

# 4th Canadian Conference on Nonlinear Solid Mechanics (CanCNSM2013)

## DETAILED PROGRAM

Tuesday July 23rd, 2013									
09:30-10:00		Opening Ceremony (SSMU Building, 3rd floor, Room 301)							
10:00-11:00		<b>Plenary Lecture (SSMU Building, 3rd floor, Room 301): Professor Pol Spanos</b> <i>Local versus Non-Local analysis of Dynamic Phenomena via Wavelets and Fractional Derivatives</i> (Chair: J.N. Reddy)							
11:00-11:20		Coffee Break (SSMU Building, 3rd floor, Room 301)							
		<b>MD267</b>	<b>Creep And Thermo-Mechanical Fatigue I</b> Chair: James Boyle Co-Chair: Dmitry Breslavsky	<b>MD276</b>	<b>Nonlinear Mechanics Of Healthy And Pathological Biological Tissues I</b> Chair: Rosaire Mongrain Co-Chair: Richard Leask	<b>MD279</b>	<b>Nonlinear Elasticity I</b> Chair: Angela Madeo	<b>MD280</b>	<b>Nonlinear Dynamics Of Discrete And Continuous Systems I</b> Chair: Ebrahim Esmailzadeh
<b>11:30-12:50</b>	11:30-11:50	Kuangyi Zhang, Constantinos Soutis, Paul Hogg	Fatigue Behaviour Of $\pm 45^\circ$ Dominated Glassfibre-Epoxy Laminates Used In Wind Turbine Blades	Shervin Jannesar, Carolyn Sparrey	Tension-Compression Characterization Of Spinal Cord White Matter Based On Transversely Isotropic Fibre-Reinforced Model	Michael Taylor, David Steigmann, Katia Bertoldi	Spatial Resolution Of Wrinkle Patterns In Thin Elastic Sheets At Finite Strain	Izhak Bucher	Modeling And Experiments Of Double-Well Nonlinear Oscillator For Energy Harvesting
	11:50-12:10	Oleksandr Prygorniev, Konstantin Naumenko	Surface Layer Effects In Polycrystalline Structures Under Cyclic Viscoplasticity	Amir K. Miri, Reza Avazmohammadi	A Nonlinear Fiber-Reinforced Composite Model For Vocal Folds	Thomas Pence, Alan Wineman, Hasan Demirkoparan	Active Strain Stabilized Fibrous Microstructures In Hyperelasticity	Yuli Starosvetsky, Yitshak Ben-Meir	Study Of Strong Resonant Interactions In The System Of Purely An-Harmonic Oscillators / Oscillatory Chains
	12:10-12:30	Frank Längler, Konstantin Naumenko, Holm Altenbach, Mykola Ievdokymov	A Unified Constitutive Model For The Thermo-Mechanical Fatigue Analysis Of Turbochargers	Pasquale Vena	Investigating Tissue Damage By Multiple Load Nanoindentation Tests On Lamellar Bone	Patrizio Neff	The Hencky Strain Energy $ \log U ^2$ Measures The Geodesic Distance Of The Deformation Gradient To $So(N)$ In The Canonical Left-Invariant Riemannian Metric On $Gl(N)$	Hassan Askari, Ahmad Barari, Ebrahim Esmailzadeh	Analytical Solutions For Nonlinear Vibration Of Sinusoidal Curved Nanotube
	12:30-12:50	Zhaodong Ding, Jie Li	A Fatigue Damage Constitutive Model For Concrete	Nastaran Shahmansouri, Marco Amabili, Richard Leask, Rosaire Mongrain	Investigation Of Damage Accumulation In Aortic Tissue Subjected To Fatigue Loading	Chiara Bellini, Salvatore Federico	Power-Conjugation Of The Green-Naghdi Rate Of The Cauchy Stress And The Deformation Rate: Elasticity Tensor	Zia Saadatnia, Davood Younesian, Ebrahim Esmailzadeh,	Nonlinear Frequency Analysis Of Nanoplate Supported By Winkler-Pasternak Type Foundation
