:20 - 10:00</b>	<b>A1</b>	<b>Prize Best PhD thesis GIMC</b>
09:20 - 09:40	A1	3D beam-column finite elements under tri-axial stress-strain states: non-uniform shear stress distribution and warping <i>Di Re Paolo</i>
09:40 - 10:00	A1	Discontinuous Galerkin methods for compressible and incompressible flows on space-time adaptive meshes <i>Fambri Francesco</i>
<b>10:00 - 11:00</b>	<b>A1</b>	<b>GIMC 1 - Chairmain: Franco Brezzi</b>
10:00 - 10:20	A1	Serendipity Nodal Virtual Elements <i>Marini Donatella</i>
10:20 - 10:40	A1	Virtual Elements for the Navier-Stokes equation with application to a leaflet problem <i>Beirao Da Veiga Lourenco, Lovadina Carlo, Vacca Giuseppe</i>
10:40 - 11:00	A1	Mixed Virtual Element Methods for Elasticity Problems <i>Lovadina Carlo, Artioli Edoardo, Miranda de Stefano, Patrino Luca</i>
<b>09:20 - 09:40</b>	<b>A2</b>	<b>Prize Best PhD thesis GMA</b>
09:20 - 09:40	A2	Modeling and Simulation of a Class of Nonlinear Coupled Reaction-Diffusion Problems for Green Applications <i>Lenarda Pietro</i>
<b>09:40 - 11:00</b>	<b>A2</b>	<b>GMA 1 - Chairman: Alberto Salvadori</b>
09:40 - 11:00	A2	Un approccio numerico ad elementi finiti per la simulazione di flussi granulari tridimensionali <i>Cremonesi Massimiliano, Franci Alessandro</i>
10:00 - 10:20	A2	Un metodo Lagrangiano Esplicito per la simulazione di Problemi Tridimensionali di Interazione Fluido-Struttura. <i>Meduri Simone, Cremonesi Massimiliano, Perego Umberto</i>
10:20 - 10:40	A2	Material parameter identification for the human cornea <i>Montanino Andrea, Angelillo Maurizio, Pandolfi Anna</i>
10:40 - 11:00	A2	Tailoring physical and geometric properties of ionic polymer metal composites toward optimised compressive sensing <i>Volpini Valentina, Bardella Lorenzo, Porfiri Maurizio</i>
<b>09:20 - 11:00</b>	<b>A5</b>	<b>Invited Session 1 - Chairman: Antonio Tralli</b>
09:20 - 09:40	A5	Three-leaf brick masonry walls: FE & DE models <i>Baraldi Daniele, Brito De Carvalho Bello Claudia, Cecchi Antonella, Meroi Emilio, Reccia Emanuele</i>
09:40 - 11:00	A5	Design and experimental validation of an auxetic phononic crystal for industrial micro-systems <i>Zega V., Nastro A., D'alessandro L., Ferrari M., Ardito R., Valzasina C., Ferrari V., Corigliano Alberto</i>
10:00 - 10:20	A5	Meta-heuristic algorithms for the kinematic NURBS-based limit analysis of curved masonry structures <i>Grillanda Nicola, Chiozzi Andrea, Milani Gabriele, Tralli Antonio</i>
10:20 - 10:40	A5	Solution of XFEM ill-conditioned systems by penalty stabilization and a novel iterative procedure <i>Ventura Giulio, Viale Nicola</i>
10:40 - 11:00	A5	Enhanced micromorphic modelling of beam lattice: a 1D introductory approach <i>Bacigalupo Andrea, Gambarotta Luigi</i>
<b>11:00 - 11:30</b>		<b>Coffe break</b>

