Oral Programme

ECT 2018 Abstracts | **CST 2018 Abstracts**

Monday 03 September 2018

15:00-18:30	Registration | *Hall Auditorium*
18:30-20:00	Welcome drinks reception | *Hall Auditorium & Atrium*

Tuesday 04 September 2018

08:00-09:15	Registration | *Hall Auditorium*
Room	*Auditorium*
Session Chair	*Barry H.V. Topping*
09:15-10:30	**Opening Session**: Welcome to ECT2018: **P. Ivanyi**, *University of Pécs, Hungary* Welcome to CST2018: **J. Kruis**, *Czech Technical University of Prague, Czech Republic* **Announcement of the K.J. Bathe Award 2018** Presentation by Carrie Christensen, *Publisher, Elsevier*
09:30-10:30	Opening Plenary Address: **Frontiers & challenges in CAE simulations** **Klaus-Jürgen Bathe**, *MIT, USA*
10:30-11:00	**Refreshment Break** | *Hall Auditorium & Atrium*

Room	***Auditorium***	
Session Chair	*Professor J. Tedesco*	*Professor A. Zingoni*
11:00-12:00	**Keynote Lectures**	
Room	*Auditorium*	*Garbi 1*
11:00-11:30	**[KEY1] Active structural control in civil and infrastructural engineering: feasibility of a breakthrough** **F. Casciati**, *University of Pavia, Italy*	**[KEY3] Isogeometric analysis of coupled thermomechanical problems: Theoretical and implementation aspects** **D. Eyheramendy**, *Laboratoire de Mécanique et d"Acoustique (AMU-CNRS-ECM), France*
11:30-12:00	**[KEY2] Dynamics and homogenised elastic properties of irregular cellular metamaterials** **S. Adhikari**, *Swansea University, United Kingdom*	**[KEY4] Computational treatment of instabilities of thin-walled structures under tension** **F.G. Rammersdorfer**, *Vienna University of Technology, Austria*
12:00-13:00	**Lunch** | *Noray Restaurant*	

Room	*Garbi 1*		*Llevant 1*	*Llevant 2*	*Llevant 3*		*Llevant 4*	
Session Chairs	*K.J. Bathe*		*M. Lombardo, G. Barone, A. Palmeri*	*J.R. Torregrosa & A. Cordero*	*J.R. Banerjee & J. Naprstek*		*A. Csebfalvi & J. Logo*	
13:00-14:15	**Computers and structures & advances in engineering software** ***Author Journal Publication: Seminar and Discussion***		**ECT2018: Computational studies for retrofitting**	**ECT2018: Special session: Iterative schemes for analyzing nonlinear problems: Numerical and dynamic**	**Keynote Lecture**		**CST2018: Special session: Structural topology optimization**	
13:00-13:15	13:00-14:00	**"Developments in Publishing -**	**[O2.1] Computational issues toward the amelioration and retrofi tting of educational**	**[O3.1] On some nonlinear Newton-like methods for solving nonlinear equations**	13:00-13:30	**[KEY8] Pre- and post- buckling analysis of beams**	**[O5.1] Optimization of an upper structure of a curtain side trailer via genetic**	

		The Publisher's perspective" C. Christensen, *Publisher, Elsevier, New York, USA* **"Getting Published – An Editor's perspective" Barry H.V. Topping,** *Co-Editor, Computers and Structures, Advances in Engineering Software* **Discussion Session**	**buildings** S. Casciati *University of Catania, Italy*	S. Busquier[1], S. Hernádez-Verón[2], A.A. Magreñan[3], S. Amat*[1] *[1]U.P.Cartagena, Spain, [2]U. La Rioja, Spain, [3]U. Internacional de La Rioja, Spain*		**employing higher order beam theory E. J. Sapountzakis,** *National University of Athens, Greece*	**algorithm** M. Ramanagiri*, A. Kwan, G. Phillips, M. Bartlett, A. Clarke, M. Eaton *Cardiff University, UK*
			CST2018: Special Session: Dynamic interactions across the scales: recent advances & current challenges				
13:15-13:30			**[O2.2] Fatigue analysis of high-speed railway bridges using different moving load models** J. O'Nien*, A. Palmeri, M. Lombardo, S. Kasinos *Loughborough University, UK*	**[O3.2] New families of iterative methods for solving nonlinear systems** A. Cordero, C. Jordán, E. Sanabria, J.R. Torregrosa* *Universitat Politècnica de València, Spain*			**[O5.2] Application of structural topology optimization to slender telecommunication lattice towers** K.D. Tsavdaridis*[1], A. Nicolaou[2], E. Efthymiou[3] *[1]University of Leeds, UK, [2]Ramboll, UK, [3]Aristotle University of Thessaloniki, Greece*
13:30-13:45			**[O2.3] Seismic performance of elastoplastic oscillators coupled with non-linear viscous dampers** R. Woodhouse[1], A. Palmeri*[1], N. Impollonia[1,2] *[1]Loughborough University, UK, [2]University of Catania, Italy*	**[O3.3] Jacobian free multistep iterative methods for solving nonlinear IVPs and BVPs** E. Martínez*, J.L. Hueso, D. Alarcón *Universitat Politècnica de València, Spain*	**[O4.2] New concepts for high energy absorbing structures protected against birdstrike** B. Derias*[1,2], P. Spiteri[1], P. Marthon[1], L. Ratsifandrihana[2] *[1]INP Toulouse, France, [2]Segula Toulouse, France*		**[O5.3] A new robustness measure for evaluating the optimal designs given by the commonly accepted algorithms in the volume-constrained robust topology optimization with uncertain loading directions** A. Csébfalvi*[1], J. Lógó[1] *[1]University of Pécs, Hungary, [2]Budapest University of Technology and Economics, Hungary*
13:45-14:00			**[O2.4] Numerical modelling of plants in blast wave propagation simulations** P. Warnstedt*[1,2], N. Gebbeken[1,2] *[1]University of the Bundeswehr Munich, Germany, [2]Research Center RISK, Germany*	**[O3.4] A family of optimal eighth order methods for multiple roots of non-linear equations** F. Zafar[1,2], A. Cordero*[1], J.R. Torregrosa[1], M. Junjua[2] *[1]Universitat Politecnica de Valencia, Spain, [2]Bahauddin Zakariya University, Pakistan*	**[O4.4] Accurate algorithms for a non-linear oscillatory system: van der Pol equation** M.A.E. Kaunda *Cape Peninsula University of Technology, South Africa*		**[O5.4] Topology optimization of elastoplastic structures: Stress intensity driven formulation and Functor-oriented implementation** B. Blachowski[1], P. Tauzowski[1], J. Logo*[2] *[1]Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland, [2]Budapest University of Technology & Economics, Hungary*

14:00-14:15			**[O2.5] Passive control by seismic resistant design of double skin façades** G. Pipitone*, G. Barone, A. Palmeri *Loughborough University, UK*	**[O3.5] On a variational approximation of stiff systems of ODEs arising from chemistry kinetics** S. Amat[1], P. Pedregal[2], M.J. Legaz*[3], J. Ruiz[4] *[1]U.P. Cartagena, Spain, [2]Universidad de Castilla La Mancha, Spain, [3]Universidad de Cádiz, Spain, [4]Universidad de Alcalá, Spain*	**[O4.5] Development of numerical modelling technique to analyse the behaviour of cable supported facades under blast loading** R. Piyasena*, D. Thambiratnam, N. Perera, T. Chan *Queensland University of Technology, Australia*	**[O5.5] Topology optimization of truss structures using an improved crow search algorithm** M. Mashayekhi*, R. Yousefi *Vali-e-Asr University of Rafsanjan, Iran*
Session Chairs	*P. Coelho*		*M. Lombardo, G. Barone, A. Palmeri,*	*J.R. Torregrosa & A. Cordero*	*J.R. Banerjee & J. Naprstek*	*A. Csebfalvi & J. Logo*
14:15-15:00	**ECT2018: Parallel and distributed computing**		**CST2018: Special Session: Dynamic interactions across the scales: Recent advances & current challenges**			
14:15-14:30	**[O1.1] Solution Speedup of the Laplace Equation Using FPGA Hardware** A. Ebrahimi, M. Zandsalimy* *Sharif University of Technology, Iran*		**[O2.6] Single and multiple nonlinear energy sinks configurations in 3D civil structures with random excitations** M. Oliva[1], G. Barone*[2], F. Lo Iacono[1], G. Navarra[1] *[1]University of Enna Kore, Italy, [2]Loughborough University, UK*	**[O3.6] On a class of Newton-type methods for implicit Runge-Kutta schemes** S. Amat*[1], J. Ruiz[2], S. Busquier[1] *[1]U. P. Cartagena, Spain, [2]Universidad de Alcalá, Spain*	**[O4.6] The Effects of engine mass and its location on the free vibration and flutter characteristics of a transport aircraft wing** A. Ananthapuvirajah[1], W.D. Gunawardana[2], J.R. Banerjee*[1] *[1]University of London, UK, [2]Open University (Quarles Campus), UK*	**[O5.6] Voxel-based smoothing of topology-optimized structures to fulfill design requirements** R. Bartz*[1], S. Fiebig[1], T. Franke[1], T. Vietor[2] *[1]Volkswagen AG, Germany, [2]Technische Universität Braunschweig, Germany*
14:30-14:45	**[O1.2] Voronoï cell volume approximation using parallel solution** J. Mašek*, M. Vořechovský *Brno University of Technology, Czech Republic*			**[O3.7] Increasing the efficiency of a third-order iterative scheme for solving nonlinear problems** F.I. Chicharro, A. Cordero*, N. Garrido, J.R. Torregrosa *Universitat Politècnica de València, Spain*	**[O4.7] A hybrid finte element-statistical energy analysis formulation accounting for nonlinearities** F.A. Fazzolari *University of Liverpool, UK*	**[O5.7] Optimum design of a cable stayed steel footbridge using semi-active and passive dampers considering three dimensional behaviour** F.L.S. Ferreira, L.M.C. Simões* *University of Coimbra, Portugal*
14:45-15:00				**[O3.8] High order secant type methods free of derivatives** J.C. Trillo*[1], V. Candela[2], R. Peris[1] *[1]Universidad Politécnica de Cartagena, Spain, [2]Universidad de Valencia, Spain*	**[O4.8] Free vibration analysis of functionally graded beams using the dynamic stiffness method and a higher order shear deformation theory** H. Su[1], J.R. Banerjee*[1] *[1]University of Northampton, UK, [2]University of London, UK*	**[O5.8] Identification of critical local damage for robustness assessment of building structures using gradient-based optimisation** S. Grosman*, B.A. Izzuddin *Imperial College London, UK*
15:00-15:30	**Refreshment Break** | *Hall Auditorium & Atrium*					
Room	*Garbi 1*		*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*L.M.C. Simoes & A. Myslinski*		*S. Caprilli, F. Morelli & G. Zanon*	*J.R. Torregrosa & A. Cordero*	*A.H.C. Chan & D. Rypl*	*N. Suksawang*