		<b>MD267</b>	<b>Creep And Thermo-Mechanical Fatigue II</b> Chair: James Boyle Co-Chair: Konstantin Naumenko	<b>MD276</b>	<b>Nonlinear Mechanics Of Healthy And Pathological Biological Tissues II</b> Chair: Gerhard Holzapfel Co-Chair: Rosaire Mongrain	<b>MD279</b>	<b>Nonlinear Elasticity II</b> Chair: Francesco dell' Isola	<b>MD280</b>	<b>Nonlinear Dynamics Of Discrete And Continuous Systems II</b> Chair: Yahya Modarres-Sadeghi
<b>14:10-15:30</b>	14:10-14:30	Fevzi Kafexhiu, Franc Vodopivec	Analysis Of Primary Creep Of Parent Metal And Haz Of Two 9-12% Cr Steels	Shunichi Kobayashi	Flow And Deformation In An Arterial Stenosis Model For Percutaneous Transluminal Coronary Angioplasty	Luca Placidi, Ivan Giorgio, Angela Madeo, Manuel Ferretti	Towards A Second Gradient Damage Model	Mojtaba Kheiri, Michael Paidoussis, Marco Amabili	Aspects Of Nonlinear Dynamics Of Towed Flexible Cylinders
	14:30-14:50	Andreas Kutschke, Konstantin Naumenko, Holm Altenbach	A Material Model For Describing The Anomalous Ratcheting Effect Of Advanced Chromium Steels	Elena S. Di Martino, Alessandro Satriano, Raied Aburashed, Jehangir Appoo	Tissue Deformation As A Diagnostic Aid For Aortic Pathologies	Maurizio Vianello, Angelo Morro	Interstitial Energy Flux And Stress-Power For Second-Gradient Elasticity	Michael Paidoussis, Luc Mongeau, Ahmad Jamal	Three-Dimensional Nonlinear Cylinder Dynamics In Channel Flow
	14:50-15:10	James Boyle	The Role Of Uncertainty In Creep Mechanics	Jay Humphrey, Sara Roccabianca, Gerard Ateshian	Biomechanical Roles Of Glycosaminoglycans In Thoracic Aortic Dissection	Angela Madeo, Manuel Ferretti, Francesco dell'Isola, Philippe Boisse	Certain Orthotropic Textiles Must Be Modeled As Second Gradient Hyperelastic Continua: Modelling The Onset Of Shear Boundary Layers	Mergen H. Ghayesh, Marco Amabili, Michael Paidoussis	Stability And Bifurcations Of Fluid-Conveying Cantilevered Extensible Pipes
	15:10-15:30	Dmitry Breslavsky, Oleg Morachkovsky, Oksana Tatarinova	Creep And Damage In Shells Of Revolution Under Cyclic Loading And Heating	Andreas J. Schriefl, Gerhard Holzapfel, Heimo Wolinski, Sepp D. Kohlwein	Structural Differences In Collagen Morphologies Between Healthy And AAA Tissues	Marco Valerio d'Agostino, Philippe Boisse, Francesco dell'Isola, Manuel Ferretti, Angela Madeo, Patrizio Neff	Large Deformations In Isotropic Second Gradient Solids: Some Numerical Simulations Describing The Onset Of Boundary Layers	Yahya Modarres-Sadeghi, Gary Chang	Flow-Induced Oscillations Of A Non-Uniform Pipe Conveying Fluid
		<b>MD267</b>	<b>Plasticity And Damage: Experimental And Numerical Simulations I</b> Chair: Dmitry Breslavsky	<b>MD276</b>	<b>Nonlinear Mechanics Of Healthy And Pathological Biological Tissues III</b> Chair: Pasquale Vena Co-Chair: Richard Leask	<b>MD279</b>	<b>Nonlinear Elasticity III</b> Chair: Patrizio Neff	<b>MD280</b>	<b>Nonlinear Dynamics Of Discrete And Continuous Systems III</b> Chair: Mathias Legrand
<b>15:35-16:55</b>	15:35-15:55	A. Varvani	Prediction Of Ratcheting Strain Values Over Asymmetric Stress Cycles In Steel Samples	Anne Robertson, Juan Cebal, Khaled Aziz, Xinjie Duan	An Investigation Of The Variation In Wall Structure And Collagen Architecture In The Domes Of Human Cerebral Aneurysms	Benoit Panicaud	On The Use Of A Four-Dimensional Formalism To Build Hypo-Elastic Or Visco-Elastic Constitutive Behavior Models	Marius Bonhage, Lars Panning, Jörg Wallaschek, Anna Herzog	Resonance Passage Of Structures With Friction Contacts