## 13 Settembre 11:30 - 14:20

Time	Room	Event
<b>11:30 - 13:10</b>	<b>A1</b>	<b>GIMC 2 - Chairman: Donatella Marini</b>
11:30 - 11:50	A1	Flow and transport Virtual Element simulations in complex poro fractured media <i>Berrone Stefano, Borio Andrea, D'Auria Alessandro, Pieraccini Sandra, Scialò Stefano, Vicini Fabio</i>
11:50 - 12:10	A1	Multigrid algorithms for $p$ -version Virtual Element methods <i>Antonietti Paola, Mascotto Lorenzo, Verani Marco</i>
12:10 - 12:30	A1	The Virtual Element Method with curved edges <i>Beirao Da Veiga Lourenco, Russo Alessandro, Vacca Giuseppe</i>
12:30 - 12:50	A1	Curvilinear polygonal virtual elements for asymptotic homogenization problems <i>Artioli Edoardo, Beirao Da Veiga Lourenco, Lovadina Carlo, Verani Marco</i>
12:50 - 13:10	A1	Robustness of the Stabilisation Term in the Virtual Element Method <i>Bertoluzza Silvia, Pennacchio Micol, Prada Daniele</i>
<b>11:30 - 13:10</b>	<b>A2</b>	<b>GMA 2 - Chairman: Lorenzo Bardella</b>
11:30 - 11:50	A2	Numerical modelling of porous media: from freezing process kinetics to mechanical effects <i>Pesavento Francesco, Gawin Dariusz</i>
11:50 - 12:10	A2	A novel computational model to study complex crack paths in dynamic fracture of heterogeneous materials <i>Corrado Mauro, Carollo Valerio, Reinoso José, Paggi Marco</i>
12:10 - 12:30	A2	Simulation of VEGF receptor recruitment on ECs membrane <i>Damioli Valentina, Salvadori Alberto, Serpelloni Mattia, Beretta Gian Paolo, Ravelli Cosetta, Mitola Stefania</i>
12:30 - 12:50	A2	Dynamical loading on anisotropic soft anisotropic materials and tissues <i>Vena Pasquale</i>
12:50 - 13:10	A2	A novel visco-plastic model for granular materials at finite strains <i>Salvadori Alberto</i>
<b>11:30 - 13:10</b>	<b>A5</b>	<b>Invited Session 2 - Chairman: Antonio Tralli</b>
11:30 - 11:50	A5	Numerical analyses of a URM chimney damaged by the 2012 Emilia (Italy) earthquake <i>Tralli Antonio, Milani Gabriele, Minghini Fabio</i>
11:50 - 12:10	A5	Multiscale approach for the analysis of periodic masonry wall <i>Sacco Elio</i>
12:10 - 12:30	A5	An isogeometric integral continuum damage approach <i>Mallardo Vincenzo, Ruocco Eugenio, Beer Gernot</i>
12:30 - 12:50	A5	Experimental study on mechanical properties of NFRCM using various matrices and validation by X-Ray micro tomography <i>Olivito Renato, Codispoti R., Scuro C., Agostino R. G., Filosa R., Formoso V.</i>
12:50 - 13:10	A5	Canonical quasicrystalline waveguides <i>Gei Massimiliano, Morini Lorenzo, Chen Zhijiang</i>
<b>13:10 - 14:10</b>		<b>Lunch</b>
<b>13:10 - 14:20</b>	<b>A2</b>	<b>Riunione GMA</b>

## 13 Settembre 14:20 - 16:50

Time	Room	Event
<b>14:20 - 16:20</b>	<b>A1</b>	<b>GIMC 3 - Chairman: Anna Pandolfi</b>
14:20 - 14:40	A1	Inelastic analysis of framed structures with generic cross-sections <i>Bilotta Antonio, Garcea Giovanni</i>
14:40 - 15:00	A1	Minkowski plasticity in 3D frames: geometric evaluation of the cross-section yield surface and stress update strategy <i>Garcea Giovanni, Magisano Domenico, Liguori Francesco Salvatore, Leonetti Leonardo</i>
15:00 - 15:20	A1	$H$ (curl) finite element analysis of distortion gradient plasticity <i>Panteghini Andrea, Bardella Lorenzo</i>
15:50 - 15:40	A1	A thermodynamically consistent interface cohesive model for the low cycle fatigue analysis <i>Parrinello Francesco, Borino Guido</i>
15:40 - 16:00	A1	A three-dimensional phenomenological model for NiTi alloys describing functional fatigue and plasticity <i>Petrini Lorenza</i>
16:00 - 16:20	A1	Limit analysis and ductility check of reinforced concrete 3D frames <i>Garcea G., Magisano D., Liguori F., Leonetti L., Sessa Salvatore, Marmo F., Rosati L.</i>
<b>14:20 - 16:20</b>	<b>A2</b>	<b>GMA 3 - Chairman: Pasquale Vena</b>
14:20 - 14:40	A2	Phase-field modelling of the pseudo-ductile response of hybrid laminates <i>Alessi Roberto, Freddi Francesco</i>
14:40 - 15:00	A2	Advanced modeling of mixed-mode adhesive materials and interfaces <i>Dimitri Rossana, Zavarise Giorgio</i>
15:00 - 15:20	A2	Fracture propagation induced by gas storage operations: novel crack tracking algorithms based on a visco-plastic regularization <i>Fantoni Francesca, Salvadori Alberto, Wawrzynek Paul</i>
15:50 - 15:40	A2	A phase-field model for strain localization regularization <i>Giambanco Giuseppe, La Malfa Ribolla Emma</i>
15:40 - 16:00	A2	Stress evaluation within nonlocal Finite Element Method <i>Fuschi Paolo, Pisano Aurora Angela</i>
<b>14:20 - 16:20</b>	<b>A5</b>	<b>Invited Session 3 - Chairman: Antonio Tralli</b>
14:20 - 14:40	A5	Cross section reduction upon constant intrados stress in curved beams <i>Strozzi Antonio, Bertocchi Enrico, Mantovani Sara</i>
14:40 - 15:00	A5	Dynamic modelling of a gyroscopic stabilizer for the flutter performances of a long span bridge deck <i>Giaccu Gian Felice, Cazzani Antonio</i>
15:00 - 15:20	A5	Multiple strain localization and debonding failure mechanisms of thin quasi-brittle coatings <i>Borino Guido, Parrinello Francesco</i>
15:50 - 15:40	A5	A FE-BIE coupled method for the static analysis of beams on 3D half-space <i>Baraldi Daniele, Tullini Nerio</i>
15:40 - 16:00	A5	Effective properties of composites containing toroidal inhomogeneities <i>Radi Enrico, Sevostianov Igor, Lanzoni Luca</i>
16:00 - 16:20	A5	Snap-back mechanisms of planar rods subject to kinematical boundary conditions <i>Cazzolli Alessandro, Dal Corso Francesco, Bigoni Davide</i>
<b>16:20 - 16:50</b>		<b>Coffe Break</b>