15:30-18:00	CST2018: Special session: optimisation and design	CST2018: Special session: advanced solutions for the structural design and numerical modelling of steel racks	ECT2018: Special session: Iterative schemes for analysing nonlinear problems: Numerical and dynamic	CST2018: Discrete element methods	CST2018: Special session: Seismic assessment of new structures and vulnerability reduction of existing buildings: Advanced numerical modelling
15:30-15:45	**[O1.4] Shape optimization of elasto-plastic contact problems using the level set method** A. Myslinski *Systems Research Institute, Poland*	**[O2.7] Design and modelling of Automated Rack Supported Warehouses** S. Caprili*[1], F.V. Lippi[1], F. Morelli[1], A. Natali[1], W. Salvatore[1], V. Falleni[2] *[1]University of Pisa, Italy, [2]System Logistics S.p.A., Italy*	**[O3.9] On a new Power ENO method for hyperbolic conservation laws** S. Amat[1], A.A. Magreñán*[2], J. Ruiz[3] *[1]Universidad Politécnica de Cartagena, Spain, [2]Universidad Internacional de La Rioja, Spain, [3]Universidad de Alcalá de Henares, Spain*	**[O4.9] Investigation of the influence of parameters on particle dampers** N. Meyer*, R. Seifried *Hamburg University of Technology, Germany*	**[O5.9] A strategy for reducing the vulnerability of structures under seismic loadings** F. De Angelis*, D. Cancellara *University of Naples Federico II, Italy*
15:45-16:00	**[O1.5] Hybrid optimisation of thin-walled laminated cylindrical shells dynamic behaviour** B. Miller*, L. Ziemianski *Rzeszow University of Technology, Poland*	**[O2.8] Calibration of finite element models of an innovative steel beam-to-column joint** F. Morelli*, A. Piscini, W. Salvatore *University of Pisa, Italy*	**[O3.10] Numerical simulation of detonation waves using nonlinear finite difference methods** S. Amat[2], A. Dávila[2], A. Perales[2], J. Ruiz*[1] *[1]Universidad Politécnica de Cartagena, Spain, [2]Universidad Politécnica de Cartagena, Spain*	**[O4.10] The use of discrete element modelling (DEM) in development of a novel concrete aggregate recycling technique** A. Ameel*, S. Debruyne, M. Versteyhe, L. Boehme *KU Leuven, Belgium*	**[O5.10] Analysis of base isolation systems in passive control of structures** F. De Angelis*, D. Cancellara *University of Naples Federico II, Italy*
				ECT 2018: Discrete Element and Particle Techniques	**ECT2018: Dynamics, seismic and construction**
16:00-16:15	**[O1.6] Reliability-based minimum cost design of a double box beam structure for an overhead travelling crane** L.M.C. Simoes*[1], K. Jarmai[1] *[1]University of Coimbra, Portugal, [2]University of Miskolc, Hungary*	**[O2.9] Sensitivity of numerical modelling approaches on the computed behaviour of steel racks under seismic loading** M. Pinkawa*, B. Hoffmeister, M. Feldmann *RWTH Aachen University, Germany*	**[O3.11] Iterative algorithms for car rental and car sharing transport management** J.A. Conejero*, C. Jordán, E. Sanabria-Codesal *Universitat Politècnica de València, Spain*	**[O4.11] A three-dimensional coupled Euler- PIC algorithm for penetration of reinforced concrete** X. Xu*, T. Ma, H. Liu, J. Ning *Beijing Institute of Technology, China*	**[O5.11] Seismic response simulation of complex site based on multi-transmitting formula and spectral element method** Y.Y. Yu*, H.P. Ding *Suzhou University of Science and Technology, China*
16:15-16:30	**[O1.7] Adjoint variable method for the sensitivity analysis of flexible multibody systems in differential-algebraic form** A. Azari Nejat*, A. Moghadasi, A. Held, R. Seifried	**[O2.10] Definition of the loading models for automated steel racks warehouses considering logistics needs** F. Morelli*[1], S. Caprili[1], M. Fabini[2], V. Falleni[3], A. Natali[1], A. Ori[3], W. Salvatore[1], S. Sesana[2], M. Terraneo[2], L.	**[O3.12] A homotopy method for vibration analysis of magnetorheological fluid sandwich structures** V. Ammovilli*[1], M. Bilasse[1], I. Charpentier[1] *[1]CNRS and University of Strasbourg, France, [2]École*	**[O4.12] Optimized rack-ladder structure for iron ore pellet buffer storage: DEM simulation and analytical model** A. Hossein Madadi Najafabadi*[1], A. Masomi[2] *[1]Mobarakeh Steel Company, Iran, [2]University of Tehran, Iran*	**[O5.12] Control of vibrations and comparison of different base isolation systems for irregular structures** F. De Angelis*, D. Cancellara *University of Naples Federico II, Italy*

	Hamburg University of Technology, Germany	Vandini[3] *[1]University of Pisa, Italy, [2]SCL Ingegneria Strutturale, Italy, [3]System Logistics, Italy*	*Catholique d'Arts et Métiers Strasbourg-Europe, France*		
	CST2018: Civil engineering applications	**CST2018-21: Laser cutting technology**			
16:30-16:45	**[O1.8] Optimality in sewer network design** N. de Villiers*, G.C. Van Rooyen *University of Stellenbosch, South Africa*	**[O2.11] Thermal and mechanical modeling of laser cutting for structural steel grade materials for high-cycle fatigue applications** O. Bursi[1], P. Scardi[1], G. Zanon*[1], A. Valli[2], L. Monaco[1] *[1]University of Trento, Italy, [2]Addige Sys, Italy*	**[O3.13] Jacobian free multistep iterative method for solving nonlinear IVPs and BVPs** E. Martinez*, J.L. Hueso, D. Alarcón *Universitat Politècnica de València, Spain*	**[O4.13] Hybrid finite-discrete element modelling of the failure and collapse process of deep tunnels in rock masses under high in-situ stresses** H Han*, H.Y. Liu, H.C. Chan *University of Tasmania, Australia*	**[O5.13] Distributed multiple tuned mass dampers approach for vibration control of high-rise buildings in earthquake** H. Radmard Rahmani*, C. Könke *Universität Weimar, Germany*
				CST2018 & ECT2018: Software development: Tools, techniques and issues	
16:45-17:00	**[O1.9] An iot、plc、scada technologies and asm2d model based water treatment intelligent control system** C. Chen*[1], T. Bou[2], B. Ding[2] *[1]Beijing Institute of Technology, China, [2]Shenzhen Graduate School, China*	**[O2.12] Assessment of laser-cut, I-beam to CHS column joints by means of nonlinear finite element methods** J. Korndörfer*, B. Hoffmeister, M. Feldmann *RWTH Aachen University, Germany*	**[O3.14] On the local and semilocal convergence of a parameterized multi-step Newton method** S. Amat[1], I.K. Argyros[2], S. Busquier[1], M.A. Hernández-Verón[3], D.F. Yáñez*[4] *[1]Universidad de Cartagena, Spain, [2]Cameron University, USA, [3]Universidad de La Rioja, Spain, [4]Universidad Católica de Valencia, Spain*	**[O4.14] Easy pre-/post-processing of finite elements with Python: A descriptive programming approach** M. Yilmaz *Istanbul Technical University, Turkey*	**[O5.14] Performance of masonry infill wall in a reinforced concrete building under seismic load** O. Akyurek[1], N. Suksawang*[1], T. Go[1], H. Tekeli[1] *[1]Florida Institute of Technology, USA, [2]Suleyman Demirel University, Turkey*
		CST2018: Advanced solutions for the structural design and numerical modelling of steel			
17:00-17:15	**[O1.10] A rapid modeling method for fluid network** Y. Zhang*, Y. Men, Z. Dong *North China Electric Power University, China*	**[O2.13] A nonlinear connector element with physical properties for modelling bolted connections** R. Verwaerde*, P.A. Boucard, P.A. Guidault *LMT, ENS Cachan, CNRS, Université Paris-Saclay, France*	**[O3.15] Memory for a modified Newton Method** A. Cordero*[2], J.G. Maimó[1], J.R. Torregrosa[2], M.P. Vassileva[1] *[1]Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic, [2]Universitat Politécnica de Valencia, Spain*	**[O4.15] Synthesis of computational meshes of RVE with ellipsoidal inclusions using Wang cubes** D. Rypl*, M. Doškář *Czech Technical University in Prague, Faculty of Civil Engineering, Czech Republic*	**[O3.54] Overall Imperfection Method for tapered beam-columns** G. Hajdú*, F. Papp *Széchenyi István University, Hungary*
17:15-17:30		**[O2.14] Numerical modelling of the self-loosening of a bolted assembly**		**[O4.16] Scaled scrum framework for cooperative domain ontology evolution**	

		V. Rafik*[1,2], C. Chirol[2], A. Daidie[1], B. Combes[1] *[1]Université de Toulouse, Institut Clément Ader, France, [2]Airbus Operations S.A.S, France*		W. Mohsen*, M. Aref, K. ElBahnasy *Ain Shams University, Egypt*	
17:30-17:45		**[O2.15] Conductive cables vibrations effect on lattice steel transmission towers** T.M. Ghazal*, E.M. Elkassas, M.I. Elmasry *Arab Academy for Science & Technology & Maritime Transport, Egypt*			
17:45-18:00		**[O2.16] Developing a neutral equilibrium device as dynamic virtual piers for an emergency relief bridge** M.H. Shih*[1], W.P. Sung[2] *[1]National Chi Nan University, Taiwan, [2]National Chin-Yi University of Technology, Taiwan*			