	15:55-16:15	Bostjan Brank, Jaka Dujc, Miha Julic, Adnan Ibrahimbegovic	Numerical Simulations Of Failures In Brittle And Ductile Materials By Embedded-Discontinuity Finite Elements	David Roy, Gerhard Holzapfel, Claude Kauffmann, Gilles Soulez	A New Framework For Finite Element Analysis Of Abdominal Aortic Aneurysms: Robust Implementation Of An Existing Anisotropic	Alan Wineman, Anthony Waas, Nhung Nguyen	Compression Of Fluid-Filled Polymeric Capsules And Inverse Analysis For Nonlinear Viscoelastic Properties Determination	Satoshi Ishikawa, Atushi Koguchi, Hiroshi Aihara	Comparison Of Generalized Alpha Parameter For Implicit Dynamic Time Integration Under Contact Condition
	16:15-16:35	Hemin Abdul Hameed, Tanguy Messenger, Fahmi Zairi, Moussa Nait-Abdelaziz	Hyperelastic-Viscoplastic Constitutive Modeling Of Semi-Crystalline Polymers On A Wide Range Of Crystallinities: Application To Polyethylene Materials	Chiara Bellini, Jay Humphrey, Sara Roccabianca, Jacopo Ferruzzi, Elena S. Di Martino	Numerical Assessment Of The Stress Partition Among Microstructural Components In Mouse Carotid Arteries	David Steigmann	A Model For Lipid Membranes With Tilt And Distension Based On Three-Dimensional Liquid Crystal Theory	Stefano Zucca, Bogdan Epureanu	Bi-Linear Modal Reduction For The Dynamic Analysis Of Structures With Intermittent Contacts With Friction
	16:35-16:55	Ganesh Govindasamy, Mukesh Jain	Modeling The Pure Bending Characteristics Of Laminate Sheet Materials	Matthew Doyle, Siv Sivaloganathan, Pak-Wing Fok, Rebecca Vandiver, Gregory Lewis, Craig Simmons	Numerical Methods For The Calculation Of Material Parameter Values For Three-Layered Aortic Valve Leaflets	Giuseppe Rosi, Angela Madeo, Francesco dell'Isola, Ali Limam	Fast And Slow Pressure Waves Electrically Induced By Non-Linear Coupling In Biot-Type Porous Medium Saturated By A Nematic Liquid Crystal	Aurelien Grolet, Fabrice Thouverez	Model Reduction For Nonlinear Vibration Analysis Of Structural Systems Using Modal Derivatives And Stiffness Evaluation Procedure
16:55-17:15		Coffee Break (SSMU Building, 3rd floor, Room 301)							
17:15-18:15		<b>Plenary Lecture (SSMU Building, 3rd floor, Room 301): Professor J.N.Reddy</b> <i>On Rotation Gradient Dependent Elasticity and Specialization to Beams and Plates with Moderate Rotation</i> (Chair : Marco Amabili)							
18:15-20:30		Buffet (SSMU Building, 3rd floor)							

Wednesday July 24th, 2013											
		MD267	<b>Nonlinear Mechanics Of Composites I</b> Chair: Constantinos Soutis Co-Chair: Christophe Pinna	MD276	<b>Soft Tissue Growth And Remodeling I</b> Chair: Gerhard Holzapfel Co-Chairs: Jay Humphrey, Larry Taber	MD279	<b>Nonlinear Elasticity IV</b> Chair: David Steigmann	MD280	<b>Nonlinear Dynamics Of Discrete And Continuous Systems IV</b> Chair: Annie Ruimi	MC304	<b>Non-Linear Mechanics Of Multifunctional Micro-Architected Materials I</b> Chair: Damiano Pasini
