

# Detailed Scientific Program for the ECCOMAS Young Investigators Conference 2023

v2 - 2023/05/23 - Presentations in mini-symposia

## Day 1 - 19th of June 2023

<b>Day: 1</b>	<b>CAM07 – Full and Reduced Order Models for Multiphysics and Multiscale Simulations in Cardiovascular Applications (I)</b>
<b>Room: 1</b>	<b>Chair: Maximilian Schuster</b>
<b>11:00</b>	CAM07_01: Computational modeling of pharmacokinetics and pharmacodynamics during in stent restenosis following drug-eluting stent implantation <i>Kiran Manjunatha, Anna Ranno, Marek Behr, Felix Vogt, Stefanie Reese</i>
<b>11:15</b>	CAM07_02: Domain Size Impact on the Simulation of Intracranial Aneurysm Haemodynamics <i>Pablo Jeken Rico, Aurele Goetz, Aurelien Larcher, Elie Hachem</i>
<b>11:30</b>	CAM07_03: The potential benefits of modelling arterial compliance for intracranial aneurysm risk assessment <i>Aurèle Goetz, Pablo Jeken-Rico, Ramy Nemer, Aurélien Larcher, Elie Hachem</i>
<b>11:45</b>	CAM07_04: Development of a reduced-order model for understanding FL thrombosis in type B aortic dissection using a global sensitivity analysis and polynomial chaos expansion <i>Gian Marco Melito</i>
<b>12:00</b>	CAM07_05: Chronic type B aortic dissection remodeling assessed with patient-specific fluid-structure interaction models <i>Malte Rolf-Pissarczyk, Kathrin Bäuml, Richard Schussnig, Thomas-Peter Fries, Dominik Fleischmann, Alison L. Marsden, Gerhard A. Holzapfel</i>
<b>12:15</b>	CAM07_06: Accelerated Dirichlet-Robin fluid-structure interaction in patient-specific hemodynamics <i>Richard Schussnig, Malte Rolf-Pissarczyk, Kathrin Bäuml, Gerhard A. Holzapfel, Thomas-Peter Fries, Martin Kronbichler</i>

<b>Day: 1</b>	<b>CAM07 – Full and Reduced Order Models for Multiphysics and Multiscale Simulations in Cardiovascular Applications (II)</b>
<b>Room: 1</b>	<b>Chair: Maximilian Schuster</b>
<b>14:00</b>	CAM07_07: Image-based computational fluid dynamics of mitral regurgitation in the left heart <i>Lorenzo Bennati, Vincenzo Giamb Bruno, Francesca Renzi, Giovanni Puppini, Giovanni Battista Luciani, Christian Vergara</i>
<b>14:15</b>	CAM07_08: Unified continuum fluid-structure interaction simulation of treatment for mitral regurgitation <i>Joel Kronborg, Johan Hoffman</i>
<b>14:30</b>	CAM07_09: Patient-Specific Image-Based Computational Fluid Dynamic Model of the Right Heart <i>Francesca Renzi, Marco Fedele, Giamb Bruno Vincenzo, Quarteroni Alfio, Giovanni Puppini, Giovanni Battista Luciani, Christian Vergara</i>
<b>14:45</b>	CAM07_10: Computational hemodynamics and fluid-structure interaction for native and prosthetic cardiac valves <i>Ivan Fumagalli, Francesca Renzi, Rebecca Polidari, Eleonora S. Dacatra, Luca Dede, Christian Vergara, Alfio Quarteroni</i>
<b>15:00</b>	CAM07_11: Predicting left atrium stasis patterns from a data-augmented patient-specific geometry database in atrial fibrillation conditions <i>Jorge Dueñas Pamplona, Javier Garcia Garcia, José Sierra Pallares, Conrado Ferrera, Francisco Castro</i>
<b>15:15</b>	CAM07_13: Modeling of stented arteries using mixed-dimensional interaction <i>Ivo Steinbrecher, Nara Hagmeyer, Alexander Popp</i>

<b>Day: 1</b>	<b>CAM07 – Full and Reduced Order Models for Multiphysics and Multiscale Simulations in Cardiovascular Applications (III)</b>
<b>Room: 1</b>	<b>Chair: Maximilian Schuster</b>
<b>16:00</b>	CAM07_16: A multi-scale hybrid reduced order model for cardiovascular applications <i>Pierfrancesco Siena, Audrey Gossard, Michele Girfoglio, Gianluigi Rozza</i>
<b>16:15</b>	CAM07_17: A data-driven reduced-order model for real-time predictions applied to cardiovascular disease <i>Caterina Balzotti, Pierfrancesco Siena, Michele Girfoglio, Gianluigi Rozza</i>
<b>16:30</b>	CAM07_19: Modeling and Simulation of Prothrombin Activation Pathways in Pathological Blood Coagulation <i>Tobias Bangartz, Alessia Piergentili, Giulia Rossetti, Marek Behr</i>
<b>16:45</b>	CAM07_20: Strain-Based Blood Damage Modeling in Eulerian Frame <i>Nico Dirkes, Marek Behr</i>
<b>17:00</b>	CAM07_21: Anisotropic electrical conductivity of blood: a new model for numerical computations of impedance cardiography signals  <i>Alireza Jafarinia, Vahid Badeli, Gian Marco Melito, Alice Reinbacher-Köstinger, Günter Brenn, Manfred Kaltenbacher, Thomas Hochrainer</i>
<b>17:15</b>	CAM07_22: Quantitative assessment of the variability of FFRCT due to minimal uncertainty in lumen segmentation threshold  <i>Daniel Fernández-Martínez, Jose M. Montanero, María Reyes González-Fernández, Juan Manuel Nogales-Asensio, Conrado Ferrera</i>
<b>17:30</b>	CAM07_14: Sensitivity analysis and parameter estimation of a lumped parameter cardiovascular model during extracorporeal life support  <i>Jan-Niklas Thiel, Ana Martins Costa, Bettina Wiegmann, Jutta Arens, Michael Neidlin</i>
<b>17:45</b>	CAM07_15: Physiological Control Mechanisms in the Fontan Circulation <i>Zan Ahmad, Charles Puelz, Charles S. Peskin</i>

<b>Day: 1</b>	<b>CAM02 – Scientific Machine Learning techniques for complex engineering systems (I)</b>
<b>Room: 2</b>	<b>Chair: Beatriz Moya, Quercus Hernández</b>
11:00	CAM02_01: Response-surface-based Bayesian inversion for engineering applications <i>Chiara Piazzola, Lorenzo Tamellini</i>
11:15	CAM02_02: Explicable least-squares Petrov-Galerkin nonlinear manifold method with hyper-reduction <i>Francesco Romor, Giovanni Stabile, Gianluigi Rozza</i>
11:30	CAM02_03: Sparse Data-Driven Quadrature Rules via $\ell^p$ -Quasi-Norm Minimization <i>Mattia</i>
11:45	CAM02_04: Non-intrusive data-driven reduced-order modeling for time-dependent parametrized problems <i>Junming Duan</i>
12:00	CAM02_05: Incorporating geometrical domain information into Gaussian Processes and Neural Networks for modelling physical fields  <i>Mariella Kast, Mengwu Guo, Jan Hesthaven</i>
12:15	CAM02_06: Graph convolutional autoencoder architecture for model order reduction of parametrized PDEs <i>Federico Pichi, Beatriz Moya, Jan S. Hesthaven</i>

<b>Day: 1</b>	<b>CAM02 – Scientific Machine Learning techniques for complex engineering systems (II)</b>
<b>Room: 2</b>	<b>Chair: Alberto Badiás, Quercus Hernández</b>
14:00	CAM02_07: Physics informed Generative Adversarial Networks for interactive structural shell design <i>Beatriz Moya, Francisco Chinesta, Elías Cueto</i>
14:15	CAM02_08: Physics-augmented neural networks meet hyperelasticity: A guide how to enforce general physical requirements  <i>Lennart Linden, Karl Kalina, Jörg Brummund, Dominik Klein, Oliver Weeger, Markus Kästner</i>
14:30	CAM02_09: Performing sensitivity analysis with physics-informed neural networks <i>Jahn M. Hanna, José V. Aguado, Sebastien Comas-Cardona, Ramzi Askri, Domenico Borzacchiello</i>
14:45	CAM02_10: Scalar Field Prediction on Structural Analysis using Graph Neural Networks <i>Ribeiro, J.A., Ribeiro, B.A., Ahmed, F., Tavares, S.M.O., Penedones, H., Sarmento, L., Belinha, J.</i>
15:00	CAM02_11: SimuStruct: Simulated Structural Plate with Holes Dataset for Machine Learning Application <i>Ribeiro, B.A., Ribeiro, J.A., Ahmed, F., Tavares, S.M.O., Penedones, H., Sarmento, L., Belinha, J.</i>
15:15	CAM02_12: Machine Learning for Discovery and Solution of Partial Differential Equations <i>Pin ZHANG, Zhen-Yu YIN, Brian SHEIL</i>