Wednesday 05 September 2018					
Room	*Garbi 1*	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*A. Zingoni & T. Abassy*	*C. Anitescu*	*D. De Domenico, A. Gregori & F. De Angelis*	*F. Parisi & M. Scalvenzi*	*A. Sofi, G. Li, D. Yang & P. Li*
08:45-10:30	**CST2018: Numerical and computational techniques for mechanics**	**ECT2018: Computational Methods: including meshless and isogeometric methods**	**CST2018: Special Session: Seismic assessment of new structures and vulnerability reduction of existing buildings: advanced numerical modelling**	**CST2018: Structural Mechanics: Damage, NDT and characterisation**	**ECT2018: Uncertainty quantification and analysis in engineering: precise and imprecise probability approaches**
08:45-09:00	**[O1.11] The first and the second order sensitivity analysis for damped systems with repeated eigenvalues** M. Łasecka-Plura *Poznan University of Technology, Poland*	**[O2.17] Generic implementation of meshless local strong form method** J. Slak*, G. Kosec *Jožef Stefan Institute, Slovenia*	**[O3.16] An explicit-implicit method for nonlinear time-domain soil-structure interaction analysis** S.L. Chen*, H. Lv *Nanjin University of Aeronautics and Astronautics, China*	**[O4.17] Optimizing linear phased array transducers for detection of delamination defect in composites** M. Achbal*[1], A. Khamlichi[2], F. El Khannoussi[2] *[1]Faculty of Sciences at Tetouan, Morocco, [2]ENSA Tetouan, Morocco*	**[O5.16] Generalized pareto distribution for high reliability estimation based on radial basis function network** G. Li*, G. Zhao *Dalian University of Technology, China*
09:00-09:15	**[O1.12] Solving nonlinear 2nd order differential equations using piecewise analytic method (Pendulum**	**[O2.18] Numerical simulation of overhead power line cooling in natural convection regime**	**[O3.17] A probabilistic approach for the determination of the in-plane elastic response of RC frames**	**[O4.18] Occurring characteristics of asphalt pavement distresses based on statistics and association**	**[O5.17] Robust design of a solution for reducing vibration of light assembled structures** M. Ghienne*[1,2], C. Blanzé[1], L.

	Equations) T. Abassy[1,2] *[1]Prince Sattam Bin Abdulaziz University, Saudi Arabia, [2]Benha University, Egypt*	G. Kosec, J. Slak* *Jozef Stefan Institute, Slovenia*	**accounting for the uncertain stiffening contribution of the masonry infills** D. De Domenico, G. Falsone*, R. Laudani *University of Messina, Italy*	**rules mining** J. Li*, G. Liu, T. Yang, J. Zhou, Y. Zhao *Southeast University, China*	Laurent[1] *[1]Conservatoire National des Arts et Métiers, France, [2]Institut supérieur de mécanique de Paris – Supméca, France*
09:15-09:30	**[O1.13] A hybrid numerical-analytical approach to the dynamic analysis of helical gear excitations due to varying mesh stiffness** M. Zarnekow*, T. Grätsch, F. Ihlenburg *Hamburg University of Applied Sciences, Germany*	**[O2.19] Homogenization based interface coupling with constrained microscopic displacements for the global-local analysis of heterogeneous structures** M. Wangermez*[1,2], O. Allix[1], P-A. Guidault[1], O. Ciobanu[2], C. Rey[2] *[1]LMT Cachan (ENS Paris-Saclay/CNRS/Université Paris-Saclay), France, [2]Safran Tech, France*	**[O3.18] Comparing deterministic and affidabilistic assessment of the seismic vulnerability of an existing RC building** A. Gregori*, M. Angiolilli *University of L'Aquila, Italy*	**[O4.19] An integrated damage approach for effective modelling of high cycle fatigue in metals** A. Soyemi*, B.A. Izzuddin *Imperial College London, UK*	**[O5.18] Studies of vehicle loading on highway bridges and their reliability** Q. Guo*[1], X. Yang[2], J. Gong[1] *[1]Dalian University of Technology, China, [2]Ningbo Institute of Technology, China*
				CST2018: Special Session: Computational modelling of progressive collapse	
09:30-09:45	**[O1.14] An innovative approach to testing tendons in shear** N. Aziz*[1], A. Mirzaghorbanali[2,1], G. Yang[1], S. Khaleghparast[1], J. Nemcik[1], H. Rasekh[3,1] *[1]University of Wollongong, Australia, [2]University of Southern Queensland, Australia, [3]University of New South Wales, Australia*	**[O2.20] Isogeometric lumped mass matrices using a dual basis construction and the Petrov-Galerkin method** C. Anitescu*[1], C. Thanh Nguyen[2], T. Rabczuk[1], X. Zhuang[2] *[1]Bauhaus-Universität Weimar, Germany, [2]Leibniz Universität Hannover, Germany*	**[O3.19] Calibration of cohesive elements for modelling the bond between concrete and deformed reinforcement bars** S. Alkhawaldeh*, J.A. El-Rimawi, A. Palmeri *Loughborough University, UK*	**[O4.20] Analytical model for multi-hazard resistant prefabricated concrete frame substructures considering earthquake and column removal scenarios** K.Q. Lin*[1], X.Z. Lu[1], Y. Li[2], L.P. Ye[1] *[1]Tsinghua University, China, [2]Beijing University of Technology, China*	**[O5.19] Combining density forecasts for concrete creep prediction under model uncertainty** S.S. Jin, S.L. Cha*, H.K. Ju *Korea Advanced Institute of Science and Technology, Republic of Korea*
09:45-10:00	**[O1.15] On the most appropriate symmetry group for group-theoretic computational schemes in structural mechanics** A. Zingoni *University of Cape Town, South Africa*	**[O2.21] Space-time isogeometric solvers for coupled multiphysics: A preliminary study** C. Saadé*, S. Lejeunes, D. Eyheramendy, L. Zhang, R. Saad *Aix-Marseille University, France*	**[O3.20] The use of cohesive elements to model the behaviour of reinforced concrete beam-to-column joints under monotonic loading** S. Alkhawaldeh*, J.A. El-Rimawi, A. Palmeri *Loughborough University, UK*	**[O4.21] Performance limit states of reinforced concrete buildings subjected to single-column loss scenarios** F. Parisi*, M. Scalvenzi, E. Brunesi *University of Naples, Federico II, Italy*	**[O5.20] Lattice dome reliability response functions using analytical integration and finite element method** B. Pokusinski*, M. Kaminski *Lodz University of Technology, Poland*
					CST2018-1: Uncertainty Analysis and Design Optimization of Structures

10:00-10:15	**[O1.16]** Repetitive skeletal structures controlled by bracing elements G. Nagy Kem *Szent István University YMÉK, Hungary*		**[O2.22] Using results on zeros of symmetric polynomials for design comb decimators** G. Jovanovic Dolecek *Institute INAOE, Mexico*	**[O3.21] New methodology to generate Roof Design Spectra (RDS) directly from Uniform Hazard Spectra (UHS)** A. Asgarian*, G. McClure *McGill University, Canada*	**[O4.22] Mitigation of blast load risk on reinforced concrete structures considering different structural design alternatives** M.K. Almustafa*, Y.E. Ibrahim *Prince Sultan University, Saudi Arabia*	**[O5.21] A line search method for non-linear data assimilation via random steepest descent approximations** E. D. Nino-Ruiz, C. J. Ardila-Hernández, J. R. Capacho-Portilla, J. D. Estrada-DeLaHoz* Universidad del Norte, Colombia
10:15-10:30	**[O1.3] Effectiveness of hybrid parallelization of splitting-up conjugate gradient method on supercomputers** A. Wakatani *Konan University, Japan*		**[O5.62] Simulation engine for on-line Dynamic Stability Assessment** K. Máslo *ČEPS, a.s., Czech Republic*		**[O4.23] Progressive collapse assessment of gravity-load designed reinforced concrete buildings through nonlinear time history analysis** F. Parisi, E. Brunesi, M. Scalvenzi* *University of Naples, Italy*	**[O5.22] Response statistics of structures with uncertainties described by imprecise probability density functions** G. Muscolino*[1], A. Sofi[2], F. Giunta[1] *[1]University of Messina, Italy, [2]University Mediterranea of Reggio Calabria, Italy*
10:15-10:45	**Refreshment Break** | *Hall Auditorium & Atrium*					
Room	*Garbi 1*		*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*A. Eriksson & D. Eyheramendy*		*W. Habchi & E. Deletombe*	*G. Li, D. Yang & P. Li*	*D. Roose & N. Biba*	*J. Kruis & J. Bai*
10.45-12.45	**Keynote lectures**		**ECT2018: Computational multiphysics**	**CST2018: Uncertainty analysis and design optimization of structures**	**ECT2018: Special session: Computational modelling of industrial metal forming processes**	**CST2018: Uncertainty and reliability**
10:45-11:00	10:45-11:15	**[KEY5] Assessment of the reflection-transmission error for reciprocal mass matrices** **A. Tkachuk**, *University of Stuttgart, Germany*	**[O2.23] A Schur-complement method for the reduced order finite element modeling of transient elastohydrodynamic lubrication problems** W. Habchi *Lebanese American University, Lebanon*	**[O3.22] Discontinuous Galerkin-based probability density evolution method for dynamic reliability analysis of building structures** G.H. Chen*, D.X. Yang *Dalian University of Technology, China*	**[O4.24] Similitude for vibration assisted cold forward extrusion** A. Al-tamimi*, R. Darvizeh, K. Davey University of Manchester, UK	**[O5.23] Reliability estimation using conditional Gaussian sub-structuring** B. Radhika *IIT Tirupati, India*
						CST2018: Special session: Degradation of reinforced concrete elements: From mathematical modelling to assessment through structural
11:00-11:15			**[O2.24] Ensemble probabilistic forecasting in the microscale** A. Oliver*, L. Mazorra-Aguiar,	**[O3.23] Dynamic reliability analysis of nonlinear building structures subject to near-fault**	**[O4.25] Numerical experimentation of global finite similitude scaling in die**	**[O5.24] Corrosion of steel bars in reinforced concrete columns: the effect of the**