08:30-09:50	08:30-08:50	Anthony Waas (Keynote talk)	A Multi-Scale Model For Textile Composite Structures Subjected To Flexural Deformation (This presentation starts at 8:30 and finishes at 9:10)	Zi Chen, Qiaohang Guo, Nickolas Forsch, Larry Taber	Mechanical Origins Of Torsion In The Embryonic Brain	Pilade Foti, Aginaldo Fraddosto, Salvatore Marzano, Mario Daniele Piccioni	A Novel Procedure For The Estimation Of Critical Loads In Isotropic Incompressible Elastic Solids	Dejan Zupan, Eva Zupan, Joachim Linn, Miran Saje	Quaternion-Based Dynamics Of Geometrically Exact Cosserat Rods	Marina Toropova, Craig Steeves	Composite Lattices With A Graded Coefficient Of Thermal Expansion
	08:50-09:10			Jeong-Hun Yi	Remodeling Of Cell-Seeded Soft Tissues Due To Mechanical Stimulation	Arash Yavari	Weyl Geometry And The Nonlinear Mechanics Of Distributed Point Defects	Annie Ruimi, Sravani Nuti, JN Reddy	Modeling Surgical Thread Using The Dynamic Cosserat Equations Of Rod	Ramathasan Thevamaran, Ludovica Lattanzi, Chiara Daraio	Dynamic Behavior Of Micro-Architectures Of Vertically Aligned Carbon Nanotubes
	09:10-09:30	Stepan Lomov	Introduction Of Damage In Inclusion Theory/Mori-Tanaka Homogenisation Models Of Textile Composites	Arturo Valentin, Anne Robertson, Robert Allen, Paolo Zunino, Yadong Wang	A Predictive Computational Model Of Arterial Tissue Equivalent Evolution	Marcelo Epstein, Reuven Segev	A Unified Geometric Treatment Of Material Defects	Dejan Zupan, Peter Cesarek	Velocity-Based Approach In Non-Linear Dynamics Of Three-Dimensional Beams	Francois Barthelet, Deju Zhu	Overcoming Brittleness Through Bio-Inspiration And Micro-Architecture
	09:30-09:50	Igor Guz, Maria Kashtalyan, Maryam Heidari	Performance Of Functionally Graded Coatings Under Localised Transverse Loading	Jay Humphrey, John Wilson	Computational Modeling Of Growth And Remodeling Of Abdominal Aortic Aneurysms	Angela Madeo, Francesco dell'Isola, Pierre Seppecher	How Contact Interactions May Depend On The Shape Of Cauchy Cuts In N-Th Gradient Continua: Approach "A La D'Alembert"	Annie Ruimi, Shoab Chohan	Experiments Of Surgical Threads Subjected To Bending And Torsional Loadings	Hamid Akbarzadeh, Damiano Pasini	Transient Eigenstrain Analysis In A Composite Cylinder With A Cellular Material Layer
09:50-10:10	Coffee Break (MD Lobby)										
10:10-11:10	Plenary Lecture (Room MC304): Professor Alexander F. Vakakis <i>Strongly Nonlinear Dynamics Of Ordered Granular Media</i> (Chair: David Steigmann)										
		MD267	<b>Nonlinear Mechanics Of Composites II</b> Chair: Constantinos Soutis Co-Chair: Christophe Pinna	MD276	<b>Nonlinear Phenomena In Tissue Growth And Bio-Mechanics I</b> Chair: Tomasz Lekszycki Co-Chair: Angela Madeo	MD279	<b>Nonlinear Elasticity V</b> Chair: Luca Placidi	MD280	<b>Nonlinear Dynamics Of Discrete And Continuous Systems V</b> Chair: Alessandro Spadoni	MC304	<b>Non-Linear Mechanics Of Multifunctional Micro-Architected Materials II</b> Chair: Damiano Pasini
11:20-12:40	11:20-11:40	Sergey Lurie, Natalia Turchkova	From Multiscale Modeling Of The Field Of Dislocations And Damage Accumulation Forward To The Forecast The Strength Of Materials	Marek Pawlikowski	Non-Linear Viscoelastic Modelling Of Polyurethane Biomaterial	Salvatore Federico, Alfio Grillo, Reuven Segev	Material Counterpart Of Darcy'S Law In Terms Of Differential Forms	Zia Saadatnia, Ebrahim Esmailzadeh, Davoud Younesian	Large Amplitude Nonlinear Vibration Of Flexible String Under Constant Tension	Ante Lusic, Craig Steeves, Glenn Hibbard	Failure Mechanisms In Rapid-Prototyped Polymer Microtrusses