<b>Day: 1</b>	<b>CAM02 – Scientific Machine Learning techniques for complex engineering systems (III)</b>
<b>Room: 2</b>	<b>Chair: Beatriz Moya, Carlos Bermejo</b>
16:00	CAM02_13: Thermodynamics-based digital twins of granular media <i>Filippo Masi, Ioannis Stefanou</i>
16:15	CAM02_14: Reduced order models for time-dependent problems using the Laplace transform <i>Ricardo Reyes, Fernando Henriquez, Jan Hesthaven</i>
16:30	CAM02_15: A Thermodynamics-Informed Deep Learning Framework for Turbulent Flow Estimation <i>Carlos Bermejo Barbanaj, Alberto Badiás Herbera, David González Ibáñez, Francisco Chinesta Soria, Elías Cueto Prendes</i>
16:45	CAM02_16: AI-enhanced interactive simulators for virtual reality applications <i>Quercus Hernández, Alberto Badiás, Francisco Chinesta, Elías Cueto</i>
17:00	CAM02_17: A consistent thermodynamic data driven method for dissipative thermomechanics <i>David Portillo Garcia</i>
17:15	CAM02_18: Towards the simulation of complex systems: Port-Metriplectic Neural Networks <i>Alberto Badiás, Quercus Hernández, Francisco Chinesta, Elías Cueto</i>
17:30	CAM02_19: Polyconvex hyperelasticity and electro-elasticity with physics-augmented neural networks <i>Dominik K. Klein, Rogelia Ortigosa, Jesús Martínez-Frutos, Oliver Weeger</i>

<b>Day: 1</b>	<b>CAM08 – Advancements in finite element approaches for mixed and multi-physics problems</b>
<b>Room: 3</b>	<b>Chair: Ignatios Athanasiadis</b>
11:00	CAM08_01: Consistent fractional-step methods for incompressible viscoelastic flows <i>Douglas Ramalho Queiroz Pacheco, Ernesto Castillo</i>
11:15	CAM08_02: Multiphysical simulation of flow-related impedance changes in arteries <i>Vahid Badeli, Alireza Jafarinia, Alice Reinbacher-Köstinger, Thomas Hochrainer, Manfred Kaltenbacher</i>

- 11:30** CAM08\_03: A finite element approach to simulating columnar solidification for the prediction of macrosegregation in binary alloys  
*Richard W. Olley, Ignatios Athanasiadis, Andrei G. Shvarts, Łukasz Kaczmarczyk, Chris J. Pearce*
- 11:45** CAM08\_04: A finite element model updating approach for the characterisation of piezoelectric materials  
*Ignatios Athanasiadis, Andrei Shvarts, Sakineh Fotouhi, Lukasz Kaczmarcz, Sandy Cohran, Chris Pearce*
- 12:00** CAM08\_05: A two-scale thermo-hydro-mechanical model for supra-glacial lake driven fracture through ice-sheets  
*Tim Hageman, Ravindra Duddu, Emilio Martinez-Paneda*

<b>Day: 1</b>	<b>CAM01 – Uncertainty quantification of differential equations with random parameters: methods and applications (I)</b>
<b>Room: 3</b>	<b>Chair: Bjoern Sprungk</b>
<b>14:00</b>	CAM01_01: How parametric uncertainty affects tipping points of the Atlantic meridional overturning circulation <i>Kerstin Lux, Peter Ashwin, Richard Wood, Christian Kuehn</i>
<b>14:15</b>	CAM01_02: A bi-fidelity collocation approach for kinetic epidemic models with random inputs <i>Giulia Bertaglia, Liu Liu, Lorenzo Pareschi, Xueyu Zhu</i>
<b>14:30</b>	CAM01_03: Uncertainty quantification and predictability analysis of the Elder problem <i>Roman Khotyachuk, Klaus Johannsen</i>
<b>14:45</b>	CAM01_04: Dynamical Low Rank Approximations: SUPG stabilisation and time-stepping schemes <i>Thomas Trigo Trindade, Fabio Nobile, Eva Vidičková, Yoshihito Kazashi</i>
<b>15:00</b>	CAM01_05: Shape uncertainty quantification with localized basis functions <i>Wouter van Harten, Laura Scarabosio</i>
<b>15:15</b>	CAM01_06: Hierarchical Sampling Techniques and Goal-Oriented Adaptive Finite Element for Elliptic PDE with Lognormal Coefficients <i>Joakim Beck, Yang Liu, Erik von Schwerin, Raul Tempone</i>

<b>Day: 1</b>	<b>CAM01 – Uncertainty quantification of differential equations with random parameters: methods and applications (II)</b>
<b>Room: 3</b>	<b>Chair: Chiara Piazzola</b>
<b>16:00</b>	CAM01_07: Convergence of adaptive empirical stochastic Galerkin FEM <i>Martin Eigel, Nando Farchmin, Philipp Trunschke</i>
<b>16:15</b>	CAM01_08: Uncertainty quantification for diffusion problems using the data-driven approach <i>Adriana Kuliková, Dr Andrei G. Shvarts, Dr Łukasz Kaczmarczyk, Prof Chris J. Pearce</i>
<b>16:30</b>	CAM01_09: Efficient solution of the covariance eigenvalue problem for stationary random fields <i>Chao Zhang, Oliver Ernst</i>
<b>16:45</b>	CAM01_10: Bayesian inverse problems for hyperbolic conservation laws <i>Duc-Lam Duong, Masoumeh Dashti</i>
<b>17:00</b>	CAM01_11: Subsampling in Ensemble Kalman Inversion <i>Matei Hanu, Claudia Schillings, Jonas Latz</i>
<b>17:15</b>	CAM01_12: Learning the noise parameters of Bayesian inverse problems using normalizing flows <i>Paul Hagemann, Johannes Hertrich, Gabriele Steidl</i>
<b>17:30</b>	CAM01_14: Dimension-independent Markov chain Monte Carlo on the sphere <i>Bjoern Sprungk</i>
<b>17:45</b>	CAM01_13: Langevin dynamics: Enrichment and Homotopy <i>Robert Gruhlke, Martin Eigel, David Sommer, Claudia Schillings</i>

<b>Day: 1</b>	<b>CSSM10 – Advanced numerical strategies and inverse methodologies for material characterization</b>
<b>Room: 4</b>	<b>Chair: João Henriques, Mafalda Gonçalves</b>
<b>11:00</b>	CSSM10_01: Constitutive model selection for sheet metal forming based on the analysis of identifiability of the material parameters <i>Mariana Conde, Sam Coppieters, António Gil de Andrade-Campos</i>
<b>11:15</b>	CSSM10_02: The influence of symmetry boundary conditions in the design of heterogeneous mechanical tests using topology optimization <i>Mafalda Gonçalves, Sandrine Thuillier, António Andrade-Campos</i>
<b>11:30</b>	CSSM10_03: On the ability of mechanical tests to calibrate anisotropic and rate dependent plasticity models <i>Thibault BARRET, Miguel Oliveira, Antonio Andrade-Campos, Sandrine Thuillier</i>
<b>11:45</b>	CSSM10_04: On the inverse calibration of sheet metal anisotropic plasticity constitutive models using the Arcan test and full-field measurements <i>João Henriques, António Andrade-Campos, José Xavier</i>
<b>12:00</b>	CSSM10_05: IDENTIFICATION OF THROUGH-THICKNESS WORK HARDENING VARIATION OF THICK HIGH STRENGTH STEEL USING THE VIRTUAL FIELD METHOD <i>Alessandro Lambrughì, Steven Cooreman, Sandrine Thuillier, Sam Coppieters</i>

12:15 CSSM10\_06: On the constraints and consistency in implicit elastoplastic constitutive modelling using ANNs and indirect training

*Rúben Lourenço, Elias Cueto, Pétia Georgieva, A. Andrade-Campos*

<b>Day: 1</b>	<b>CSSM20 – Multiscale Modeling, Homogenization and Microstructures in Solid Mechanics (I)</b>
<b>Room: 4</b>	<b>Chair: Sonja Hellebrand</b>
14:00	CSSM20_01: A Multi-Scale Framework for the Modelling of Intergranular Fracture in Polycrystalline Materials under Slip Plasticity and Martensitic Transformation <i>Miguel Vieira de Carvalho, Igor André Rodrigues Lopes, Francisco Manuel Andrade Pires</i>
14:15	CSSM20_02: A second-order computational homogenisation approach for investigating porous materials <i>Wanderson F. dos Santos, Igor A. Rodrigues Lopes, Sergio P. B. Proença, Francisco M. Andrade Pires</i>
14:30	CSSM20_03: Virtual elements in microstructural crystalline environments <i>Christoph Böhm</i>
14:45	CSSM20_04: Descriptor-based microstructure characterization and reconstruction – fixed inclusion shapes vs. free voxel formulation  <i>Paul Seibert, Markus Huser, Alexander Raßloff, Karl Kalina, Markus Kästner</i>
15:00	CSSM20_05: Refined modeling of the interaction of adjacent grains inside a Tungsten polycrystal <i>Guillaume Hanon, Laurent Delannay</i>
15:15	CSSM20_06: Composite Boxels with imperfect Interfaces (ComBI) with FFT-based solvers <i>Sanath Keshav, Felix Fritzen, Matthias Kabel</i>