			E. Rodríguez, G. Montero *University of Las Palmas de Gran Canaria, Spain*	**ground motions** D.X. Yang*, G.H. Chen *Dalian University of Technology, China*	**compaction process** M. Moghaddam[1], R. Darvizeh*[2], K. Davey[2,3], A. Darvizeh[1] *[1]University of Guilan, Iran, [2]The University of Manchester, UK, [3]University of Strathclyde, UK*	**cover concrete spalling on strength deterioration in axially loaded columns** R. Greco[1], M. Morga*[2] *[1]Technical University of Bari, Italy, [2]Anglia Ruskin University, UK*
			ECT2018: Crash and impact computational mechanics			
11:15-11:30	11:15-11:45	**[KEY6] Strain control of engineering band structures of graphene nanoribbons** **R. Melnik,** *Wilfrid Laurier University, Canada*	**[O2.25] On discontinuous boundary elements in the mechanics of solid bodies loaded by explosion** P.P. Prochazka*, M.J. Valek *Czech Technical University in Prague, Czech Republic*	**[O3.25] Cohesive discrete element method to simulate Young's modulus variability effect on a natural fibre-reinforced composite performance** D. Moukadiri*[1], W. Leclerc[1], M. Guessasma[1], F. Druesne[2], E. Bellenger[1] *[1]University of Picardie Jules Verne, France, [2]University of Technology of Compiègne, France*	**[O4.26] Strain rate sensitivity in scaling of dynamic structural systems** H. Sadeghi[1], R. Darvizeh*[2], K. Davey[2,3], A. Darvizeh[1] *[1]University of Guilan, Iran, [2]The University of Manchester, UK, [3]University of Strathclyde, UK*	**[O5.25] Numerical modelling of chloride extraction from concrete structures with the help of electric field** J. Kruis*, J. Nemecek *Czech Technical University in Prague, Czech Republic*
11:30-11:45			**[O2.26] Study and characterization of abrasion phenomena for organic matrix composite and metallic materials in A/C emergency landing situations** L. Bigault[1,2], E. Deletombe*[1], Y. Desplanques[2] *[1]ONERA - The French Aerospace Lab, France, [2]University of Lille, France*	**[O3.26] Risk-based probabilistic seismic hazard analysis considering parameter uncertainties** L. Hofer*, M.A. Zanini, F. Faleschini, K. Toska, C. Pellegrino *University of Padova, Italy*	**[O4.27] Elastic-plastic formulation and damage prediction in forming processes with highly localized large strain** A. Vlasov[1], N. Biba*[2], s. Stebunov[1] *[1]QuantorForm Ltd, Russia, [2]MICAS Simulations, UK*	**[O5.26] Vulnerability assessment for the reinforced concrete beam exposed to monotonic loading using different damage indexes** M. Nasim*, S. Setunge *RMIT, Australia*
						CST2018: Artificial neural networks in computational mechanics
11:45-12:00	11:45-12:15	**[KEY7] A nested, concurrent multiscale approach without scale-separation** **L. Beex**, *University of*	**[O2.27] The crash analysis of electric multiple unit driver's cab** P. Watroba, M. Pawlak*, D. Gasiorek *Silesian University of Technology, Poland*	**[O3.27] The conjugate gradient step length adjustment method for calculation of probabilistic performance measure** P. Yi*, D. Xie *Dalian university of technology, China*	**[O4.28] Investigating macrosegregation and inclusion-front interaction in continuously-cast steel slabs** S. Chaube *T.R.D.D.C, India*	**[O5.27] A comparative study of neural network model and LOLIMOT for self-compacting concrete containing supplementary cementitious materials** S. Dadsetan[1], K. Mehrzad[2], J. Bai*[3], S. Ataei[2] *[1]Ryerson University,*

		Luxembourg, Luxembourg				*Canada, [2]Iran University of Science and Technology, Iran, [3]University of South Wales, UK*
12:00-12:15			**[O2.28] Charpy Impact Testing Machine in modelling of vehicle frontal crash with street lights** W. Danek, M. Pawlak* *Silesian University of Technology, Poland*	**[O3.28] Proper orthogonal decomposition-based random function representation for non-stationary stochastic ground motion processes** Z.X. LIU*, Z.J. LIU *China Three Gorges University, China*	**[O4.29] Approaches to modelling flow forming process** B. Krishnamurthy*[1], O. Bylya[1], R. Vasin[2] *[1]University of Strathclyde, UK, [2]Lomonosov Moscow State University, UK*	**[O5.28] Prediction of pile bearing capacity of replacement piles in un-cemented soils based on neural networks approach** A. Benali*[1], A. Bouafia[2], B. Boukhatem[3], A. Nechnech[4] *[1]University of Science and Technology Algiers, Algeria, [2]University of Khemis Miliana, Algeria, [3]University of Blida, Algeria, [4]University of Sherbrooke, Canada*
	CST2018: Special session: Recent advances on vibration-based structural health monitoring of age-old masonry buildings *Chairs: M. Girardi & G. Milani*		**ECT2018: Multiscale splitting methods: theory and applications in engineering problems**			
12:15-12:30	**[O3.56] Damage assessment through nonlinear analyses of five masonry churches hit by central Italy earthquake in 2016** F. Clementi, E. Giordano, A. Ferrante, V. Gazzani*, M. Poiani, S. Lenci *Polytechnic University of Marche, Italy*		**[O2.29] Investigation of static and dynamic behaviour of joint interface in multi-scale finite element models** W. Bingyan*, L. Hongjing, S. Guangjun *Nanjing Tech University, China*		**[O4.30] Improving mechanical properties of billets made of titanium alloy by means of torsion extrusion** V. Titov*[1], N. Zlochevska[1], A. Lavrinenkov[1], N. Biba[2] *[1]Igor Sikorsky Kyiv Polytechnic Institute, Ukraine, [2]MICAS Simulations Ltd, Ukraine*	**[O5.29] Non-destructive identification of the interlayer bond between repair overlay and concrete substrate using artificial intelligence** S. Czarnecki*, L. Sadowski, J. Hola *Wroclaw University of Science and Technology, Poland*
12:30-12:45	**[O3.57] The NSCD method for dynamic analyses of ancient masonry churches damaged during the last central Italy earthquakes of 2016** F. Clementi, A. Ferrante, E. Giordano, M. Poiani*, V. Gazzani, S. Lenci *Polytechnic University of Marche, Italy*				**[O4.31] Dynamic split-and-merge based spatial clustering for efficient multi-scale modelling in metal forming** M. Khairullah, J. Gawad, A. Van Bael, D. Roose* *KU Leuven, Belgium*	
12:45-13:45	**Lunch** | *Noray Restaurant*					
Room	*Garbi 1*		*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*

Session Chairs	*M. Bradford & L.M.C. Simoes*	*F.J. Montans & M. Sejnoha*	*J. Bull & M. Saka*	*Z.M. Zondi & A. Eriksson*	*L. Fenu & P. Ivanyi*
13:45-15:45	**CST2018: Timber structures**	**ECT2018: Material modelling: Timber**	**CST2018: Special session: Structural computational engineering design**	**CST2018: Special session: Computational and nonlinear dynamics**	**ECT2018: Structural Engineering design tools**
13:45-14:00	**[O1.17] Computational modelling of glued-in-rod timber joints** M.A. Bradford*[1], A. Hassanieh[1], H.R. Valipour[1], R. Jockwer[2] *[1]UNSW Sydney, Australia, [2]ETH Zurich, Switzerland*	**[O2.30] Moisture induced strains in wood - measurements and numerical prediction** M. Šejnoha*, J. Sýkora, L. Kucíková, Z. Pavlík, J. Pokorný, J. Antoš *CTU in Prague, Czech Republic*	**[O3.29] Database-assisted design of high-rise buildings for wind** S. Park, D. Yeo, E. Simiu* *National Institute of Standards and Tachnology, USA*	**[O4.1] Novel devices with negative stiffness elements for seismic isolation of bridges on compliant base** P.G. Syrimi, E.J. Sapountzakis*, C.H.T. Alamir, I.A. Antoniadis *National Technical University of Athens, Greece*	**[O5.31] Parametric vault design tools based on formex algebra** P. Sárközi*, P. Iványi, A. B. Széll *University of Pécs, Hungary*
	ECT2018 and CST2018: Bridge engineering				**ECT2018: Optimization driven architectural design of structures**
14:00-14:15	**[O1.18] Span influence in the optimum design of three-dimensional cable stayed bridges subject to earthquakes using active and passive dampers** F.L.S. Ferreira, L.M.C. Simões* *University of Coimbra, Portugal*	**[O2.31] Bayesian inference as a tool for improving the prediction of effective elastic properties of wood** T. Janda*, L. Kucíková, J. Vorel, J. Antoš, V. Hrbek, E. Šmídová, M. Šejnoha *Czech Technical University in Prague, Czech Republic*	**[O3.30] The development of computer programmes for the eurocodes** J.W. Bull *Northumbria University, UK*	**[O4.3] Kdamper concept in seismic isolation of building structures with soil structure interaction** K.A. Kapasakalis, E.J. Sapountzakis*, I.A. Antoniadis *National Technical University of Athens, Greece*	**[O5.32] Cable load-optimization in a hybrid bending-active structure** K. Alexandrou*, M.C. Phocas *University of Cyprus, Cyprus*
		CST2018: Materials, composites and microstructures		**CST2018: Buckling and post-buckling of structures**	
14:15-14:30	**[O1.19] Damage identification of deck type arch bridges using vibration data and computational simulations** N. Jayasundara*, D.P. Thambiratnam, T.H.T. Chan *Queensland University of Technology, Australia*	**[O2.32] Homogenization-based multiscale evaluation of equivalent mechanical properties of nonwoven carbon-fiber fabric composites** H.S. Lee*[1], C.W. Choi[1,2], J.W. Jin[3], M.Y. Huh[1], S.P. Lee[4], J.K. Park[1], K.W. Kang[2] *[1]Korea Institute of Carbon Convergence Technology, Republic of Korea, [2]Kunsan National University, Republic of Korea, [3]Jeonbuk Institute of Automotive Convergence Technology, Republic of Korea, [4]Iljin Global Co., Ltd, Republic of Korea*	**[O3.31] Optimum design of tied-arch bridges under AASHTO LRFD Code Provisions using some of recent metaheuristic algorithms** M. A.Latif*, M.P. Saka *University of Bahrain, Bahrain*	**[O4.32] Buckling under tensile dead load, effects of the constraint's curvature and multiple bifurcations** D. Misseroni*[1], D. Bigoni[1], G. Noselli[2] *[1]DICAM, University of Trento, Italy, [2]SISSA–International School for Advanced Studies, Italy*	**[O5.33] Curved pedestrian bridge supported by an optimised anticlastic grid-shell** L. Fenu*[1], E. Congiu[1], B. Briseghella[2], G. Carlo Marano[2] *[1]University of Cagliari, Italy, [2]University of Fuzhou, Italy, [3]Technical University of Bari, Italy*