	11:40-12:00	Miguel Angel Caminero, Christophe Pinna, Constantinos Soutis	Damage Assessment Of Composites Laminates With An Open Hole And Adhesively Bonded Repairs Using Digital Image Correlation	Anil Misra, Ranganathan Parthasarathy	Nonlinear Microporomechanics Of Fluid Saturated Active Fibrous Media	Hasan Demirkoparan, Thomas Pence, Yang Fang, Xibo Tan	Controlled Torsional Deformation By Swelling A Hyperelastic Cylinder With Helically Wound Fibers	Fereydoon Diba, Hasan Askari, Ebrahim Esmailzadeh	Nonlinear Vibration Analysis Of An Isotropic Rectangular Cracked Plate	Vigliotti Andrea, Damiano Pasini, Vikram Deshpande	Non-Linear Mechanics Of Multifunctional Micro-Architected Materials
	12:00-12:20	Yu Shi, Christophe Pinna, Constantinos Soutis	Modelling Impact Damage Characteristics Of Composite Laminates With Splitting Damage Mode	Salvatore Federico, Malika Bongué-Boma	Multiscale Model Of Proteoglycans In Articular Cartilage	MD279	<b>Singularities In The Mechanics Of Solids I</b> Chair: Gianni Royer Carfagni	Peter Beda	Generic Bifurcation And Anticipatory Constitutive Equations In Mechanics Of Continua	MC304	<b>Mechanics Of Granular Media I</b> Chair: Anna Vainchtein
	12:20-12:40	Igor Guz, Oleksandr Menshykov, Vasyly Menshykov	Non-Linear Contact Problems For Layered Cracked Materials Under Dynamic Loading	Jay Humphrey	Computational Modeling Of Vascular Adaptation	Adair Aguiar, Roger Fosdick	The Plane Bonded Punch Problem: Linear Vs. Nonlinear Theory	Alessandro Spadoni, Florian Maurin	Nonlinear Wave Propagation In Post-Buckled Structures	Guillaume James	Localized Waves In Oscillator Chains With Hertzian Contact Interactions
		MD267	<b>Nonlinear Mechanics Of Composites III</b> Chair: Constantinos Soutis Co-Chair: Christophe Pinna	MD276	<b>Nonlinear Phenomena In Tissue Growth And Bio-Mechanics II</b> Chair: Yves Rémond Co-Chair: Tomasz Lekszycki	MD279	<b>Singularities In The Mechanics Of Solids II</b> Chair: Roger Fosdick	MD280	<b>Nonlinear Dynamics Of Discrete And Continuous Systems VI</b> Chair: Ebrahim Esmailzadeh	MC304	<b>Mechanics Of Granular Media II</b> Chair: Guillaume James
14:10-15:30	14:10-14:30	Vincent Caccese, James Ferguson, Michael Edgecomb	Impact Resistance Of Multi-Layered Materials For Use In Fall Protection Head Wear	Anna Dabrowska-Tkaczyk, Marek Pawlikowski	Constitutive Properties Modelling Of The All And PII Spine Ligaments	Davide Bigoni, Federico Bosi, Francesco Dal Corso, Diego Misseroni	Eshelby-Like Forces In Nonlinear Deformation Of Elastic Structures	Alessandro Spadoni, Florian Maurin	Wave Propagation In Post-Buckled Structures With Unusual Dispersion	Anna Vainchtein	Interaction Of Traveling Waves With Mass-With-Mass Defects Within A Hertzian Chain