<b>Day: 1</b>	<b>CSSM20 – Multiscale Modeling, Homogenization and Microstructures in Solid Mechanics (II)</b>
<b>Room: 4</b>	<b>Chair: Sonja Hellebrand</b>
16:00	CSSM20_07: Inversely identifying material parameters for a multiscale framework to model creep deformation using Deep Material Networks <i>Argha Protim Dey, Fabian Welschinger, Matti Schneider, Sebastian Gajek, Thomas Boehlke</i>
16:15	CSSM20_08: FFT-based homogenization of non-local damage and size effects in composite materials <i>Marco Magri, Javier Segurado</i>
16:30	CSSM20_09: Influence of fractal nature of pores on corrosion-driven fracture in cementitious materials <i>Mohit Pundir, Ueli Angst, David S Kammer</i>
16:45	CSSM20_10: Variationally consistent computational homogenization of chemo-mechanical properties of nano-porous battery electrode materials <i>David Rollin, Fredrik Larsson, Kenneth Runesson, Ralf Jänicke</i>
17:00	CSSM20_11: A Fully-nonlocal Quasicontinuum Approach for Predicting Fracture in Periodic 3D Metamaterials <i>Kevin Kraschewski, Gregory P. Philipot, Dennis M. Kochmann</i>
17:15	CSSM20_13: Characterization of TPMS foams using multiscale techniques <i>Ana Pais, Jorge Lina Alves, Jorge Belinha</i>
17:30	CSSM20_14: On the modeling of the interfaces in PC/ABS ternary blends <i>Alexandre C. Amara, A. Francisca C. Alves, Bernardo P. Ferreira, Miguel V. Carvalho, F. M. Andrade Pires</i>

<b>Day: 1</b>	<b>CSSM14 – Multifield and multiscale computational modelling of complex biomechanical systems (I)</b>
<b>Room: 5</b>	<b>Chair: Lorenzo Zoboli</b>
11:00	CSSM14_01: Bone fracture risk prediction in silico: digital twins in healthcare <i>Alessandra Aldieri, Chiara Garavelli, Antonino Amedeo La Mattina, Marco Palanca, Marco Viceconti</i>
11:15	CSSM14_02: Experimental calibration of an in silico mechano-biological model of bone healing inflammatory response with the support of genetic algorithm <i>Edoardo Borgiani, Gabriele Nasello, Liesbet Geris</i>
11:30	CSSM14_03: An innovative computational workflow for the design of self-expanding femoral artery stents using topology optimization  <i>Dario Carbonaro, Francesco Mezzadri, Simona Perotto, Nicola Ferro, Giuseppe De Nisco, Diego Gallo, Claudio Chiastra, Alberto Luigi Audenino</i>
11:45	CSSM14_04: Multiphysics modelling of Vasodilation in Arteries <i>Sauty B., Morin C., Avril S., Marino M.</i>
12:00	CSSM14_05: An electromechanical heart-torso coupled model for the simulation of the ECG <i>Elena Zappon</i>
12:15	CSSM14_06: Phase-field modeling of brittle fracture in heterogeneous bars <i>Francesco Vicentini, Pietro Carrara, Laura De Lorenzis</i>

<b>Day: 1</b>	<b>CSSM14 – Multifield and multiscale computational modelling of complex biomechanical systems (II)</b>
<b>Room: 5</b>	<b>Chair: Lorenzo Zoboli</b>
14:00	CSSM14_07: A microstructure-informed model of the white matter of human brain <i>Michele Terzano, Saeideh Saeidi, Manuel P. Kainz, Misael Dalbosco, Gerhard A. Holzapfel</i>
14:15	CSSM14_08: Process design in extrusion-based bioprinting <i>Francesco Chirianni, Giuseppe Vairo, Michele Marino</i>
14:30	CSSM14_09: Constitutive modelling of hydrogels for tissue-developing bio-printing applications <i>Lorenzo Zoboli, Pierfrancesco Gaziano, Alessio Gizzi, Giuseppe Vairo, Michele Marino</i>
14:45	CSSM14_10: Phase-field modelling of cell motility within hydrogel scaffolds <i>Pierfrancesco Gaziano, Michele Marino</i>
15:00	CSSM14_11: A multiscale model of aneurysm development in the Marfan mouse aorta <i>Lauranne Maes, Nele Famaey</i>
15:15	CAM00_05: Real-time four-chamber heart electromechanical simulations enable effective clinical translation of computational cardiology  <i>Matteo Salvador, Strocchi Marina, Regazzoni Francesco, Dede' Luca, Niederer Steven, Quarteroni Alfio</i>

<b>Day: 1</b>	<b>CSSM00 – General Symposium in Computational Solids And Structural Mechanics</b>
<b>Room: 5</b>	<b>Chair: ??????</b>
16:00	CSSM00_02: Constitutive Modelling and Validation of TRIP Steels <i>R. P. Cardoso Coelho, M. Vieira de Carvalho, F. M. Andrade Pires</i>
16:15	CSSM00_05: Modeling technique for petiole-lamina connections of peltate leaves <i>Stephan Ritzert, Hagen Holthusen, Domen Macek, Annabell Rjosk, Thea Lautenschläger, Christoph Neinhuis, Stefanie Reese</i>
16:30	CSSM00_06: Prediction of crack evolution in TiN thin films deposited on different substrates based on cohesive elements <i>Konrad Perzyński, Grzegorz Cios, Lukasz Madej</i>
16:45	CSSM00_07: The operator spectrum of linear elasticity least-squares finite elements methods <i>Linda Alzaben, Fleurianne Bertrand, Daniele Boffi</i>
17:00	CSSM00_08: Tuning Frequency Analysis of Energy Harvesting on Railway Bridges Using a Stochastic Process <i>J.C. Cámara-Molina, A. Romero, P. Galvín, E. Maliner, M.D. Martínez-Rodrigo</i>
17:15	CSSM00_09: An eXtended finite element method for the Nernst-Planck-Poisson equation <i>Pawan Kumar, Narasimhan Swaminathan, Sundararajan Natarajan</i>
17:30	CSSM00_10: Thermodynamically consistent Recurrent Neural Networks to predict non linear behaviours of dissipative materials subjected to non-proportional loading paths <i>Aymen Danoun, Pruliere Etienne, Chemisky Yves</i>

<b>Day: 1</b>	<b>CSSM07 – Uncertainty Quantification in Biomechanics</b>
<b>Room: 6</b>	<b>Chair: Jude Hussain</b>
11:00	CSSM07_01: Personalized adaptation of computational bone remodelling models from medical images <i>Enrique Nadal, Jorge Gutiérrez-Gil, Carlos Manuel Atienza, Manuel Tur, Juan José Ródenas</i>
11:15	CSSM07_02: Image-derived biomechanical properties of aortic walls in Marfan syndrome <i>Claire Rosnel</i>
11:30	CSSM07_03: Global sensitivity analysis of complex biomechanical models <i>Sebastian Brandstaeter, Barbara Wirthl, Jonas Nitzler, Wolfgang A. Wall</i>
11:45	CSSM07_04: A general Bayesian framework for calibrating constitutive models <i>Maximilian P. Wollner, Michele Terzano, Malte Rolf-Pissarczyk, Gerhard A. Holzapfel</i>
12:00	CSSM07_05: Development of representative artery models for stent fatigue testing <i>Jude Mohamed Osman Hussain, Andrew McBride, Ankush Aggarwal, Robbie Brodie, Craig Maclean</i>

<b>Day: 1</b>	<b>CSSM08 – Diffuse-interface approaches for material modeling</b>
<b>Room: 6</b>	<b>Chair: Mohsen Rezaee-Hajidehi, Laurent Guin</b>
14:00	CSSM08_01: Analysis of Lueders bands and Portevin Le-Chatelier effect using experimental and computational data <i>Marzena Mucha, Lars Rose, Balbina Wcislo, Andreas Menzel, Jerzy Pamin</i>
14:15	CSSM08_02: Homogenization of phase-field evolution laws based on unequally and nonlinearly weighted averaging operators  <i>Vincent von Oertzen, Bjoern Kiefer</i>
14:30	CSSM08_03: Twinning and plastic slip: a coupled modeling approach based on displacive transformation <i>Mohsen Rezaee-Hajidehi, Przemyslaw Sadowski, Stanislaw Stupkiewicz</i>
14:45	CSSM08_04: A phase-field model for ferroelectrics with nonlinear kinetics and electro-mechanical couplings

Laurent Guin, Hsu-Cheng Cheng, Dennis M. Kochmann

15:00 CSSM08\_05: A non-isothermal phase-field model based on the grand entropy  
Ross Williams, Simon Bray, Andrew McBride

