

Thursday 03.11

8:00	Opening	
8:15	S1 Plenary Chairman J. Paavola	
	A new concept for a very large twin hull cruise ship	P.G. Bergan, J.C. Jang
	Motion of a solid with large deformations	E. Bonetti, P. Colli, M. Frémond
	Standard gradient models and gradient plasticity	Q.-S. Nguyen
10:15	Coffee break	
10:45	S2A Isogeometric analysis Thematic session organised by T. Kvamsdal, K.M. Mathisen	
	Isogeometric analysis of finite deformation nearly incompressible solids	K.M. Mathisen, K.M. Okstad, T. Kvamsdal, S.B. Raknes
	Analysis-suitable modeling for isogeometric shell analysis	S. Stgle-Hentschel, G. Skeie
	Isogeometric Kirchhoff-Love plate elements	K.M. Okstad, T. Kvamsdal, K.M. Mathisen, S.B. Raknes
	Adaptive mesh refinements using LR B-splines for elliptic problems	T. Kvamsdal, K.A. Johannessen
	On the spurious oscillations in B-spline finite element method	R. Kolman, J. Plešek, M. Okrouhlik, D. Gabriel
10:45	S2B Constitutive modeling Chairman M. Ristinmaa	
	A classical lamination theory model of bi-stable woven composite tape-springs	Y. Prigent, P. Mallol, G. Tibert
	Experiments on Nomex® honeycomb compliance	A. Karakoç, J. Freund
	Hypo- and hyperinelasticity applied to modeling of compacted graphite iron machining simulations	G. Ljustina, M. Fagerström, R. Larsson
	Dispersion analysis of a continuum damage model	J. Hartikainen, K. Kolar, R. Kouhia
	Computational modeling of case II diffusion in polymeric materials	S. Bargmann, A. McBride, P. Steinmann
	A DAE approach for solving the elasto-plastic boundary value problem	M. Wallin, E. Borgqvist
10:45	S2C Numerical techniques Chairman R. Stenberg	
	System modeling for delamination detection using support vector machines and neural networks	L. Feklistova, H. Hein
	Artificial neural networks for nonlinear dynamic response simulation in mechanical systems	N.H. Christiansen, J. Høgsberg, O. Winther
	Investigation of a finite element formulation of Lighthill's acoustic analogy	J. Nilsson, R.-Z. Szasz, P.-A. Wernberg, P.-E. Austrell
	Reducing the integration error of cohesive elements	B.L.V. Bak, E. Lund
	A residual based a posteriori error estimator for postprocessed MITC plate elements	L. Beirão da Veiga, J. Niiranen, R. Stenberg
	Acceleration of large self consistent iterations with the quasi-Newton method	K. Baarman, T. Eirola, V. Havu
12:45	Lunch	
13:45	S3 Plenary Chairman E. Lund	
	Rail- and roadway dynamics – uncoupled and coupled analysis	N.-E. Wiberg
	Modeling and analysis of rotating solids and structures	S. Krenk
15:15	S4A Multiscale modeling in solid mechanics Thematic session organised by F. Larsson	
	A discontinuous Galerkin multiscale method for first order hyperbolic equations	M. Larson, A. Målqvist, R. Söderlund
	On the emergence of asymmetric waves in the Mindlin-Engelbrecht-Pastrone model	K. Tamm, A. Salupere
	Analysis of volume average relations in continuum mechanics	A. Ahadi, P. Lindström
	Chloride transport in concrete modeled by the FE ² -method	F. Nilenius, F. Larsson, K. Lundgren, K. Runesson
	Multiscale modeling of porous media	C. Sandström, F. Larsson, H. Johansson, K. Runesson
15:15	S4B Optimisation Chairman P. Råback	
	Minimizing structure-borne noise of rotating machinery in the room of a light-weight building	B. Niu, N. Olhoff, J. B. Larsen
	Design optimization of a light-weight robotic arm under structural constraints	S. Bai, L. Zhou
	Thickness optimization of fiber reinforced composite laminates with the discrete material optimization method	S.N. Sørensen, E. Lund
	Block aggregation for strength criteria in multi-material topology design of laminates	E. Lund
	Optimal design of stiffened plate using metamodeling techniques	O. Heinonen, S. Pajunen
15:15	S4C Stability Chairman G. Tibert	
	Buckling of plates with cut-outs made of non-isotropic materials	A.V. Lebedev, A.L. Smirnov
	Eigenfrequencies in moving material problems: practical challenges	J. Jeronen
	Simplified buckling analysis of imperfection sensitive reinforced concrete column	N. Challamel, J. Hellesland
	Unexpected behavior of linearized eigenvalue problem in the context of stability analysis	A. Fedoroff, R. Kouhia
	Static instability analysis of an elastic band travelling in the gravitational field	N. Banichuk, J. Jeronen, T. Saksa, T. Tuovinen
17:15	Coffee break	
17:30	S5 Plenary Chairman R. Larsson	
	Adaptive reduction of finite element models in computational solid mechanics	M. Larson, H. Jakobsson
	Variationally consistent computational homogenization – Selected issues and applications	K. Runesson, F. Larsson