	14:30-14:50	Hari Arora, Mark Kelly, John Dear	Full-Scale Experimental And Numerical Studies Of Naval Structures Under Blast Loading	Qiaohang Guo, Zi Chen, Larry Taber, Wei Li, Wenzhe Chen	Mechanics And Geometry In Inactive Dionaea Muscipula Traps And Bio-Mimetic	Jay Walton	Interfacial Mechanics And Singularities In Fracture And Contact Problems In Elasticity	Francesco Pellicano, Matteo Strozzi, Antonio Zippo, Marco Barbieri	Nonlinear Vibrations Of Circular Cylindrical Shells Under Axial Dynamic Loads	Cetin Cetinkaya, Armin Saeedi Vahdat, Chaitanya Vallabh, Bruno C. Hancock	Viscoelastic And Microstructure Characterization Of Granular Pharmaceutical Compactions
	14:50-15:10	Akin Atas, Constantinos Soutis	Application Of Cohesive Zone Elements For Strength Prediction Of Bolted Joints In Composite Laminates	Ivan Giorgio, Daria Scerrato, Vito Giorgio, Ugo Andreus	The Influence Of Different Geometries Of Matrix/Scaffold On The Response Of A Bone And Resorbable Material Mixture With Voids	Gianni Royer Carfagni	The Role Of Singularities In The Contact Of A Stiffener And An Elastic Substrate. Applications To The Frp Strengthening Of Concrete	Antonio Zippo, Francesco Pellicano, Marco Barbieri	Vibration Of Preloaded Circular Cylindrical Shells Under Axial Excitation: Experimental Study	M Arif Hasan, Shihui Cho, Alexander Vakakis, Waltraud Kriven	Efficient Energy Redistribution In Strongly Nonlinear Granular Media
	15:10-15:30	Francois Barthelet, Reza Rabiei	Toughness Amplification In Natural Composites	Daniel George, Angela Madeo, Yves Rémond	Effects Of Second Gradient Energy Parameters On The Evolution Of Bone Reconstruction Through A Bioresorbable Material	Mohamed Chabaat	On Kinetics Forces Associated With Crack Growth In Brittle Materials	Daniele Zulli, Angelo Luongo	Bifurcation And Stability Of 1:1 Internally Resonant Tower-System Under Wind-Induced Parametric, External And Self-Excitation		
15:30-15:45	Coffee Break (MD Lobby)										
15:45-16:45	Plenary Lecture (Room MC304): Professor Gerhard Holzapfel <i>Structurally-based Modeling of Nonlinear Solids with Applications to Cardiovascular Tissues</i> (Chair: Rosaire Mongrain)										
17:00-20:00	City tour (Meeting at the end of the plenary lecture)										

Thursday July 25th, 2013												
		MD267	Regular Session On NSM I Chair: Pierre Boulanger	MD276	Nonlinear Phenomena In Tissue Growth And Bio-Mechanics III Chair: Angela Madeo Co-Chair: Yves Rémond	MD279	Singularities In The Mechanics Of Solids III Chair: Davide Bigoni	MD280	Nonlinear Dynamics Of Discrete And Continuous Systems VII Chair: Eelco Jansen Co-Chair: Farbod Aljani	MC304	Modeling And Simulation Of Nanostructured Materials I Chair: X.L. Gao Co-Chair: Chuang Deng	
08:30-09:50	08:30-08:50	Tian Tang, Ben Nadler, Touqeer Sohail	Adhesive Contact Of A Fluid-Filled Charged Nonlinear Membrane	Tomasz Lekszycki	Modelling Of An Initial Stage Of Bone Fracture Healing	Pilade Foti, Aguinaldo Fraddosio, Salvatore Marzano, Mario Daniele Piccioni	The Magnus Expansion And Some Of Its Applications In Bifurcation Problems For Non- Linear Elastic Solids	Dumitru Caruntu, Le Luo, Christian Reyes	Casimir Effect On Electrostatically Actuated Nems	M. Q. Liu, X.-L. Gao	Micromechanics Models For Interpenetrating Phase Composites	