<b>Day: 1</b>	<b>CSSM02 – Advanced numerical approaches applied to the analysis of railway infrastructures</b>
<b>Room: 6</b>	<b>Chair: Cláudio Horas, Paulo Soares, João Lázaro</b>
16:00	CSSM02_01: Modal identification of a portal frame railway bridge <i>Josep Chordà Monsón, Juan Carlos Sánchez Quesada, Antonio Romero, Emma Moliner, Pedro Galvín, María de los Dolores Martínez Rodrigo</i>
16:15	CSSM02_02: Railway induced vibrations in skewed double-track girder bridges <i>Juan Carlos Sánchez Quesada, Antonio Romero Ordóñez, Pedro Galvín Barrera, Emmanuela Moliner Cabedo, María Dolores Martínez Rodrigo</i>
16:30	CSSM02_03: Catenary design by sequential parameter optimisation <i>Jaime Gil, Santiago gregori, Manuel Tur, F. Javier Fuenmayor</i>
16:45	CSSM02_04: Railway catenary shape-finding problem considering cantilevers and general track paths <i>Nelson Aldaz, Santiago Gregori, Jaime Gil, Manuel Tur, Francisco Javier Fuenmayor</i>
17:00	CSSM02_05: Computation of radiated noise from railway systems using a BEM-based procedure <i>Rocio Velazquez-Mata, Antonio Romero, Pedro Galvin</i>
17:15	CSSM02_06: Experimental characterization of a low-height acoustic barrier developed with numeric techniques <i>João Lázaro, Pedro Alves Costa, Luis Godinho</i>
17:30	CSSM02_08: Experimental validation of the Hybrid Methodology for induced vibrations assessment <i>Soares, Paulo J., Alves Costa, Pedro, Arcos, Robert, Godinho, L'uis</i>

<b>Day: 1</b>	<b>IAC00 – General Symposium in Industrial Applications and Challenges</b>
<b>Room: 7</b>	<b>Chair: ????</b>
11:00	IAC00_01: IGA-based topology optimization of compliant mechanisms <i>Diego Villalba Rama, Mafalda Gonçalves, João Alexandre Dias de Oliveira, Antonio Gil Andrade-Campos, Robertt Valente</i>
11:15	IAC00_02: Higher Order 3D-Shell Elements in Sheet Metal Forming Simulations: A Case Study <i>Maximilian Schilling, Tobias Willmann, Manfred Bischoff</i>
11:30	IAC00_03: 3D ultrasonic tomography for image reconstruction: an application to the plasma dynamics of PROTOSPHERA <i>Shayesteh Naghinajad, Annamaria Pau</i>
11:45	IAC00_04: Application of LCA modelling methods as a tool to identify hotspots in the development of metal recycling processes  <i>Katarzyna Klejnowska, Magdalena Bogacka</i>
12:00	IAC00_06: Application of process simulation software to design of hydrometallurgical process of germanium recovery <i>Michal Drzazga</i>
12:15	IAC00_07: Investigations on the Detection of Structural Failure Using the Redundancy Distribution <i>Tamara Prokosch, Jonas Stiefelmaier, Manfred Bischoff</i>

<b>Day: 1</b>	<b>IAC01 – Water Smart Systems: Computational Engineering Applications</b>
<b>Room: 7</b>	<b>Chair: Ana Luísa Reis, Marlene Brás</b>
14:00	IAC01_02: Cost Reduction of Water Supply Systems Through Optimization Methodologies: A Comparative Study of Pump Scheduling Problem Formulations <i>Marlene Brás, Ana Moura, António Andrade-Campos</i>
14:15	IAC01_03: Energy storage using a hydraulic system a pump storage computacional model <i>Flávio Silva, António Andrade-Campos</i>
14:30	IAC01_04: A Mixed-Integer Nonlinear Programming Model for Integrated Management of Resources in Water Supply Systems  <i>Ana L. Reis, A. Andrade-Campos, Carlos Henggeler Antunes, Marta A. R. Lopes</i>
14:45	IAC01_05: On the use of Machine Learning models for prediction and optimization of water supply networks. <i>Sara Mota, António Andrade-Campos</i>
15:00	IAC01_06: Smart predictive digital twin in multiservice architecture for water supply systems <i>Tiago C. Pereira, Ana L. Reis, António Andrade-Campos</i>

<b>Day: 1</b>	<b>SC02 – Evolutionary dynamics in cancer growth and therapies: a multidisciplinary approach</b>
<b>Room: 7</b>	<b>Chair: Giulia Chiari</b>
16:00	SC02_01: Modeling the Role of the Stem Cell Niche in Blood Cancer Progression

- Thomas Stiehl*
- 16:15** SC02\_02: Phenotypic plasticity as a vehicle for tumour progression: joint insights from experimental data and mathematical models.
- Carmen Ortega-Sabater*
- 16:30** SC02\_03: Modelling the impact of intra-tumour heterogeneity on radiotherapy outcomes  
*Giulia Celora, Helen Byrne, Panos*
- 16:45** SC02\_04: On optimal temozolomide scheduling for slowly growing gliomas  
*Juan Jiménez-Sánchez*
- 17:00** SC02\_05: A multiscale model for combined therapy effects on glioma progression  
*Martina Conte, Christina Surulescu, Dzierma Yvonne, Knobe Sven*
- 17:15** SC02\_06: Bridging the gap between individual cell movement and macroscopic cancer invasion models  
*DIMITRIOS KATSAOUNIS, Mark A.J. Chaplain, Nikolaos Sfakianakis*
- 17:30** SC02\_07: Growth dynamics of brain metastases  
*Beatriz Ocaña Tienda, Julián Pérez Beteta, Ana Ortiz de Mendivil, Beatriz Asenjo, David Albillo, Luis A. Pérez-Romasanta, Estanislao Arana, Víctor M. Pérez-García*

## Day 2 - 20th of June 2023

<b>Day: 2</b>	<b>CAM05 – Applied mathematical models for biological systems (I)</b>
<b>Room: 1</b>	<b>Chair: Luca Bellino, Vincenzo Fazio</b>
09:00	CAM05_01: Mathematical and numerical modeling of axonal beading <i>Davide Riccobelli</i>
09:15	CAM05_02: Interictal Spike Propagation Reconstruction in the Epileptic Brain: Mapping with Invasive versus Noninvasive Techniques  <i>Margherita Anna Grazia Matarrese, Eleonora Tamila, M Scott Perry, Alessandro Loppini, Joseph R. Madsen, Steve M. Stufflebeam, Phillip L. Pearl, Simonetta Filippi</i>
09:30	CAM05_04: Flow of cerebrospinal fluid in cranial subarachnoid space: a mathematical model <i>Mariia Dvoriashyna, Alain Goriely</i>
09:45	CAM05_05: Uncertainty quantification and control of kinetic models of tumour growth with uncertain features <i>Andrea Medaglia</i>
10:00	CAM05_06: A Quantitative Systems Pharmacology approach to drive mRNA-vaccine design <i>Giada Fiandaca, Natascia Zangani, Lorena Leonardelli, Gianluca Selvaggio, Stefano Giampiccolo, luca.marchetti@unitn.it</i>
10:15	CAM05_07: Multi-scale modelling of focal adhesions <i>Salvatore Di Stefano, Ariel Ramirez Torres, Luca Bellino, Vincenzo Fazio, Giuseppe Florio, Giuseppe Puglisi</i>

<b>Day: 2</b>	<b>CAM05 – Applied mathematical models for biological systems (II)</b>
<b>Room: 1</b>	<b>Chair: Giulio Lucci, Giada Fiandaca</b>
11:00	CAM05_08: Using the SPH to Simulate the Process of Cell Proliferation <i>Maria Inês Barbosa, Jorge Belinha, Renato Natal Jorge, Ana Xavier</i>
11:15	CAM05_09: Poynting Effect in Weakly-Compressible Porous Cylinders in Torsion <i>Griffen Small, Harold Benjamin, Valentina Balbi</i>
11:30	CAM05_10: Elasticity and force inclination effects for peeling phenomena <i>Binetti Claudia, Bellino Luca, Florio Giuseppe, Puglisi Giuseppe</i>
11:45	CAM05_11: A three-dimensional elasto-plastic, biphasic model of multicellular aggregates <i>Salvatore Di Stefano, Alessandro Giammarini, Chiara Giverso, Alfio Grillo</i>
12:00	CAM05_12: A Hamilton principle-based model for diffusion driven growth <i>Felix Klemp, Meisam Soleimani, Philipp Junker</i>
12:15	CAM05_13: Instability Analysis of Functionally-Graded Thin Auxetic Materials <i>Sairam Pamulaparthi Venkata, Michel Destrade, Valentina Balbi, Dino Accoto, Giuseppe Zurlò</i>