## 13 Settembre 16:50 - 18:30

Time	Room	Event
<b>16:50 - 18:30</b>	<b>A1</b>	<b>GIMC 4 - Chairman: Lourenco Beirao Da Veiga</b>
16:50 - 17:10	A1	A Virtual Element Method approach for 2D fracture mechanics problems <i>Artioli Edoardo, Marfia Sonia, Sacco Elio</i>
17:10 - 17:30	A1	An Efficient Virtual Element Method (VEM) Approach for Bimaterial Systems <i>Pingaro Marco, Maria Laura De Bellis, Trovalusci Patrizia</i>
17:30 - 17:50	A1	An equilibrium-based stress recovery procedure for VEM <i>Artioli Edoardo, De Miranda Stefano, Lovadina Carlo, Patruno Luca</i>
17:50 - 18:10	A1	A low-order virtual element formulation for the analysis and simulation of strain softening in solids <i>De Bellis Maria Laura, Wriggers Peter, Hudobivaic Blaž, Zavarise Giorgio</i>
17:50 - 18:10	A1	Virtual Element Method for anisotropic materials: a constrained variational formulation for strong anisotropies in finite elasticity <i>Marino Michele, Wriggers Peter, Hudobivaic Blaž</i>
<b>16:50 - 18:30</b>	<b>A2</b>	<b>GMA 4 - Chairman:</b>
16:50 - 17:10	A2	On 2D and 3D band-gap structure in cellular locally resonant materials <i>Moscatelli Marco, Ardito Raffaele, Driemeier Larissa, Comi Claudia</i>
17:10 - 17:30	A2	Variational asymptotic homogenization of slender pantographic media <i>Dell'Isola Francesco, Barchiesi Emilio, Placidi Luca</i>
17:30 - 17:50	A2	On the role of phase segregation in the chemo-mechanical response of intercalating electrodes <i>Magri Marco, Salvadori Alberto, Boz Buket, Dev Tanmay</i>
17:50 - 18:10	A2	Mixed-mode interface fracture of beam-like geometries: length scales and mode mixity angle <i>Massabò Roberta, Cavalletti Alessandro</i>
18:10 - 18:30	A2	Transition waves in Rayleigh-type flexural systems <i>Nieves Michael, Garau Marta, Brun Michele, Fraghì Giuseppe</i>
<b>16:50 - 17:50</b>	<b>A5</b>	<b>Invited Session 4 - Chairman: Antonio Tralli</b>
16:50 - 17:10	A5	An eXtended Virtual Element Method for the Laplace problem with strong discontinuities and vertex singularities <i>Benvenuti Elena, Chiozzi Andrea, Sukumar Natarajan, Manzini Gianmarco</i>
17:10 - 17:30	A5	Quasi-mosaic crystals and their applications in modern research <i>Guidi Vincenzo</i>
17:30 - 17:50	A5	Damage and Plasticity Model for Strain Gradient Materials and numerical applications <i>Cuomo Massimo, Contraffatto Loredana, Greco Leopoldo</i>