	08:50-09:10	Masoud Hassani, Frederick Gosselin, Michael Plante, Njuki Mureithi	Drag Reduction Of Beams Subjected To Large Bending And Torsion Deformations	Ivan Giorgio, Giuseppe Rosi, Ugo Andreus, Luca Placidi	Models For Remodeling In Porous Bone Reconstructed Tissues Saturated With Interstitial Fluids	Rodica Toader	Variational Models For Crack Evolution	Farbod Aljani, Marco Amabili, Giovanni Ferrari	Nonlinear Dynamics Of Sandwich Rectangular Plates With Free Edges	Jianming Ma, Samuel Asokanathan, Liyang Jiang	Nonlinear Instability Of Nem Electrostatic Switches With The Consideration Of Surface Effects	
	09:10-09:30	A.P.S. Selvadurai, A.P. Suvorov	Thermo-Poroelasto-Plasticity Of Fluid-Filled Cavity	Ivan Giorgio, Giuseppe Rosi, Daria Scerrato, Vito Giorgio	Numerical Simulation Of Remodeling Of Bone Tissue And Bio-Resorbable Material Mixture With Voids Under Different Loads	Amine Karoui, Makrem Arfaoui, Mohamed Trifa, Hedi Hassis		Anti-Plane Shear Elastostatic Fields At The Vertex Of Bi-Hyperelastic-Material Notch	Farbod Aljani, Marco Amabili, Giovanni Ferrari	Experiments For Large Amplitude Vibrations Of Sandwich Panels	Mingfei Sun, Ronggen Cao, Fei Xiao, Chuang Deng	Yielding And Plasticity In Ag Nanowires Influenced By Internal And External Structural Defects
	09:30-09:50	Elaizeth Mesa, Juan Ramirez, Pierre Boulanger	Bio-Mechanical Material Property Estimation Using Instrumented Laparoscopes						MD280	Stability And Vibrations Of Plates And Shells I Chair: Eelco Jansen Co-Chair: Farbod Aljani	Cuiying Jian, Tian Tang, Subir Bhattacharjee	Nonlinear Effect Of Aliphatic Side Chains On Asphaltene Nanoaggregates
09:50-10:10	Coffee Break (MD Lobby)											
10:10-11:10	Plenary Lecture (Room MC304): Professor Alan Wineman Chemo-Rheological Changes in Elastomers: Implications for Mechanical Response (Chair: Pol Spanos)											
		MD267	One Dimensional Models Of Beams, Cables And Beam-Like Structures I Chair: Angelo Luongo Co-Chair: Giuseppe Piccardo			MD279	Mechanics Of Multibody Systems I Chair: Jorge Angeles Co-Chair: Jozsef Kovacs	MD280	Stability And Vibrations Of Plates And Shells II Chair: Eelco Jansen Co-Chair: Farbod Aljani	MC304	Modeling And Simulation Of Nanostructured Materials II Chair: X.L. Gao Co-Chair: Chuang Deng	
11:20-13:00	11:20-11:40	Luca Placidi, Ugo Andreus, Giuseppe Rega	Higher Order Eigenmodes In Tapping Mode Atomic Force Microscopy			Maxime Raison, Mahmoud Kalache, Maria Laitenberger, Aurélie Sarcher	Biofidelic Assessment Of Upper Limb Muscle Forces: The Solving Of A Closed-Loop Complex Bone-Joint System Overactuated By Muscles	Eleonora Tubaldi, Farbod Aljani, Marco Amabili	Nonlinear Vibrations Of A Periodically Simply Supported Rectangular Plate Immersed In Axial Flow	Mohammad Hadi Mahdavi, Liyang Jiang, Xueliang Sun	Nonlinear Vibration Of A Graphene Sheet Embedded In A Polymer Matrix	
	11:40-12:00	Francesco D'Annibale, Giuseppe Rosi, Angelo Luongo	Bifurcation Analysis Of A Nonlinear Piezoelectric Beam Subjected To Combined Conservative And Nonconservative Loads			Farid Amirouche, Giovanni Solitto, Mark H. Gonzalez	Hip Offset In Total Hip Arthroplasty: A Multibody Dynamic Quantitative Measure Of The Effects Of Muscle Loading On Bone-Stem Stress Interface	Hassan Assaee	Semi-Energy Finite Strip Nonlinear Post- Buckling Analysis Of Composite Laminated Plates Under Non-Uniform Compression	Ming-Hwa R. Jen	Theoretical And Numerical Analysis In Hybrid Ti/Apc-2 Composite Laminates Due To High Velocity Impact	