<b>Day: 2</b>	<b>CAM09 – Emerging Numerical Techniques in Inverse Problems and Data Assimilation</b>
<b>Room: 1</b>	<b>Chair: Harshit Bansal</b>
14:00	CAM09_01: Edge-preserving inversion with heavy-tailed Bayesian neural networks priors <i>Angelina Senchukova, Felipe Uribe, Jana de Wiljes, Lassi Roininen</i>
14:15	CAM09_02: Convergence rates of non-stationary and deep Gaussian process regression <i>Conor Osborne, Aretha Teckentrup</i>
14:30	CAM09_03: Reduced Kalman inversion in multiscale models via deep learning <i>Yankun Hong, Harshit Bansal, Karen Veroy</i>
14:45	CAM09_05: Model order reduction for varying boundary optimal control problems <i>Maria Strazzullo, Fabio Vicini</i>
15:00	CAM09_06: Parameter recovery for eigenvalue problems in linear elasticity <i>Hanz Martin Cheng</i>
15:15	CAM09_07: Ensemble Kalman–Bucy filters for finite and infinite dimensional signals <i>Sebastian Ertel</i>

<b>Day: 2</b>	<b>CAM02 – Scientific Machine Learning techniques for complex engineering systems (IV)</b>
<b>Room: 2</b>	<b>Chair: Alberto Badías, Carlos Bermejo</b>
09:00	CAM02_20: A recurrent machine learning structure for few-shot constitutive model optimization: Application to Geomechanics  <i>Shaoheng Guan, Sascha Ranftl</i>
09:15	CAM02_21: Prediction of Flow Fields in Bioreactors with Physics-Informed Neural Networks <i>Veronika Travnikova, Nico Dirkes, Eric von Lieres, Marek Behr</i>
09:30	CAM02_22: A Surrogate Model for Prediction of Vibrations Induced by Impact Pile Driving <i>M. Abouelmaty, A. Colaço, A. Alves Costa, P</i>



09:45 CAM02\_23: A hybrid AI based approach for the optimization of composite coatings development through electroplating processes

*Santiago Muiños Landín, Andrea Gregores Coto, Christian Eike Precker*

10:00 CAM02\_24: Improving Physics Informed Neural Network: alternative approaches to enforce Dirichlet boundary conditions

*Pintore Moreno, Berrone Stefano, Canuto Claudio, Sukumar Natarajan*

<b>Day: 2</b>	<b>CAM03 – Monolithic and partitioned numerical models for coupled problems in biological applications (I)</b>
<b>Room: 2</b>	<b>Chair: Ivan Fumagalli</b>
11:00	CAM03_01: Mathematical and computational modeling of the electro-mechano-fluid activity of the heart <i>Michele Bucelli, Alberto Zingaro, Pasquale Claudio Africa, Ivan Fumagalli, Luca Dede', Alfio Quarteroni</i>
11:15	CAM03_02: Finite element discretization of fluid-structure interaction problems with fictitious domain approach <i>Fabio Credali, Daniele Baffi, Lucia Gastaldi</i>
11:30	CAM03_03: FLUID-STRUCTURE INTERACTION OF SLENDER BODIES IMMERSSED IN THREE-DIMENSIONAL FLOWS: A NEW APPROACH FOR MATHEMATICAL MODELLING AND NUMERICAL APPROXIMATION <i>Fabien Lespagnol, Muriel Boulakia, Paolo Zunino, Céline Grandmont, Miguel-Angel Fernández</i>
11:45	CAM03_04: Multiphysics and multiscale modeling of hemodynamics in arteries with in-stent restenosis <i>Anna Ranno, Kiran Manjunatha, Felix Vogt, Stefanie Reese, Marek Behr</i>
12:00	CAM03_05: Finite Element Simulation of the Human Left Ventricle with Implanted Left Ventricular Assist Device: From MRI Images to a Moving Computational Domain <i>Maximilian Schuster, Norbert Hesters, Marek Behr</i>
12:15	CAM03_06: A comprehensive multiphysics mathematical model for cardiac perfusion <i>Alberto Zingaro, Christian Vergara, Luca Dede', Francesco Regazzoni, Alfio Quarteroni</i>

<b>Day: 2</b>	<b>CAM03 – Monolithic and partitioned numerical models for coupled problems in biological applications (II)</b>
<b>Room: 2</b>	<b>Chair: Ivan Fumagalli</b>
14:00	CAM03_07: Anderson acceleration for robust and scalable quasi-Newton methods <i>Nicolás A. Barnafi</i>
14:15	CAM03_08: Boundary integral formulation and numerical experiments on the Cell-by-Cell model for electrophysiology <i>Giacomo Rosillo de Souza, Simone Pezzuto, Rolf Krause</i>
14:30	CAM03_09: Scalable BDDC preconditioners for hybrid DG discretizations of cardiac microscopic models <i>Ngoc Mai Monica Huynh</i>
14:45	CAM03_10: Monolithic coupling of a viscoelastic surface and a viscous fluid <i>Eloy Merlijn de Kinkelder, Sebastian Aland</i>
15:00	CAM03_11: Neural Networks as spectral approximators in evolution problems involving several time-scales. Application to glioblastoma progression. <i>Jacobo Ayensa-Jiménez, Marina Pérez-Aliacar, Manuel Doblaré</i>

<b>Day: 2</b>	<b>CSSM06 – Computational treatment of polymer fracture across the scales</b>
<b>Room: 3</b>	<b>Chair: Maximilian Ries</b>
09:00	CSSM06_01: Fracture in Polymers: Discrete-to-Continuum Coupling <i>Felix Weber, Christof Bauer, Maximilian Ries, Wuyang Zhao, Sebastian Pfaller</i>
09:15	CSSM06_02: Multi-scale modeling of the nano-scale fractures in the amorphous polymers <i>Saeed Norouzi, Florian Müller-Plathe</i>
09:30	CSSM06_03: A coarse-grained molecular dynamics model to analyze fracture in polymer nanocomposites <i>Maximilian Ries, Vincent Dötschel, Felix Weber, Sebastian Pfaller</i>

<b>Day: 2</b>	<b>CSSM16 – Damage and Fracture of Composite Materials and Structures in Transportation Industry</b>
<b>Room: 3</b>	<b>Chair: Federico Danzi</b>
09:45	CSSM16_02: Bearing/Pull-through Failure Envelope of Composite Joints: Novel Experimental Setup and Numerical Validation  <i>Anna Volpi, Carolina Furtado, R. F. Pinto, F. Danzi, G. Catalanotti, F. J. Queirós de Melo, P. P. Camanho</i>
10:00	CSSM16_03: Data-driven microstructure-generator for high-fidelity analyses of unidirectional composite laminates <i>Renata Silva, Federico Danzi, Carolina Furtado, Igor Lopes, D. Fanteria, P. P. Camanho</i>

<b>Day: 2</b>	<b>CSSM17 – Meshless Methods for Elastodynamic Problems</b>
<b>Room: 3</b>	<b>Chair: Robert Arcos, Javad Fakhraei</b>
11:00	CSSM17_01: Static bending and free vibration of Euler-Bernoulli beams using Fragile Point Method <i>ABINASH MALLA, SUNDARARAJAN NATARAJAN</i>
11:15	CSSM17_02: A 2.5D hybrid SBM-MFS methodology for acoustic wave propagation problems <i>Javad Fakhraei, Robert Arcos, Teresa Pamies, Jordi Romeu</i>
11:30	CSSM17_03: Robustness study of a hybrid SBM-MFS methodology for the simulation of acoustic and elastodynamic problems  <i>Robert Arcos, Arnau Clot, Hassan Liravi, Javad Fakhraei, Kenny F. Conto</i>
11:45	CSSM17_04: An efficient three-dimension piled foundation model based on the singular boundary method for solving ground-borne vibration problems. <i>Kenny F. Conto, Robert Arcos, Arnau Clot, Hassan Liravi</i>

<b>Day: 2</b>	<b>CSSM13 – Wave propagation and structural dynamics</b>
<b>Room: 3</b>	<b>Chair: Dominik Itner, Jannis Bulling</b>
14:00	CSSM13_01: Dynamic multifield continualization method for magneto-electro-elastic layered periodic materials <i>Rosario Del Toro, Maria Laura De Bellis, Andrea Bacigalupo</i>
14:15	CSSM13_02: Image-based wave propagation analysis in large domains with irregular geometry using the SBFEM <i>Sharath Nattoji-Shara, Carolin Birk, Hauke Gravenkamp</i>
14:30	CSSM13_03: Introduction of Octree meshes in regular prismatic structures using a combination of the Mortar Method and the Scaled Boundary Finite Element Method to simulate Ultrasonics Guided Waves <i>Daniel Lozano, Jannis Bulling</i>
14:45	CSSM13_04: Comparison and validation of extended spectral element methods for structural health monitoring applications  <i>Sergio Nicoli, Konstantinos Agathos, Pawel Kudela, Eleni Chatzi</i>
15:00	CSSM13_05: Characterization of damage in steel plates by an inverse algorithm <i>Jannis Bulling, Benjamin Jurgelucks, Jens Prager, Andrea Walther</i>
15:15	CSSM13_06: Mesh-convergence and gradient-enhanced models in blast simulations of concrete structures <i>Sjard Mathis Rosenbusch, Daniel Balzani, Jörg F. Unger</i>