## 14 Settembre 08:30 - 13:10

Time	Room	Event
<b>08:30 - 09:00</b>	<b>A1</b>	<b>Plenary - Marino Arroyo: Cell and Tissue Mechanics</b>
<b>09:00 - 11:00</b>	<b>A1</b>	<b>GIMC 5 - Chairman: Sonia Marfia</b>
09:00 - 09:20	A1	An efficient $\bar{B}$ -formulation for the isogeometric analysis via Bezier projection: the case of the membrane locking <i>Greco Leopoldo, Cuomo Massimo, Contrafatto Loredana, Gazzo Salvatore</i>
09:20 - 09:40	A1	Phase-field model for polarization evolution in ferroelectric materials via isogeometric collocation method <i>Fedeli Patrick, Reali Alessandro, Frangi Attilio, Auricchio Ferdinando</i>
09:40 - 10:00	A1	A new conforming isogeometric multi patch formulation: the Kirchhoff shell case <i>Greco Leopoldo, Cuomo Massimo, Contrafatto Loredana</i>
10:00 - 10:20	A1	Isogeometric collocation for the explicit dynamics of three-dimensional beams undergoing finite motions <i>Marino Enzo, Kiendl Josef, De Lorenzis Laura</i>
10:20 - 10:40	A1	An isogeometric framework for erythrocyte electro-deformation simulation <i>Nodarqi Nicola, Kiendl Josef, Bisegna Paolo, Caselli Federica, De Lorenzis Laura</i>
10:40 - 11:00	A1	Advanced modeling and applications of isogeometric shells <i>Reali Alessandro</i>
<b>09:00 - 11:00</b>	<b>A2</b>	<b>GMA 5 - Chairman:</b>
09:00 - 09:20	A2	Stress analysis around a tunnel in a gravitating poroelastic half plane <i>Lanzoni Luca, Radi Enrico, Nobili Andrea</i>
09:20 - 09:40	A2	Viscoelastic behaviour of polyvinyl butyral: influence of solar radiation <i>Fagone Mario, Ranocchiani Giovanna</i>
09:40 - 10:00	A2	Phase-field modelling of cracks in variably saturated porous media with application to desiccation <i>Cajuhi Tuanny, Gavagnin Claudio, De Lorenzis Laura, Sanavia Lorenzo</i>
10:00 - 10:20	A2	A degrading Bouc-Wen model with damage <i>Sangirardi Marialuigia, Addessi Daniela, Liberatore Domenico</i>
10:20 - 10:40	A2	An application of variational methods in strain gradient damage and fracture mechanics <i>Placidi Luca, Barchiesi Emilio, Misra Anil</i>
10:40 - 11:00	A2	H-M coupling for localized erosion phenomena in porous media <i>Rotunno Andrea Francesco, Callari Carlo, Froiio Francesco</i>
<b>11:00 - 11:30</b>		<b>Coffe break</b>
<b>11:30 - 13:10</b>	<b>A1</b>	<b>GIMC 6 - Chairman: Alessandro Reali</b>
11:30 - 11:50	A1	A shell finite element based on a multiscale approach for out-of-plane analysis masonry walls <i>Addessi Daniela, Di Re Paolo, Sacco Elio</i>
11:50 - 12:10	A1	The effect of micro-polar rotation in 2D Cosserat solids <i>Leonetti Lorenzo, Fantuzzi Nicholas, Trovalusci Patrizia, Tornabene Francesco</i>
12:10 - 12:30	A1	The retrofit of masonry buildings through seismic dampers <i>Jafarad Eslami Babak</i>
12:30 - 12:50	A1	Orthotropic macromechanical damage model for the response of masonry structures <i>Gatta Cristina, Addessi Daniela</i>
12:50 - 13:10	A1	Vulnerability curves of masonry buildings by analyses of collapse mechanisms through PR method <i>De Gregorio D., Iannuzzo A., Gesualdo A., Zuccaro Giulio, Angelillo M.</i>