Room	Garbi 1	Llevant 1	Llevant 2	Llevant 3	Llevant 4
Session Chairs	M. Bradford & L.M.C. Simoes	F.J. Montans & M. Sejnoha	J. Bull & M. Saka	Z.M. Zondi & A. Eriksson	L. Fenu & P. Ivanyi
	ECT2018 and CST2018: Bridge engineering	**CST2018: Materials, composites and microstructures**	**CST2018: Special session: Structural computational engineering design**	**CST2018: Buckling and post-buckling of structures**	**CST2018: Special session: Optimization driven architectural design of structures**
14:30-14:45	**[O1.20] Hydrodynamic analysis of a long span cable-stayed bridges with floating towers** S. Kim*[1], M.S. Jang[2], Y.W. Lee[2], S. Min[1], D.H. Won[2], Y.J. Kang[2] *[1]Daejeon University, Republic of Korea, [2]Korea University, Republic of Korea, [3]Korea Institute of Ocean Science and Technology, Republic of Korea*	**[O2.33] A study on equivalent mechanical properties and electric conductivity prediction of intermediate material by weight change of carbon nanotubes using homogenization method** J.W. Jin*[1], C.W. Choi[2], H.S. Lee[3], K.W. Kang[2] *[1]Jeonbuk Institute of Automotive Convergence Technology, Republic of Korea, [2]Kunsan National University, Republic of Korea, [3]Korea Institute of Carbon Convergence Technology, Republic of Korea*	**[O3.32] Digital workflows for structural design optimization and rapid conceptualization** E.P.G. Bruun*, S. Cerri, D. de Koning *Arup Canada Inc., Canada*	**[O4.33] Nonlinear buckling analysis of single-layer graphene sheets by the molecular mechanics method** S.N. Korobeynikov*[1,2], V.V. Alyokhin[1], A.V. Babichev[3] *[1]Lavrentyev Institute of Hydrodynamics, Russia, [2]Novosibirsk State University, Russia, [3]Sobolev Institute of Geology and Mineralogy, Russia*	**[O5.34] Deep learning assisted topology optimization** N.A. Kallioras*, G. Kazakis, N.D. Lagaros National Technical University of Athens, Greece
14:45-15:00	**[O1.21] Probabilistic modelling of spectrum stress range for fatigue analysis of a crane bridge** P. Lehner[1], M. Krejsa*[1], V. Krivy[1], P. Parenica[1], J. Brozovsky[1], J. Kozak[2] *[1]VSB-Technical University of Ostrava, Czech Republic, [2]Vitkovice Machinery Limited, Czech Republic*	**[O2.34] Stochastic multiscale modelling and analysis of multi-phase composite materials using many random parameters** N. Takano *Keio University, Japan*	**[O3.33] A machine learning-based approach to the preliminary design of high-rise buildings** A. Rajbhandari[1], N. Anwar*[1], J. Castillo[1], F. Najam[2] *[1]Asian Institute of Technology (AIT), Thailand, [2]National University of Sciences and Technology (NUST), Pakistan*	**[O4.34] Constrained stability of structures** A. Eriksson *KTH Royal Institute of Technology, Sweden*	**[O5.35] Conceptual design by means of topology optimization** S. Sotiropoulos*, G. Kazakis, N. Lagaros *National Technical University of Athens, Greece*
	CST2018: Railway technology			**ECT2018 and CST2018: Bio-mechanics**	
15:00-15:15	**[O1.22] Analysis of bifurcation and chaos of high-speed railway vehicle** Y. Yan*, J. Zeng, L. Wei, C.H. Huang *Southwest Jiaotong University, China*	**[O2.35] A microstructure-based WYPiWYG constitutive model for soft materials** J.M. Benitez, F.J. Montáns* *Universidad Politecnica de Madrid, Spain*	**[O3.34] Buckling assessment of portal frames through overall imperfection method** G. László*, F. Papp, M.R. Majid *Széchenyi István University, Hungary*	**[O4.35] Data mining the effects of testing conditions and specimen properties on brain biomechanical properties under high strain rate compression** F. Crawford[1,2], O. Abuomar*[3], R. Prabhu[1,2]	**[O5.36] A digital tool to design structurally feasible semi-circular masonry arches composed of interlocking blocks** C. Casapulla*1, E. Mousavian1

				[1]*Department of Agricultural and Biological Engineering, USA,* [2]*Center for Advanced Vehicular Systems, USA,* [3]*Coastal Carolina University, USA*	1University of Naples Federico II, Italy, 2Iran University of Science and Technology, Iran
	CST2018: Modelling and Analysis of Beams				
15:15-15:30	**[O1.42] A general higher order beam model** R.F. "Vieira"*, F.B. "Virtuoso" *Instituto Superior Técnico - Universidade de Lisboa, Portugal*	**[O2.36] Shape and topology optimization of inclusions in periodic material microstructures with control over the micro-stress distribution** P.G. Coelho*[1], D.B. Palma[1], D.M. Negrão[1], J.M. Guedes[2], H.C. Rodrigues[2], J.B. Cardoso[1] *[1]NOVA University of Lisbon, Portugal, [2]University of Lisbon, Portugal*	**[O3.35] Structural development for solar-powered HALE UAV** T.U. Kim*, S.J. Kim, J.W. Shin, S.W. Lee *Korea Aerospace Research Institute, Republic of Korea*	**[O4.36] Implementation of an external fixator in knee arthrodesis - a numerical evaluation** L.R. Roseiro*[1,2], M.A.N. Neto[1], M.S. Samarra[1], A.B.A. Amaro[1], A.G. Garruço[3] *[1]University of Coimbra, Portugal, [2]Polytechnic Institute of Coimbra, Portugal, [3]Centro Hospitalar e Universitário de Coimbra, Portugal*	**[O5.37] A digital tool to design structurally feasible hemispherical masonry domes composed of interlocking blocks** E. Mousavian*[1], C. Casapulla[1] *[1]Iran University of Science and Technology, Iran, [2]University of Naples Federico II, Italy*
			CST2018: Application of finite element methods	**Fluid Structure Interaction**	
15:30-15:45	**[O1.43] Beam-column analysis - Effects of residual stresses and geometric imperfections** P. Melo*, R. Vieira, F. Virtuoso *Technical University of Lisbon, Portugal*	**[O2.66] A non-local elasto-plastic-damaged formulation for frictional materials** G. Mazzucco, G. Xotta*, B. Pomaro, V.A. Salomoni, C. Majorana *University of Padova, Italy*	**[O2.65] Effect of a central square hole on stress-concentration in an open cylindrical composite panel subjected to uniform axial tension loading** G.A. Abu-Farsakh*, S.R. Al-Rousan *Jordan University of Science and Technology, Jordan*	**[O4.37] Application of SPH-FE method for fluid-structure interaction using immersed boundary method** F. Kalateh*, A. Koosheh *University of Tabriz, Iran*	**[O5.38] Curved pedestrian bridge supported by an optimised anticlastic grid-shell** L. Fenu*[1], E. Congiu[1], B. Briseghella[2], G.C. Marano[2,3] *[1]University of Cagliari, Italy, [2]University of Fuzhou, China, [3]Technical University of Bari, Italy*
15:45-16:15	**Refreshment Break** | ***Hall Auditorium & Atrium***				
Room	*Garbi 1*	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*V.Dias da Silva*	*E. Rohan & F.J. Montans*	*P. Ivanyi & T. Fukui*	*B. Izzuddin & M. Girardi*	*M. Zawidzki & G. Pavone*
16:00-18:15	**CST2018: Modelling and simulation for engineering design**	**CST2018: Materials, composites and microstructures**	**ECT2018 and CST2018: Computational fluid dynamics**	**ECT2018: Finite element techniques**	**ECT2018: Engineering modelling, design and optimisation**
16:15-16:30	**[O1.23] Kinematic simulation of angulated scissor structures** H. Zieneldin*[1], E. Elkordi[1], M. Elkatt[1], N. Elshabasy[2] *[1]Alexandria University, Egypt, [2]Consolidated*	**[O2.37] Development of hybrid model based on Lattice Boltzmann Method and Cellular Automata devoted for phase transformation - simulation of transformation controlled by diffusion**	**[O3.36] Bubble Population Balance Modelling for stationary and rotating columns in zero gravity** Y. Alhendal*, A. Turan *Public Authority for Applied*	**[O4.38] Parametric study on the vibration characteristics of bias ply autorikshaw tyres** S. Patil*, L. Biddappa, S. Nagesh *PES University, India*	**[O5.39] Comparison of different multi-objective evolutionary algorithms applied to benchmark problems** C. Lucia De Pascalis*, T.