<b>Day: 2</b>	<b>CSSM04 – Computational modeling of masonry structures: innovative approaches and open challenges (I)</b>
<b>Room: 4</b>	<b>Chair: Paolo Di Re, Nicola A. Nodargi</b>
09:00	CSSM04_01: A multisurface damage plasticity model for masonry <i>Gregorio Bertani, Luca Patruno, Antonio Maria D'Altri, Giovanni Castellazzi, Stefano de Miranda</i>
09:15	CSSM04_02: Multi-Unit discretization approach for nonlinear analysis of URM walls <i>Ylenia Di Lallo, Davide Rapone, Maria Giovanna Masciotta, Giuseppe Brando</i>
09:30	CSSM04_03: Shell-3D multiscale model for masonry based on Uniform and Non-Uniform TFA procedures <i>Cristina Gatta, Daniela Addessi, Paolo Di Re, Elio Sacco</i>
09:45	CSSM04_04: Phase field approach for the analysis of masonry structures: a comparison with pre-existing simulations <i>Andrea Rodella, Paolo Di Re, Cristina Gatta</i>
10:00	CSSM04_06: On the use of Finite and Discrete Macro-Element modelling approaches for the nonlinear static analysis of URM walls  <i>Federica Vadalà, Luis C. M. da Silva, Ivo Caliò, Paulo B. Lourenço</i>
10:15	CSSM04_07: Numerical Comparison on Cyclic Non-Linear Analyses of URM Structures Using Different Numerical Codes and Approaches  <i>Luca Bomben, Lorenzo Macorini, Corrado Chisari, Marco Fasan, Claudio Amadio</i>

<b>Day: 2</b>	<b>CSSM04 – Computational modeling of masonry structures: innovative approaches and open challenges (II)</b>
<b>Room: 4</b>	<b>Chair: Nicola A. Nodargi, Cristina Gatta</b>
11:00	CSSM04_08: Preliminary Seismic fragility analysis of a URM building typology in Faial Island - Azores <i>Vasco Bernardo, Shaghayegh Karimzadeh, Daniel Caicedo, Paulo B. Lourenço</i>
11:15	CSSM04_09: Modelling of Connection Failure in Seismic Assessment of Masonry Structures <i>Daniela Fusco, Francesco Messali, Jan G. Rots, Daniela Addessi, Stefano Pampanin</i>
11:30	CSSM04_10: Tuning the failure of topologically interlocked structures <i>Ioannis Koureas, Mohit Pundir, Shai Feldfogel, David Kammer</i>

- 11:45 CSSM04\_11: The effects of material properties on the behavior and the failure of Topologically Interlocked Structures  
*Shai Feldfogel, Konstantinos Karapiperis, Jose Andrade, David S. Kammer*
- 12:00 CSSM04\_12: Nonlinear analysis of masonry structures reinforced with the CAM system  
*Paolo Di Re, Mattia Greco, Egidio Lofrano*

<b>Day: 2</b>	<b>CSSM04 – Computational modeling of masonry structures: innovative approaches and open challenges (III)</b>
<b>Room: 4</b>	<b>Chair: Cristina Gatta, Paolo Di Re</b>
14:00	CSSM04_13: An adaptive virtual element approach to upper bound limit analysis of cracked structures <i>Andrea Chiozzi, Nicola Grillanda</i>
14:15	CSSM04_14: Analysis of out-of-plane loaded masonry walls via discontinuity layout optimization <i>Nicola Grillanda, Linwei He, Matthew Gilbert</i>
14:30	CSSM04_16: Identifying Thrust Layouts in Masonry Gravity Structures <i>K Isuru Nanayakkara, Andrew Liew, Matthew Gilbert</i>
14:45	CSSM04_17: Parametric analysis of multi-ring arches <i>Bledian Nela, Marco Pingaro, Emanuele Reccia, Patrizia Trovalusci</i>
15:00	CSSM04_18: Dynamic analysis of multi-block masonry structures under ground motion excitation <i>Nicola A. Nodargi, Paolo Bisegna</i>

<b>Day: 2</b>	<b>CSSM03 – Recent developments of reduced order modelling techniques in nonlinear and/or high-dimensional computational mechanics</b>
<b>Room: 5</b>	<b>Chair: Benjamin Hirzinger, Floriane Wurtzer</b>
09:00	CSSM03_01: Model order reduction for stochastic eigenvalue problems <i>Zhibao Zheng</i>
09:15	CSSM03_02: MORE DWR: Space-time goal oriented error control for incremental POD based ROM <i>Hendrik Fischer, Julian Roth, Amelie Fau, Thomas Wick</i>
09:30	CSSM03_03: Model order reduction techniques for linear and nonlinear dynamical systems <i>Benjamin Hirzinger</i>
09:45	CSSM03_04: A first illustration of a multimodel strategy for coupled multiphysics problems <i>Floriane Wurtzer, Pierre-Alain Boucard, Pierre Ladevèze, David Néron</i>
10:00	CSSM03_05: Variational Reduced-Order Thermomechanical Finite Strain Shape Memory Alloy Model for Bistable Microactuators  <i>Muhammad Babar Shamim, Marian Hörsting, Stephan Wulfinghoff</i>
10:15	CSSM03_06: An efficient sampling method for reduced order modelling of composite laminates <i>Imran Omar, Iannucci Lorenzo</i>

<b>Day: 2</b>	<b>CSSM21 – Efficient modeling of complex materials across the scales</b>
<b>Room: 5</b>	<b>Chair: Martin Horák, Martin Doškář</b>
11:00	CSSM21_01: Modeling coupled chemo-mechanical fracture in DAMASK <i>Sharan Roongta, Pratheek Shanthraj, Martin Diehl, Franz Roters</i>
11:15	CSSM21_02: Assessing the Effectiveness of Tensor-Train-Based Preconditioners For Numerical Homogenization <i>Lennart Risthaus, Matti Schneider</i>
11:30	CSSM21_03: Local reduced modes for multiscale simulations of pattern-transforming mechanical metamaterials <i>Martin Doškář, Ondřej Rokoš, Ron H.J. Peerlings, Marc G.D. Geers, Jan Zeman</i>
11:45	CSSM21_04: Predicting post-bifurcated patterns of architected materials using group theory <i>Rachel Azulay, Christelle Combescure, Justin Dirrenberger</i>
12:00	CSSM21_05: Beam lattice metamaterials with internal contact and instabilities <i>Martin Horák</i>
12:15	CSSM21_06: Pneumatic actuation of a square lattice metamaterial to control macroscopic stiffness <i>Ondřej Faltus, Jan Zeman, Ron Peerlings, Milan Jirásek, Ondřej Rokoš, Martin Horák, Martin Doškář</i>

<b>Day: 2</b>	<b>CSSM12 – Modelling approaches for continua with advanced microstructure</b>
<b>Room: 5</b>	<b>Chair: Christoph Böhm</b>
14:00	CSSM12_01: Analysis of Creep in Composites with the Scaled Boundary Finite Element Method <i>Johanna Eisenräger, Junqi Zhang, Sascha Eisenräger, Chongmin Song</i>
14:15	CSSM12_02: Multiscale modeling of heterogeneous structures based on a localized model order reduction approach

	<i>Philipp Diercks, Annika Robens-Radermacher, Karen Veroy, Jörg F. Unger</i>
<b>14:30</b>	CSSM12_03: Computational modelling of stress gradient continua <i>Tobias Kaiser, Andreas Menzel, Samuel Forest</i>
<b>14:45</b>	CSSM12_04: How to integrate Galerkin weak forms during preprocessing <i>Tobias Bode</i>
<b>15:00</b>	CSSM12_05: Buckling analysis of a beam made of Gyroid cells <i>Donato D'Aprile, Simone Morganti, Arsenio Cutolo, Massimiliano Fraldi, Ferdinando Auricchio</i>
<b>15:15</b>	CSSM12_06: Failure by design of architected interfaces: Towards a unified theory for elastic foundations <i>Adrianos E.F. Athanasiadis, Michal K. Budzik, Dilum N. Fernando, Marcelo A. Dias</i>

<b>Day: 2</b>	<b>PhD olympiads (I)</b>
<b>Room: 6</b>	<b>Chair: Konrad Perzyński, José César de Sá, Andrei Shvarts</b>
<b>09:00</b>	PHDOLP_04: Numerical simulation of heterogeneous materials combining Artificial Intelligence and physics-based modeling  <i>Aymen Danoun, Pruliere Etienne, Chemisky Yves</i>
<b>09:25</b>	PHDOLP_05: Predicting the long-term effects of mechanical overload to arterial tissue: a chemo-mechano-biological computational framework  <i>Lauranne Maes, Jos Vander Sloten, Nele Famaey</i>
<b>09:50</b>	PHDOLP_06: Mathematical and numerical modeling of cardiac electromechanics in ventricles with ischemic cardiomyopathy  <i>Matteo Salvador</i>

<b>Day: 2</b>	<b>PhD olympiads (II)</b>
<b>Room: 6</b>	<b>Chair: Konrad Perzyński, José César de Sá, Andrei Shvarts</b>
<b>11:00</b>	PHDOLP_07: Generalised Newtonian Fluids in Cardiovascular Fluid–Structure Interaction  <i>Richard Schussnig</i>
<b>11:25</b>	PHDOLP_08: Existence Results for Ferromagnetic Elastomers  <i>Marco Bresciani, Manuel Friedrich, Carlos Mora-Corral</i>
<b>11:50</b>	PHDOLP_11: Dynamic response of arching masonry walls subjected to blast loads  <i>Idan E. Edri</i>