## 14 Settembre 11:30 - 16:50

Time	Room	Event
<b>11:30 - 13:10</b>	<b>A2</b>	<b>GMA 6 - Chairman: Alberto Salvadori</b>
11:30 - 11:50	A2	Optimal 2D auxetic microstructures with band gap <i>Bruggi Matteo, Zega Valentina, Corigliano Alberto</i>
11:50 - 12:10	A2	Existence and Asymptotics for a Reaction-Diffusion-Drift Equation in the Continuum Physics of Scintillating Crystals <i>Davì Fabrizio</i>
12:10 - 12:30	A2	Effective stiffness of CNT bundles under bending <i>Galuppi Laura, Royer-Carfagni Gianni</i>
12:30 - 12:50	A2	Asymptotic characterization of the mechanical energy transport and acoustic wave polarization in beam lattice materials <i>Lepidi Marco, Bacigalupo Andrea</i>
12:50 - 13:10	A2	Influence of shear and boundary conditions on the electrochemomechanics of ionic polymer metal composites <i>Leronni Alessandro, Bardella Lorenzo, Viviani Luca</i>
<b>13:10 - 14:10</b>		<b>Lunch</b>
<b>13:10 - 14:20</b>	<b>A1</b>	<b>Riunione GIMC</b>
<b>14:20 - 16:20</b>	<b>A1</b>	<b>GIMC 7 - Chairman: Anna Pandolfi</b>
14:20 - 14:40	A1	Strong and Weak Formulations for the Analysis of Arbitrarily Shaped Laminated Composite Structures <i>Tornabene Francesco, Bacciocchi Michele, Fantuzzi Nicholas</i>
14:40 - 15:00	A1	Formulazione di un modello di delaminazione in modo misto in presenza di fiber-bridging e transizione da piccole a grandi aperture <i>Confalonieri Federica, Perego Umberto</i>
15:00 - 15:20	A1	A discrete-to-continuum approach to the equilibrium of masonry vaults <i>De Piano Mariella, Berardi Valentino Paolo, Fraternali Fernando, Feo Luciano</i>
15:20 - 15:40	A1	Influence of Meso-Structure on the Mechanical Response of FDM 3D Printed Material <i>Alaimo Gianluca, Auricchio Ferdinando, Marfia Sonia, Sacco Elio</i>
15:40 - 16:00	A1	A 3D elasto-plasto-damaged model of confined concrete composites at the mesolevel <i>Mazzucco G., De Marchi N., Pomaro Beatrice, Xotta G., Salomoni V., Majorana C.</i>
16:00 - 16:20	A1	Simulation of additive manufacturing processes: preliminary results and perspectives <i>Morganti Simone, Cattenone Alberto, Auricchio Ferdinando</i>
<b>14:20 - 16:20</b>	<b>A2</b>	<b>GMA 7 - Chairman: Lorenzo Bardella</b>
14:20 - 14:40	A2	Passive and active remodelling of fibre reinforced hyperelastic solids <i>Ciambella Jacopo</i>
14:40 - 15:00	A2	A variational-asymptotic homogenization model for the characterization of viscoelastic materials with periodic microstructure. <i>Del Toro Rosaria, Bagicalupo Andrea, Paggi Marco</i>
15:00 - 15:20	A2	A variational two-phase model for micro- and macro-cracking in composites, with applications to fiber-reinforced concretes <i>Lancioni Giovanni, Alessi Roberto</i>
15:20 - 15:40	A2	Shrinking/swelling-induced instabilities in multilayered elastic bodies <i>Battista Daniele, Nardinocchi Paola</i>
15:40 - 16:00	A2	Phononic materials for the passive control of Bloch waves <i>Vadalà Francesca, Bacigalupo Andrea, Lepidi Marco, Gambarotta Luigi</i>
16:00 - 16:20	A2	Spectral decomposition for the constitutive modeling of distributed fiber-reinforced tissues <i>Vasta Marcello, Gizzi Alessio, Pandolfi Anna</i>
<b>16:20 - 16:50</b>		<b>Coffe Break</b>

## 14 Settembre 16:50 - 18:10

Time	Room	Event
<b>16:50- 18:10</b>	<b>A1</b>	<b>GIMC 8 - Chairman: Antonio Tralli</b>
16:50 - 17:10	A1	An accurate and computationally efficient phenomenological model for rate-independent hysteretic mechanical systems and materials <i>Vaiana Nicolò, Marmo Francesco, Sessa Salvatore, Rosati Luciano</i>
17:10 - 17:30	A1	A regularized XFEM framework coupled to a multi-surface plasticity model for the numerical simulation of wooden structures <i>Orlando Nicola, Benvenuti Elena, Gebhardt Clemens, Kaliske Michael</i>
17:30 - 17:50	A1	Wave propagation in curved beam structure <i>Meirbekova Bibinur, Brun Michele, Pagneux Vincent</i>
17:50 - 18:10	A1	Closed form solution of the return mapping algorithm for three-dimensional elastoplasticity <i>De Angelis Fabio</i>