	Contractor Company, Qatar	Ł. Łach*, D. Svyetlichnyy, J. Nowak AGH University of Science and Technology, Poland	*Education and Training, Kuwait*		Donateo, A. Ficarella *University of Salento, Italy*
16:30-16:45	**[O1.24] Analysis of tensile force on mooring lines for a submerged floating tunnel (SFT)** G.J. Kim*, H.G. Kwak Korea Advanced Institute of Science and Technology, Republic of Korea	**[O2.38] Homogenization of large deforming porous materials with contact in the microstructure** E. Rohan*, V. Lukeš, J. Heczko, R. Cimrman University of West Bohemia, Czech Republic	**[O3.37] Piston effect analysis for the metro ventilation** O.A. Lanchava*[1,2], G.C. Nozadze[1] *[1]LEPL G. Tsulukidze Mining Institute, Georgia, [2]Georgian Technical University, Georgia*	**[O4.39] Laser scanning-based 3D modeling for structural analysis of the spire of the Senlis cathedral** R. Rolin*, E. Antaluca, J-L. Antaluca, F. Lamarque *University of Technology of Compiègne, France*	**[O5.40] Parametric analysis of the self-stress for innovative V-Expander tensegrity cells** A. Fraddosio, G. Pavone*, M. Daniele Piccioni *Politecnico di Bari, Italy*
16:45-17:00	**[O1.25] On the performance of light aircraft landing gears rolling on different types of runway** N. Arif*, I. Rosu, F. Lebon, H.L. Elias-Birembeaux *Aix-Marseille University, France*	**[O2.39] A computational algorithm for cyclic plasticity at large strains** M. Zhang, F.J. Montáns* *Universidad Politécnica de Madrid, Spain*	**[O3.38] Numerical study on the inertial effects of particles on the rheology of a suspension** T. Fukui*, M. Kawaguchi, K. Morinishi *Kyoto Institute of Technology, Japan*	**[O4.40] Numerical modeling approach for the assessment of elastic properties of bi-layer thin films measured by bulge test** H. A. Tinoco*[1], J. Holzer[1], T. Pikálek[1], T. Fort[1], J. Sobota[1], Z. Buchta[1] *[1]Brno University of Technology, Czech Republic, [2]Czech Academy of Sciences, Czech Republic, [3]Universidad Autónoma de Manizales, Colombia*	**[O5.41] The ideal house - multicriterial optimization of a single family house** M. Zawidzki*, J. Szklarski *Polish Academy of Sciences, Poland*
Room	*Garbi 1*	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*V.Dias da Silva*	*E. Rohan & F.J. Montans*	*P. Ivanyi & T. Fukui*	*B. Izzuddin & M. Girardi*	*M. Zawidzki & G. Pavone*
	ECT2018 and CST2018: Shell and plate structures: Analysis and design				
17:00-17:15	**[O1.26] Dynamic and post-buckling analysis of structures like-shell using a quadrilateral shell element with in-plane rotational degree of freedom and a conservative implicit time integration scheme** D. Boutagouga*[1], S. Mamouri[2] *[1]University of Tebessa, Algeria, [2]Université se Tahri Mohamed -Bechar, Algeria*	**[O2.40] On macro-, multi-, and micro-scale material responses** M. Grigoriu *Cornell University, USA*	**[O3.39] Numerical simulation for non conservative hyperbolic system. application to transient two-phase flow with cavitation phenomenon** A. Qadi El Idrissi*1, B. Achchab1, A. Agouzal2 1Université Hassan 1er, Morocco, 2CNRS - Institut Camille Jordan, France	**[O4.41] Motion analysis of thin shell structure with large displacement and rotation by the VFIFE method** C-Y. Wang*, S-H. Chen, C.C. Lin *National Central University, Taiwan*	**[O5.42] Form-finding structural optimization for architectural design** I.N. Tsiptsis*, J. Niiranen, T. Kotnik *Aalto University, Finland*

				ECT2018: Numerical Techniques for Engineering	
17:15-17:30	**[O1.27] Application of spring lattice models to the analysis of shells – a study in elasticity, plasticity and damage** I. Doltsinis[1], M. Reck[1], V. Dias da Silva*[2] *[1]University of Stuttgart, Germany, [2]University of Coimbra, Portugal*	**[O2.41] Determination of the hardness of a steel SAE 4140 using the finite element method** R. Sánchez[1], M. Martínez[2], R. Güiza*[2], R. Jaimes[2] *[1]Universidad de Carabobo, Venezuela, [2]Universidad Industrial de Santander, Colombia*	**[O3.40] A Mathematical model for a laminar spiral flow to approximate fire whirl** E. Morishita*, I. Kumagai, K. Onodera, R. Kubota, Y. Moriyama, T. Yamazaki *Meisei University, Japan*	**[O4.42] Piecewise Analytic Method (PAM) is a new step in the evolution of solving nonlinear differential equations** T. A. Abassy *Prince Sattam Bin Abdulaziz university, Saudi Arabia*	**[O5.43] Shape synthesis based on integral and multi-patch NURBS surfaces** M. Ćurković*, D. Vučina *University of Split, Croatia*
17:30-17:45	**[O1.28] A meta-element approach to linear buckling analysis for thin cylindrical shells** A. Boyez*, A.J. Sadowski, B.A. Izzuddin *Imperial College London, UK*	**[O2.42] The analytical solution for wave equation in the piezoelectric porous material with charge density in fluid** Y.J. Yoon *Hanyang University, Republic of Korea*	**[O3.41] Nonlinear buckling dynamical analysis of stiffened panels Composite Materials for structures** O. Mouhat*, A. Khamlichi *Mohammed V University, Morocco*	**[O4.43] Equivalent local flexibility for neutral surface mirror symmetry structure** R. Li*, J. Xuan, T. Shi, S. He *Huazhong University of Science and Technology, China*	**[O5.44] Modelling and simulation of multi-robot system and control methods developments** M.R. Hayajneh*, S. BaniHani, K. Al-Widyan, S. Mutawe *The Hashemite University, Jordan*
			CST2018: Improved understanding of wind-structure interactions in flexible structures		
17:45-18:00	**[O1.29] Nodal resolution of discontinuity in shell models of folded plates** Q. Fang*, B.A. Izzuddin *Imperial College London, UK*	**[O2.43] Transition between plane stress - plain strain conditions and the effect of plate thickness in extra deep drawn V-notch steel sheets** A. Kamath*, D.M. Kulkarni *Birla Institute of Technology and Science, Pilani, India*	**[O3.42] Insights into suppression of wind-induced vibrations on overhead transmission power lines** M.A.E. Kaunda[1], Z.M. Zondi*[2] *[1]Cape Peninsula University of Technology, South Africa, [2]Mangosuthu University of Technology, South Africa*	**[O4.44] A two-phase numerical investigation of falling film absorption inside a vertical channel** R. Abbasi Havestini*, S.J. Ormiston *University of Manitoba, Canada*	**[O5.45] Modelling and performance study of electrically-coupled microbeams subject to shock load for MEMS applications** M. Ghommem*[1], M. Ahmed[1], A. Abdelkefi[2] *[1]American University of Sharjah, United Arab Emirates, [2]New Mexico State University, USA*
18:00-18:15		**[O2.44] Simulation of reinforced concrete sections with different confining materials by means of a plastic-damage model with variable dilatancy** M. Poliotti*, J.M. Bairán *Technical University of Catalonia, Spain*		**[O4.45] The operation of convolution: An algorithm using differential quadrature method and its application to dynamic analysis** H. Li*, Y. Mei, Y. Ren *Nanjing Tech University, China*	**[O5.46] Influence of driving pattern factors on energy efficiency of plug-in hybrid electric vehicles** K. Sim*, C. Park, S.H. Hwang *Sungkyunkwan University, Republic of Korea*
19:00-22:00	**Conference Dinner -** *Can Laury Restaurant* *All ticket holders to meet in the Hotel Lobby at 18:45 for a swift 18:50 departure by foot*				

Thursday 06 September 2018					
Room	*Garbi 1*	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chairs	*J. Brozovsky & R.A. Hawileh*	*J. Naprstek & J.R. Banerjee*	*N.L. Rizzi & G. Salerno*	*F. Rackwitz, Y. Petryna & J. Bencat*	*A. P Chassiakos & M. Matheou*
09:00-10:45	**CST2018: Reinforced concrete structures: Analysis and design**	**ECT2018: Composite structures**	**Analysis, Modelling and design for manufacturing**	**CST2018: Special session: Modelling, assessment and monitoring of dam structures including soil-structure interaction**	**ECT2018: Building and construction engineering**
09:00-09:15	**[O1.31] The improvements of the Korozeeneck corrosion initiation model** P. Konecny[1], P. Lehner[1], J. Brozovsky*[1], P. Gosh[2] *[1]VSB - Technical University Ostrava, Czech Republic, [2]California State University Fullerton, USA*	**[O2.45] Computational challenges of electro-mechanical composite structures** B. Rammohan*, A. George *PES University, India*	**[O3.43] Numerical study of the internal flow characteristics in a free-piston stirling engine** L. Solomon*, S. Qui *West Virginia University, USA*	**[O4.46] Structural health monitoring of the Kurpsai dam in the Kyrgyz Republic** Y. Petryna*[1], F. Rackwitz[1], M. Pilz[2], J. Alberding[3], O. Lang[4], S. Orunbaev[5] *[1]Technische Universität Berlin, Germany, [2]German Research Center for Geosciences, Germany, [3]Alberding GmbH, Germany, [4]Airbus Defence and Space GmbH, Germany, [5]Central Asian Institute for Applied Geosciences, Kyrgyzstan*	**[O5.47] Evolutionary algorithm performance evaluation in project time-cost optimization** A.P. Chassiakos*, G. Rempis *University of Patras, Greece*
		CST2018: Multi-body methods			
09:15-09:30	**[O1.32] Modeling influencing factors during chloride penetration in concrete** P. Travnicek*, J. Kruis, J. Nemecek *Czech technical university in Prague, Czech Republic*	**[O2.46] Dynamic model of a washing machine during the transient period** R. Latre Abadia*[2], J. Lladó Paris[1], B. Sánchez Tabuenca[1], C.A. Albero Posac[1] *[1]University of Zaragoza, Spain, [2]BSH Electrodomésticos España S.A., Spain*	**[O3.44] Optimized manufacture to improve operating characteristics of gears** V. Dr. Simon *Budapest University of Technology and Economics, Hungary*	**[O4.47] Finite element model validation and update for the Kurpsai dam** Y. Petryna, W. Elsesser*, P. Kähler *Technische Universität Berlin, Germany*	**[O5.48] Risk evaluation of renovating buildings** R. Gupta*, M.S. Deshmukh *Birla Institute of Technology and Science, India*
		CST2018: Analytical and numerical dynamics			
09:30-09:45	**[O1.33] Structural behaviour of insulated nano-concrete formwork composite slabs using finite element analysis** A. Binsanad*[1], E. Aghababa[2], M.P. Saka[1] *[1]University of Bahrain, Bahrain, [2]Ministry of Municipality, Research and Development Section,, Bahrain*	**[O2.47] The differential transformation finite element method in forced vibration analysis of beams with nonlinear damping** R. Holubowski *Wroclaw University of Science and Technology, Poland*	**[O3.45] Time series forecasting using an ARIMA model in machining process** A. Jimenez Cortadi*[1], I. Irigoien[2], F. Boto[1], B. Sierra[2], G. Rodriguez[1] *[1]Tecnalia, Spain, [2]UPV/EHU, Spain*	**[O4.48] Seismic soil-structure interaction analysis of concrete gravity dam considering stochastic variation of material parameters** I-K. Fontara*, W. Elsesser, Y. Petryna, F. Rackwitz *TU Berlin, Germany*	**[O5.50] Project management company selection model for construction companies** S.M. El-Sayegh*, Y. Nattat *University of Sharjah, United Arab Emirates*