<b>Day: 2</b>	<b>PhD olympiads (III)</b>
<b>Room: 6</b>	<b>Chair: Konrad Perzyński, José César de Sá, Andrei Shvarts</b>
<b>14:00</b>	PHDOLP_09: Control and optimization of physical systems: quantum dynamics and magnetic confinement in stellarators  <i>Rémi Robin</i>
<b>14:25</b>	PHDOLP_10: Mixed-dimensional finite element formulations for beam-to-solid interaction  <i>Ivo Steinbrecher</i>
<b>14:50</b>	PHDOLP_15: Towards Data-driven Multi-scale Optimization of Thermoplastic Blends: Microstructural Generation, Constitutive Development and Clustering-based Reduced-Order Modeling  <i>Bernardo P. Ferreira</i>

<b>Day: 2</b>	<b>IAC05 – Design optimization in computational mechanics (I)</b>
<b>Room: 7</b>	<b>Chair: Ihar Antonau</b>
<b>09:00</b>	IAC05_01: Tailored Stiffness for the Design of Adaptive Structures with Displacement Control: A Case Study.  <i>Axel Trautwein, Tamara Prokosch, Manfred Bischoff</i>
<b>09:15</b>	IAC05_02: Adaptation on Multi-Span Beams through Support Displacement  <i>Lisa Schwegmann</i>
<b>09:30</b>	IAC05_03: Optimizing Flow Channels in Profile Extrusion Dies via Reinforcement Learning  <i>Daniel Wolff, Clemens David Fricke, Marco Kemmerling, Stefanie Elgeti</i>
<b>09:45</b>	IAC05_04: Towards the Optimization of Injection Molding Processes  <i>Bianca Ferrer Fabón, Marek Behr</i>
<b>10:00</b>	IAC05_05: Topology optimization using a Fast-Fourier-Transformation based solver with compability projection  <i>Jädicke, Indre, Leute, Richard, Junge, Till, Pastewka, Lars</i>
<b>10:15</b>	IAC05_07: Bead Patterns in Free-Form Shape Optimization  <i>Bastian Devresse, Armin Geiser, David Schmölz, Kai-Uwe Bletzinger</i>

<b>Day: 2</b>	<b>IAC05 – Design optimization in computational mechanics (II)</b>
<b>Room: 7</b>	<b>Chair: David Schmölz</b>
<b>11:00</b>	IAC05_08: Extended Vertex Morphing parameterizations for node-based shape optimization with engineering specifications  <i>David Schmölz, Ihar Antonau, Armin Geiser, Reza Najian Asl, Kai-Uwe Bletzinger</i>
<b>11:15</b>	IAC05_09: Generalized approach to manufacturing constraints for node-based shape optimization using Vertex Morphing <i>Ihar Antonau, David Schmölz, Kai-Uwe Bletzinger</i>
<b>11:30</b>	IAC05_10: Design of an optical space instrument using thermo-mechanical topology optimization <i>Sanne van den Boom, Floris van Kempen, Ren'e Hazelebach, Gerard Otter, Ivan Ferrario, Walter Zimbeck, Benjamin Stewart, Zachary Post</i>

<b>Day: 2</b>	<b>CSSM19 – Shape Memory Alloy Phenomena – Experimental and Model Based Investigations</b>
<b>Room: 7</b>	<b>Chair: Stefan Descher</b>
<b>11:45</b>	CSSM19_01: An energy based material model for Shape Memory Alloys <i>Cem Erdogan, Tobias Bode, Philipp Junker</i>
<b>12:00</b>	CSSM19_03: Numerical investigation of fiber suspensions in ball probe rheometers <i>Florian Gerland, Thomas Schomberg, Olaf Wunsch</i>
<b>12:15</b>	CSSM19_05: The influence of latent heat on inductive heating of shape memory alloy fibers <i>Stefan Descher, Philipp Krooß, Detlef Kuhl, Sebastian Wolf</i>

<b>Day: 2</b>	<b>IAC02 – Numerical methods for Additive Manufacturing</b>
<b>Room: 7</b>	<b>Chair: Massimo Carraturo, Matthias Hartmann</b>
<b>14:00</b>	IAC02_01: Numerical and experimental characterization of 3D printed lattice structures <i>Massimo Carraturo, Gianluca Alaimo, Alessandro Reali, Ferdinando Auricchio</i>
<b>14:15</b>	IAC02_02: Parametric shape optimization for combined additive-subtractive manufacturing <i>Lorenzo Tamellini</i>
<b>14:30</b>	IAC02_03: Establishing and optimising structure-property linkages based on statistical descriptors <i>Raßloff, Alexander, Seibert, Paul, Schmidt, Benjamin, Kalina, Karl Alexander, Kästner, Markus</i>
<b>14:45</b>	IAC02_04: Numerical and Experimental Investigation of Residual Stresses in the Fused Filament Fabrication Process <i>Dr.-Ing. Mehul Lukhi, Dr.-Ing. Christoph Mittermeie, Univ.-Prof. Dr.-Ing. Josef Kiendl</i>
<b>15:00</b>	IAC02_05: Application of Multi-fidelity Surrogate Models to Metal Additive Manufacturing <i>Mihaela Chiappetta, Chiara Piazzola, Massimo Carraturo, Lorenzo Tamellini, Alessandro Reali, Ferdinando Auricchio</i>
<b>15:15</b>	IAC02_07: Numerical power prediction for WAM produced wall structures on vertical substrate plates <i>Haunreiter Fabio, Drexler Hugo, Kronsteiner Johannes, Alois Birgmann</i>

### Day 3 - 21st of June 2023

<b>Day: 3</b>	<b>CAM06 – Recent Advances on modelling and simulations of Collective dynamics</b>
<b>Room: 1</b>	<b>Chair: Marta Menci, Nadia Loy</b>
09:15	CAM06_02: A hybrid model of Tumors-on-chip: a numerical study <i>Elio Campanile, Gabriella Bretti, Roberto Natalini, Marta Menci</i>
09:30	CAM06_03: A kinetic study of contact guidance and steric hindrance interplay during cell migration <i>Martina Conte, Nadia Loy</i>
09:45	CAM06_04: Privacy and Cooperation in Multi-Agent Distributed Systems <i>Camilla Fioravanti, Gabriele Oliva</i>
10:00	CAM06_05: Robust control of interacting multi-agent systems under uncertainty <i>Chiara Segala, Giacomo Albi, Michael Herty</i>
10:15	CAM06_06: Understanding the Dynamics of Misinformation Spread: Kinetic Approaches to Fake News Modeling <i>Jonathan Franceschi, Mattia Zanella, Lorenzo Pareschi</i>

<b>Day: 3</b>	<b>CAM04 – Reproductive Soft Tissues Biomechanics</b>
<b>Room: 2</b>	<b>Chair: Elisabete Silva</b>
09:15	CAM04_01: Development of New Surgical Mesh Geometries with Different Mechanical Properties Using the Design Freedom of 3D Printing <i>Sebastian Sterk, Elisabete Silva, Antonio Augusto Fernandes</i>
09:30	CAM04_02: A machine learning-based prediction of pelvic floor stress during vaginal delivery <i>Rita Moura, Dulce Oliveira, Marco Parente, Renato Natal Jorge</i>
09:45	CAM04_03: Biomechanics of the fetal membrane as a multilayer biological structure <i>Daniel Fidalgo, Michelle Oyén, Dulce Oliveira, Marco Parente, Renato Natal, Kristin Myers</i>
10:00	CAM04_04: Predicting 2nd stage of labor duration and risk of levator ani injury using lower birth canal viscoelastic properties obtained during the 1st stage of labor <i>Mariana Mastelling, John O.L. DeLancey, James A. Ashton-Miller</i>
10:15	CAM04_05: The inverse FEM analysis for the estimation of biomechanical properties of the continent and incontinent woman bladder <i>Pedro Agostinho, Elisabete Silva, Sofia Brandão, Teresa Mascarenhas, António Augusto Fernandes</i>
10:30	CAM04_06: A finite element analysis of breast compression in mammography <i>Mariana Carvalho, Alessandro Arduino, Marco Parente, Renato Natal Jorge, João Ferreira</i>

<b>Day: 3</b>	<b>SC03 – Structural Design Through Computational And Optimization Methods</b>
<b>Room: 3</b>	<b>Chair: Pedro Fernandes</b>
09:15	SC03_01: Advances in the use of machine learning techniques to accelerate the topology optimisation process on structural problems <i>Antolín Martínez Martínez, Enrique Nadal Soriano, José Manuel Navarro Jiménez, Olivier Allix, Juan José Ródenas García</i>
09:30	SC03_02: Artificial intelligence methods for preliminary sizing of aircraft structures <i>Daniel Gámez Ordoño, Raúl Carlos Llamas Sandín</i>
09:45	SC03_04: Polymer creep modulus prediction by leveraging CAMPUS database and gradient boosting <i>Héctor Lobato, Carlos Cernuda, Aitor Arriaga, Kepa Zulueta, Aizeti Burgoa</i>
10:00	SC03_05: Topology optimization of an exhaust bracket <i>Kepa Zulueta Uriondo, Iñaki Madina Odriozola</i>