Friday 04.11

8:00	S6 Plenary Chairman K.M. Mathisen	
	Atomistic simulation of metal-polymer adhesion	J.Y. Wu, S. Nagao, J.Y. He, Z. Zhang
8:40	Coffee break	
9:00	S7A Multibody mechanics 1 Thematic session organised by J. Mäkinen and M. Matikainen	
	The equations of motion and the power theorem in multibody dynamics	P. Lidström
	Numerical simulation of dynamic Brazilian disc test on rock	T. Saksala, M. Hokka, V.-T. Kuokkala, J. Mäkinen
	Sensitivity analysis of Snelson-type tensile strength booms due to member loss	S. Daili Safaei, A. Eriksson, G. Tibert
	Three-dimensional solid elements employing slopes in the absolute nodal coordinate formulation	A. Olshevskiy, O. Dmitrochenko, C.-W. Kim
	On the characteristic based split (CBS) method in an arbitrary Lagrangian Eulerian (ALE) framework	M. Mikkola
9:00	S7B Dynamics Chairman S. Bai	
	Investigation of the steady state vibration of flexible supported rigid rotors attenuated by a new controllable damping element	J. Zapoměl, P. Ferrecki
	On non-dimensional groups for characterization of energy absorption of tubes at constant crushing velocity	J. Dahl
	Reduction of traffic-induced vibrations at high-tech facility using trenches	P. Persson, K. Persson, G. Sandberg
	Analysis of vibration reduction at high-tech facility by stabilising the soil	O. Flodén, K. Persson, G. Sandberg
	Interaction of vocal fold and vocal tract oscillations	A. Aalto, D. Aalto, J. Malinen, M. Vainio
	On the self-excited vibrations of a viscoelastically covered cylinder in rolling contact using FE method	A.T. Karttunen, R. von Hertzen
9:00	S7C Solids and fluids Chairman M. Wallin	
	Two phase flow in complicated geometries: Modeling the Frio data using improved computational meshes	M. Juntunen, M.F. Wheeler
	Simulation of a helicopter rotor flow	J. Ilkko, J. Hoffren, T. Siikonen
	Accuracy assessment of the Cartesian grid method for compressive inviscid flows using a simplified ghost point treatment	M. Asif Farooq, B. Müller
	CFD study of roll damping of a winged bullet	A. Laaksonen
	Electromechanics of polyurethane elastomers	A. Ask, M. Ristinmaa, A. Mentzel
	A unified solution attempt for the torsion problem	J. Aalto, R. Syrjä
11:00	Lunch	
12:00	S8A Multibody mechanics 2 Thematic session organised by J. Mäkinen and M. Matikainen	
	Digital nomenclature code <i>dncm</i> for generation of finite-element kinematics	O. Dmitrochenko, A. Mikkola
	Modal analysis used to estimate bone density in-vivo	A. Klodowski, T. Rantalainen, A. Mikkola
	Human walking simulation by using optimization	D. Garcia-Vallejo
	Collapse simulations of flexible multibody systems	J. Mäkinen
12:00	S8B Applications Chairman J. Zapomel	
	Loop formation in NiTi suture materials	A.-J. Vuotikka
	Crack propagation in rails under RCF loading conditions based on material forces	J. Brouzoulis, M. Ekh
	Simulation of frictional effects in models for calculation of the equilibrium state of flexible pipe armouring wires in compression and bending	N.H. Ostergaard, A. Lyckegaard, J.H. Andreassen
	Virtual testing of cold-formed structural members	P. Hradil, L. Fülöp, A. Talja
	Models of multilayered shells in ophthalmology	S.M. Bauer, L.A. Karamshina
	Testing and analysis of adhesively bonded single lap joints at sub-zero temperatures - a master thesis	M.L. Haslerud, R.H. Gaarder, F. Grytten, H. Osnes
12:00	S8C Micro- and nano-mechanics Chairman J. Hellesland	
	Determination of the elastic fields of an elliptic nano-inhomogeneity in anti-plane couple stress elasticity using RKPm	H. Shodja, S. Tahaei-Yaghoubi, B. Alemi
	Atomistic modeling of Phase transformation in ZnO nanorods	J. Y. He, S. Nagao, J. Y. Wu, Z. L. Zhang
	All-atom molecular dynamics study on mechanical properties of polystyrene glass	S. Nagao, J. Wu, J. He, Z. Zhang
	Equilibrium crystal shapes on a non-horizontal wall	M. Reivinen, E.-M. Salonen
14:00	Break	
14:15	S9 Plenary Chairman T. Siikonen	
	Large eddy simulation studies on convective atmospheric boundary layer	A. Hellsten, S. Zilitinkevich
	Thermodynamic interpretation of finite volume algorithms	A. Berezovski
15:25	Closing	