				CST2018: Geotechnics, foundation engineering and soil-structure interaction	
09:45-10:00	**[O1.34] Finite element modeling of strengthened RC beams with side-bonded CFRP laminates** R.A. Hawileh*, H. Musto, J.A. Abdalla *American University of Sharjah, United Arab Emirates*	**[O2.48] Super and subharmonic synchronization in generalized van der Pol oscillator** J. Naprstek*, C. Fischer *Institute of Theoretical and Applied Mechanics, Czech Republic*	**[O3.46] Operational modal analysis of front load washing machine** H. Patil*, D. Shah, A.A. Rao, B. Rammohan, S.S. Patil *PES UNIVERSITY, India*	**[O4.49] Dynamic analysis of turbo-generator foundation structure** J. Bencat*[1], M. Tomko[2], M. Lukac[1] *[1]University of Zilina, Slovakia, [2]Technical University Kosice, Slovakia*	**[O5.51] Adoption of a Semantic Web-based approach for capturing parametric building models** F. Sadeghineko*, B. Kumar, W. Chan *Glasgow Caledonian University, UK*
10:00-10:15	**[O1.35] Inelastic response of 3D reinforced concrete infilled frames subjected to earthquake** H. Singh*[1], D.K. Paul[1] *[1]Guru Nanak Dev Engineering College, India, [2]IIT Roorkee, India*	**[O2.49] Dynamic model of ultrasonic impact system with a gap between two coaxial longitudinal waveguides** M.M. Ganiev*, I.K. Vagapov, I.M. Ganiev *Kazan Federal University, Russia*	**[O3.47] Proposition of a customized design process of a hybrid prototyping machine** J. El Mesbahi*[1], R. Ahmed[1], A. El Mesbahi[1], J. Kojmane[2] *[1]Faculty of Sciences and Techniques of Tangier, Morocco, [2]Faculty of Sciences and Techniques of Fes, Morocco*	**[O4.50] Numerical modelling of radiating boundary conditions combined with modified absorbing boundary condition for viscoelastic wave propagation** R. Badry*[1,2], P. Ramancharla[1] *[1]Arup India Pvt Ltd., India, [2]IIIT Hyderabad, India*	**[O5.52] Analysis and development of an adaptive façade system integrated on a multi-storey office building** A. Couvelas*[1], M. Matheou[1], M.C. Phocas[1] *[1]University of Cyprus, Greece, [2]Couvelas Architects, Greece*
10:15-10:30	**[O1.36] Nonlinear sectional analysis of reinforced concrete beams and shells subjected to pure torsion** A. Kuan*[1], E.P.G. Bruun[1,2], E.C. Bentz[1], M.P. Collins[1] *[1]University of Toronto, Canada, [2]Arup Canada, Canada*	**[O2.50] Dynamic characteristics of structures equipped with inerters and viscoelastic dampers** Z. Pawlak*, R. Lewandowski *Poznan University of Technology, Poland*	**[O3.48] A computational innovation transition-based recovery policy for flexible manufacturing systems** Y-L. Pan*[1,2], C-Y. Tseng[1] *[1]Air Force Academy, China, [2]University of Science and Technology, China*	**[O4.51] Numerical 3D modeling of bridge multi pile foundation in the geotechnical design practice** J. Szép*, M. Movahedi Rad *Széchenyi István István University Győr, Hungary*	
10:30-10:45	**[O1.37] Finite element modelling of large reinforced concrete structures using the novel hybrid panel truss element** M.E. Nuh*[1], E.P.G. Bruun[2] *[1]University of Toronto, Canada, [2]Arup Canada Inc., Canada*	**[O2.51] Analytical beam model for the dynamic analysis of bridge girders** J. Serra*, R. Vieira, F. Virtuoso *Instituto Superior Tecnico, Portugal*	**[O3.66] Experimental validation of a bipedal walking model** D. Vega*, C. Magluta, N. Roitman Federal University of Rio de Janeiro (UFRJ), Brazil		
10:45-11:15	**Refreshment Break** | *Hall Auditorium & Atrium*				
Room	*Garbi 1*	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
Session Chair	*N.L. Rizzi & G. Salerno*	*J. Naprstek & D. Kennedy*	*R.A. Hawileh*	*M. Pawlak & J. Szep*	*S.M. Hashemi, M. Bruggi & E. Barkanov*

11:15-13:00	CST2018: Special session: Continuum and discrete modelling of nanomaterials: Theory and applications	CST2018: Special session: Vibration based damage detection in structures using the dynamic stiffness method and other approaches	CST2018: Special session: Structural analysis of steel and steel-concrete composite structures	ECT2018: Geomechanics, geomaterials and geoinformation	ECT2018: Finite element techniques
11:15-11:30	**[O1.38] The non linear mechanical behaviour of single layer graphene sheets from atomistic simulation to continuum models** A. Genoese*, A. Genoese, N.L. Rizzi, G. Salerno *Department of Architecture, University Roma Tre, Italy*	**[O2.52] Natural frequency modelling to identify material properties of crush damaged corrugated fibreboard** C.S.L. Kueh*[1], M.A. Jamsari[1], K. Dahm[2], S. Ilanko[3], J.E. Bronlund[1] *[1]Massey University, New Zealand, [2]Callaghan Innovation, New Zealand, [3]The University of Waikato, New Zealand*	**[O3.49] A simplified finite element model of steel-concrete composites with partial interactions** W.H. Lee*, H-G. Kwak *Korea Advanced Institute of Science and Technology, Republic of Korea*	**[O4.52] Study of geofoam-filled trench to mitigate ground vibration using computational simulation** P. Jayawardana*, D. Thambiratnam, T. Chan, N. Perera *Queensland University of Technology, Australia*	**[O5.53] Multi-physical finite element analysis of microwave assisted pultrusion processes** E. Barkanov*[1], P. Akishin[1], R. Emmerich[2], M. Graf[2] *[1]Riga Technical University, Latvia, [2]Fraunhofer Institute for Chemical Technology ICT, Germany*
11:30-11:45	**[O1.39] Influence of temperature on mechanical properties of hexagonal lattice nanosheets: Finite element prediction** A. Tsiamaki*, N. Anifantis *University of Patras, Greece*	**[O2.53] Spectral dynamic stiffness formulation for the cross-sectional vibration of composite solids with cracks and mass attachments** X. Liu*[1,2], C. Xie[1,2], J.R. Banerjee[3] *[1]Key Laboratory of Traffic Safety on Track (Central South University), China, [2]Central South University, China, [3]University of London, UK*	**[O3.50] Structural performance of Reinforced Concrete buildings with enhanced steel reinforcing bars** S. Caprili*[1], W. Salvatore[1], F. Mattei[2], R. Gigliotti[2] *[1]University of Pisa, Italy, [2]Sapienza University of Rome, Italy*	**[O4.53] Numerical simulation of liquefiable soil-structure interaction system in a shaking table test based on a loos-coupled effective stress approach** D.F. Zhao*, G.X. Chen, S.D. Zhu, R.R. Sun *Nanjing Tech University, China*	**[O5.54] Comparative study of local defect correction method and h-adaptive methods** D. Koliesnikova*[1,2], I. Ramière[1], F. Lebon[1] *[1]CEA, France, [2]LMA, France*
11:45-12:00	**[O1.40] Buckling of single-wall carbon nanotubes from molecular mechanics to continuum models** A. Genoese, A. Genoese*, N.L. Rizzi, G. Salerno *Department of Architecture, University of Roma Tre, Italy*	**[O2.54] Modelling and vibration based detection of cracks in plate structures** Y. Luo, D. Kennedy*, C.A. Featherston, A. Labib *Cardiff University, UK*	**[O3.52] Analysis of the behaviour of an innovative removable joint using clamps in connections of structural steel square tubes** M. Cabaleiro*, J.C. Caamaño, B. Riveiro, B. Conde *University of Vigo, Spain*	**[O4.54] Numerical analysis for the wave-induced liquefaction of seabed around an immersed tunnel** W. Chen*[1], D. Jeng[1] *[1]Nanjing Tech University, China, [2]Griffith University Gold Coast Campus, Australia*	**[O5.55] Analysis of no-tension bodies through the API of a conventional FEM software package** D. Briccola, M. Bruggi* *Politecnico di Milano, Italy*
12:00-12:15	**[O1.41] Interval analysis on free vibration of functionally graded polymer composites plates reinforced with graphene platelets** Y. Huang*[1], J. Yang[2], A. Sofi[3] *[1]Guangzhou University, China, [2]RMIT University,*	**[O2.55] A parametric investigation into the free vibration characteristics of a cracked beam by applying the dynamic stiffness method** J.R. Banerjee*, A. Ajandan *City, University of London, UK*	**[O3.53] Finite element model development of composite steel beams pre-damaged in flexure** R.A. Hawileh*[1], E. Karam[1], J.A. Abdalla[1], T. El Maaddawy[2] *[1]American University of Sharjah, United Arab*	**[O4.55] The wheel-surface model for all terrain vehicle dynamics simulation** T. Czapla, M. Pawlak* *Silesian University of Technology, Poland*	**[O5.56] Static and modal analysis of non-pneumatic tyres** P. Kranthi, P. Babu Rao, P. Sharanabasappa S* *PES University, India*