<b>Day: 3</b>	<b>CSSM25 – Challenges on the numerical simulation from small to large-scale Civil Engineering structures</b>
<b>Room: 4</b>	<b>Chair: Cláudio Horas, Rui Valente</b>
09:15	CSSM25_02: Design of truss and frame structures using alternative performance indicators <i>Nicolai Grünvogel, David Forster, Malte von Scheven, Manfred Bischoff</i>
09:30	CSSM25_04: The story behind a blind prediction of a 3-storey infilled reinforced concrete building <i>André Furtado, Hugo Rodrigues, António Arêde, Humberto Varum</i>
09:45	CSSM25_07: Modal strain-based SHM of steel railway bridges <i>Dimitrios Anastasopoulos, Edwin P.B. Reynders</i>
10:00	CSSM25_08: Model for steel fibre reinforced concrete panels subjected to in-plane shear stresses <i>Rui Valente, Mário Pimentel</i>
10:15	CSSM25_09: Investigating the fatigue behaviour of Puddle Iron Retrofitting solutions through Experimental and Numerical approaches <i>João Arrojado, Anis Mohabedine, José A.F.O. Correia, Diogo Ribeiro, Anna Racokzy</i>

10:30 CSSM25\_10: Probabilistic Fatigue Analysis of Metallic Bridge Riveted Connection under Linear and Non-Linear Accumulation Rules

*António Mourão, João Nuno Silva, Cláudio Horas, José A.F.O. Correia, Túlio Bittencourt, Rui Calçada*

<b>Day: 3</b>	<b>CSSM23 – Reduced Order Modelling with Applications to Inverse Problems and Uncertainty Quantification</b>
<b>Room: 4</b>	<b>Chair: Konstantinos Agathos</b>
11:15	CSSM23_01: Projection-based model reduction for creep behavior in prestressed concrete <i>Agouzal Eki, Argaud Jean-Philippe, Bergmann Michel, Ferté Guilhem, Taddei Tommaso</i>
11:30	CSSM23_03: Online adaptation of the parametric reduced order model of a gas bearings supported rotor <i>Dimitri Goutaudier, Fabio Nobile, Jürg Schiffmann</i>
11:45	CSSM23_04: A grey-box framework for flaw localization exploiting Ultrasonic Guided Waves <i>Paul Sieber, Sergio Nicolì, Konstantinos Agathos, Pawel Kudela, Wieslaw Ostachowicz, Eleni Chatzi</i>
12:00	CSSM23_05: Data-Driven Model-Order Reduction of a Nonlinear Finite-Element Model based on DIC Measurements <i>Frederik Nordtorp Kristiansen, Anton Lykke Klausen, Gaetano Miraglia, Giuseppe Abbiati</i>

<b>Day: 3</b>	<b>CSSM24 – Contact Mechanics and Tribology</b>
<b>Room: 5</b>	<b>Chair: Vladislav A. Yastrebov</b>
09:15	CSSM24_01: Numerical techniques towards competitive partitioned solution strategies for thermomechanical contact problems  <i>António M. Couto Carneiro, José L. P. Vila-Chã, Rodrigo Pinto Carvalho, Bernardo P. Ferreira, Francisco M. Andrade Pires</i>
09:30	CSSM24_03: Fast Boundary Element Methods for fault mechanics and earthquake control <i>Laura Bagur, Stéphanie Chaillat, Jean-François Semblat, Ioannis Stéfanou, Pierre Romanet</i>
09:45	CSSM24_05: Contact-dominated architected materials <i>Konstantinos Karapiperis, Dennis M. Kochmann</i>
10:00	CSSM24_06: Isogeometric contact within machining applications <i>Eugen Salzmann, Florian Zwick, Stefanie Elgeti</i>
10:15	CSSM24_07: Constriction resistance of rough surfaces in contact <i>Paul Beguin, Vladislav A. Yastrebov</i>
10:30	CSSM24_08: Non-linear Elasticity and Contact of Zinc-Phosphate Tribofilms <i>Lucas Frérot, Lars Pastewka</i>

<b>Day: 3</b>	<b>CSSM24 – Contact Mechanics and Tribology</b>
<b>Room: 5</b>	<b>Chair: Vladislav A. Yastrebov</b>
11:15	CSSM24_09: Data-driven finite-thickness cohesive elements for frictional interfaces <i>Sacha Wattel, Joaquín García-Suarez, Jean-François Malinari</i>
11:30	CSSM24_10: Numerical generation of random rough surfaces using Generative Adversarial Networks <i>Tiago Silva Sabino, António Couto Carneiro, Rodrigo Pinto Carvalho, Francisco Andrade Pires</i>
11:45	CSSM24_11: Rough Contact of Inelastic Materials: Viscous Effects <i>Vladislav A. Yastrebov</i>
12:00	CSSM24_12: The two regimes in nucleation of frictional sliding <i>David Kammer, Miguel Castellano, Flavio Lorez</i>

<b>Day: 3</b>	<b>PhD olympiads (IV)</b>
<b>Room: 6</b>	<b>Chair: Konrad Perzyński, José César de Sá, Andrei Shvarts</b>
09:15	PHDOLP_01: A discontinuity-enriched finite element method for the computational design of phononic crystals <i>Sanne J. van den Boom, Alejandro M. Aragon, Fred van Keulen</i>
09:40	PHDOLP_12: The direct parametrisation method for invariant manifolds: developments and application to large dimensional finite element models of MEMS structures <i>Andrea Opreni</i>
10:05	PHDOLP_13: Efficient algorithms for three-dimensional computational mesh generations and air pollution simulations based on hypergraph grammars <i>Krzysztof Podsiadło</i>

<b>Day: 3</b>	<b>PhD olympiads (V)</b>
<b>Room: 6</b>	<b>Chair: Konrad Perzyński, José César de Sá, Andrei Shvarts</b>
<b>11:15</b>	PHDOLP_14: Numerical Study on Thermo-diffusive Instabilities in Laminar and Turbulent Hydrogen Flames <i>Lukas Berger, Heinz Pitsch</i>
<b>11:40</b>	PHDOLP_16: Study of the effect of the tumour microenvironment on cell response using a combined simulation and machine learning approach. Application to the evolution of Glioblastoma. <i>Jacoba Ayensa-Jiménez</i>

<b>Day: 3</b>	<b>CFM00 – General Symposium in Computational Fluid Mechanics (I)</b>
<b>Room: 7</b>	<b>Chair: ???</b>
<b>09:15</b>	CFM00_01: An IMEX-DG solver for the compressible Navier-Stokes equations for non-ideal gases <i>Giuseppe Orlando, Paolo Francesco Barbante, Luca Bonaventura</i>
<b>09:30</b>	CFM00_02: A high-order continuous Lagrange--Galerkin method for compressible flows <i>Manuel Colera, Jaime Carpio, Rodolfo Bermejo</i>
<b>09:45</b>	CFM00_03: Simulation of Centrifugal Buoyancy-Induced Flow in Sealed and Open Rotating Compressor Cavities Using the Lattice-Boltzmann Method <i>Paul Werner, Jean-François Bousuge, Christophe Scholtes, Pierre Sagaut</i>
<b>10:00</b>	CFM00_05: A mixed Lagrangian-Eulerian formulation for Particle Finite Element Method <i>Cheng Fu, Massimiliano Cremonesi, Umberto Perego</i>
<b>10:15</b>	CFM00_06: Multipoint Shape Optimization of a Pump-Turbine Using the Adjoint Method <i>Alexander Huscava, Bernhard Semlitsch</i>

<b>Day: 3</b>	<b>CFM00 – General Symposium in Computational Fluid Mechanics (II)</b>
<b>Room: 7</b>	<b>Chair: ???</b>
<b>11:15</b>	CFM00_07: Experimentally validated 3-D coupled model of freezing in small-scale freeze-dryer <i>Edyta Piechnik, Jacek Smolka, Michal Palacz, Ignat Tolstorebrov, Trygve M. Eikevik, Michal Stebel, Michal Haida, Andrzej J. Nowak</i>
<b>11:30</b>	CFM00_08: Effect of Vapour Bubble Initial Displacement on Droplet Impact onto Liquid Films <i>Daniel Vasconcelos, André Silva, Jorge Barata</i>
<b>11:45</b>	CFM00_09: Use of combined electromagnetic fields for improved welding process <i>Imants Kalдре</i>
<b>12:00</b>	CAM00_01: Implicit fully well-balanced methods for the shallow water model: a Lagrangian-Projection approach <i>Celia Caballero-Cárdenas, Manuel Jesús Castro-Díaz, Tomás Morales de Luna, María de la Luz Muñoz-Ruiz</i>