	Austria, [3]University ''Mediterranea'' of Reggio Calabria, Italy		*Emirates, [2]United Arab Emirates University, United Arab Emirates*		
12:15-12:30			**[O3.55] Enhanced Dual-Phase steel reinforcing bars for RC buildings** S. Caprili*[1], W. Salvatore[1], R. Valentini[1], C. Ascanio[2], G. Luvara[2] *[1]University of Pisa, Italy, [2]Ferriere Nord S.p.A, Italy*	**[O4.56] Development geoinformation system for designing supports for underground workings** N.B. Bakhtybayev*, S.P. Olenyuk, A.S. Bakhtybayeva, D.K. Takhanov *Karaganda state Technical University, Kazakhstan*	**[O5.57] Numerical model of point thermal bridges** M. Gaši*, B. Milovanović, M. Bagarić *University of Zagreb, Croatia*
12:30-12:45					**[O5.58] A symbolic dynamic finite element formulation for multilayered thin Rectangular plates** S. Jayasinghe, S. M. Hashemi* *Ryerson University, Canada*
12:45-14:00	**Lunch** | *Noray Restaurant*				

Room	*Llevant 1*	*Llevant 2*	*Llevant 3*	*Llevant 4*
	D. Giagopoulos & G.A. Abu-Farsakh	*G. Milani & L.M.C. Simoes*	*M. Girardi & G. Milani*	*J. Heinonen*
14:00-16:30	**CST2018: Developments in finite element methods**	**CST2018: Special session: Seismic assessment of new structures and vulnerability reduction of existing buildings: Advanced numerical modelling**	**CST2018: Special session: Recent advances on vibration-based structural health monitoring of age-old masonry buildings**	**ECT2018: Engineering modelling and simulation**
14:00-14:15	**[O2.56] Finite element model updating of large scale nonlinear systems** D. Giagopoulos*, A. Arailopoulos *University of Western Macedonia, Greece*	**[O3.58] Effective numerical strategies for the seismic vulnerability mitigation of masonry towers** G. Milani[1], J.M. Adam[2], F. Clementi[3], M. Valente[1], R. Shehu*[1] *[1]Politecnico Di Milano, Italy, [2]Universitat Politècnica de València, Spain, [3]Polytechnic University of Marche, Italy*	**[O4.57] Investigations on the dynamic behaviour of the Clock Tower in Lucca** R.M. Azzara[1], M. Girardi*[2], C. Padovani[2], D. Pellegrini[2] *[1]Istituto Nazionale di Geofisica e Vulcanologia (INGV) - Seismological Observatory of Arezzo, Italy, [2]Institute of Information Science and Technologies "A. Faedo" (ISTI-CNR), Italy*	**[O5.59] Comparative simulations of rail and road infrastructure with the transportation of liquid cargoes** J.A. Romero*[1], F. Otremba[2], A.A. Lozano-Guzmán[3] *[1]Queretaro Autonomous University, Mexico, [2]Federal Institute of Materials Research and Testing (BAM), Germany, [3]Applied Science and Advanced Technology (CICATA-Qro), Mexico*
14:15-14:30	**[O2.57] Performance of the enriched 8-node 3D solid finite element free from the linear dependence problem** S. Kim*, P.S. Lee *Korea Advanced Institute of Science and Technology, Republic of Korea*	**[O3.59] Study of the dynamic behaviour of medium-rise modular structures using dynamic computational simulation** S.V. Sendanayake*, D.P. Thambiratnam, N. Perera, T. Chan *Queensland University of Technology, Australia*	**[O4.58] Bayesian updating of model parameters of the Maddalena bridge in Borgo a Mozzano (Italy)** A. De Falco[1], M. Girardi[2], D. Pellegrini[2], G. Sevieri*[1] *[1]University of Pisa, Italy, [2]ISTI-CNR, Italy*	**[O5.60] Model-based determination of grinding tool wear in double face grinding processes with planetary kinematics** E. Uhlmann, M. List* *Technische Universitaet Berlin, Germany*
14:30-14:45	**[O2.58] Surface coupling along a line with non-matched meshes**	**[O3.60] Seismic assessment of a masonry church using rigid block**	**[O4.59] Finite element models for the Guglie bridge in Venice based on**	**[O5.61] Attribute management system for digital mock-up**

	A.N. Nordas*, B.A. Izzuddin, L. Macorini *Imperial College London, UK*	**limit analysis and continuos finite element modelling** F. Portioli*[1], R. Gagliardo[1], L. Cascini[2], R. Landolfo[3], M. Malena[3], G. Tomaselli[3], G. de Felice[1] *[1]University of Naples Federico II, Italy, [2]University of Genoa, Italy, [3]University of Roma Tre, Italy*	**non-destructive testing: sensitivity to design shape** A. Manzato*, S. Trevisani, A. Cecchi *Università I.U.A.V. di Venezia, Italy*	O. Rachidiou*, O. Hamri *Université de Bejaia, Algeria*
		CST2018: Seismic engineering and control	**CST2018: Computational modelling of masonry structures**	
14:45-15:00	**[O2.59] Comparative analysis of the nonlinear mixed finite element formulations for the in-plane curved beams** A.N. Doğruoğlu, S. Kömürcü* *Istanbul Technical University, Turkey*	**[O3.61] Optimization of concrete cable-stayed bridges under seismic action** A.M.B. Martins, L.M.C. Simões*, J.H.J.O. Negrão *University of Coimbra, Portugal*	**[O4.60] Numerical simulations of full scale FRCM reinforced masonry panels out-of-plane loaded via a simplified two-step homogenization model** E. Bertolesi[1], G. Milani*[2], B. Ghiassi[3] *[1]ICITECH, Spain, [2]Politecnico di Milano, Italy, [3]Delft University, The Netherlands*	**[O5.63] Simulation of three-dimensional nonlinear sloshing in tanks using the Peridynamic differential operator mesh-free method** S. Bazazzadeh*[1,2], A. shojaei[1,2], M. Zaccariotto[1,2], U. Galvanetto[1,2] *[1]University of Padova, Italy, [2]Center of Studies and Activities for Space, Italy*
15:00-15:15	**[O2.60] Direct dynamic infinite element in time domain** Y. Bakhtaoui*[1,2], A. Chelghoum[2] *[1]National Center of Studies And Integrated Research On Building, Algeria, [2]University of Science and Technology H. Boumediene, Algeria*	**[O3.62] Optimal length scale in dimensional analysis for seismic responses of bilinear SDOF systems** G.Q. Guo*, D.X. Yang *Dalian University of Technology, China*	**[O4.61] Multi-scale modelling of masonry influenced by temperature and moisture changes on PC clusters** T. Krejčí*, J. Kruis, M. Šejnoha *Czech Technical University in Prague, Czech Republic*	**[O5.64] Study on connections in RBM with information gain** M. Wang*, C. Xiao, Y. Zhang, Z. Ning *Beijing University of Technology, China*
15:15-15:30	**[O2.61] Numerical prediction of blast-induced ground vibrations - numerical modelling of the source** L. Ducarne*, D. Ainalis, O. Kaufmann, J-P. Tshibangu, O. Verlinden, G. Kouroussis *Université de Mons, Belgium*	**[O3.63] Comparison of methods for assessing the influence of mining shocks on masonry residential buildings using finite element method** F. Pachla*, T. Tatara *Cracow University of Technology, Poland*	**[O4.62] Historical masonry influenced by weathering and non-uniform settlement** E. Susanti, P. Kuklík, M. šejnoha* *CTU in Prague, Czech Republic*	**[O5.65] Post-processing routine for fire-spotting modelling in fire front propagation** V.N. Egorova*[1], A. Trucchia[1,2], G. Pagnini[1,3] *[1]BCAM – Basque Center for Applied Mathemetics, Spain, [2]University of the Basque Country UPV/EHU, Spain, [3]Ikerbasque – Basque Foundation for Science, Spain*
	CST2018: Application of finite element methods			
15:30-15:45	**[O2.62] Three-dimensional finite element analysis of O-ring metal seals considering different seal diameters** L. Qiao*, C. Keller, U. Zencker, H. Völzke *Bundesanstalt für Materialforschung und -prüfung, Germany*	**[O3.64] Configuration of Multi Tuned Mass Dampers (MTMDs) for asymmetric buildings subject to earthquakes** Y. Arfiadi *Universitas Atma Jaya Yogyakarta, Indonesia*	**[O4.63] Simulating shear-compression behaviour of historical masonry panels: sensitivity of numerical models to input parameters** A. Gregori*, M. Angiolilli *University of l'Aquila, Italy*	**[O5.66] Visualization of 3D explosion and impact problems** K. Zheng*, H.Y. Liu, H.L. Ren *Beijing Institute of Technology, China*

15:45-16:00	**[O2.63] Model – Based diagnosis of metallurgical ladle refractory lining** I. Petrova*, E. Mihailov *University of Chemical Technology and Metallurgy (UCTM) – Sofia, Bulgaria*	**[O3.65] Seismic response control with multiobjective optimization using genetic algorithm** R.S. Desai*, S.N. Tande *Walchand College of Engineering, Sangli, India*		**[O5.67] Modelling structural performance of offshore wind turbine support structures in ice-infested waters by using design load portal** J. Heinonen*, P. Klinge, K. Kolari, J. Kurkela *VTT Technical Research Centre of Finland Ltd, Finland*
16:00-16:15	**[O2.64] Research on the thermal shock of ice-melting to two kinds of asphalt pavement by using ABAQUS finite element software** J. Zhou*, T. Yang, J. Li, G.Q. Liu *Southeast University, China*			**[O5.68] Numerical study of frost growth using different conductivity and diffusivity correlations under a fixed-grid approach** E. Bartrons*, P. Galione, C. Oliet, C.D. Perez-Segarra *Universitt Politecnica de Catalunya, Spain*