	12:00-12:20	Giuseppe Piccardo, Francesco D'Annibale, Angelo Luongo	A Perturbation Approach To The Nonlinear Generalized Beam Theory			Jorge Angeles, Jozsef Kovacs, Bahareh Ghorbi, Francisco Gonzalez	Experimental Validation Of Multibody Algorithms For Dynamics Analysis Of Mobile Robots	Mergen H. Ghayesh, Marco Amabili, Michael Paidoussis	Stability And Bifurcations Of An Axially Moving Plate	Raed Alharbi, Mustafa Yavuz, Eihab Abdulrahman	The Effect Of Adhesion Layer On Reflectivity And Morphology Of Aluminum Thin Films Micromirrors	
	12:20-12:40	Gert van der Heijden	Equilibria Of Elastic 2-Braids With Interstrand Interaction			Jorge Angeles	Revisiting The Skew-Symmetry Property Of Mechanical Systems	Ivan Breslasky, Marco Amabili, Mathias Legrand	Static And Dynamic Analysis Of Hyperelastic Plates			
	12:40-13:00	Daniele Zulli, Angelo Luongo	A Nonlinear 1-Dimensional Model Of A Layered Tubular Beam With Deformable Cross-Sections			Bastian Eusefeld, Thorsten Schindler, Heinz Ulbrich	A Coupling Approach For The Numerical Integration Of Non-Smooth Multibody Systems	Redouane Ramzi, Aouni Lakis	Geometric Non-Linearities Effects On Non- Linear Vibrations Of Closed Cylindrical Shells			
		MD267	One Dimensional Models Of Beams, Cables And Beam-Like Structures II Chair: Giuseppe Piccardo Co-Chair: Francesco dell'Isola	MD276	Non-Smooth Vibrations In Structural Dynamics I Chair: Mathias Legrand Co-Chair: Amit Shukla	MD279	Mechanics Of Multibody Systems II Chair: Jorge Angeles Co-Chair: Jozsef Kovacs	MD280	Stability And Vibrations Of Plates And Shells III Chair: Dumitru Caruntu Co-Chair: Eelco Jansen			
14:10-15:30	14:10-14:30	Luca Placidi, Bernardino Chiaia, Claudia Genamo, Valerio De Biagi	Measures Of Structural Robustness: System Integrity And Compartmentalization	Malte Krack, Lars Panning, Jörg Wallaschek	A Method Of Modal Analysis And Synthesis For Mechanical Systems With Piecewise- Smooth Nonlinearities	Daniel Montrallo Flickinger, Jeddyiah Williams, Jeffrey Trinkle	Simulation Accuracy And Computational Performance Of A Rotating Slender Rod Impacting A Bed Of Rocks	Marco Amabili	A New Nonlinear Higher-Order Shear Deformation Theory With Thickness Variation For Large-Amplitude Vibrations Of Laminated Shells			
	14:30-14:50	Francesco Foti, Luca Martinelli	A Corotational Beam Element To Model The Hysteretic Bending Behavior Of Metallic Wire Ropes	El Hadi Moussi, Sergio Bellizzi, Bruno Cochelin, Ionel Nistor	Computation Of Nonlinear Normal Modes Of Structures With Elastic Stops	Jeffrey Trinkle, Ying Lu, Claude Lacoursiere	Standard Interface For Data Analysis Of Solvers In Multi-Body Dynamics	Charis Gantes, Christoforos Dimopoulos	Comparison Of Stiffening Types Of The Cutout In Cylindrical And Conical Steel Wind Turbine Towers			
	14:50-15:10	John Wilber	Buckling Of A Graphene Sheet Perpendicular To A Rigid Substrate	Amit Shukla, William Olson	Nonlinear Response Of A Constrained, Mass-Spring-Pendulum System	Gaishan Liu, Hongjian Zhang	Energy Evolution And Dissipation In Interface Dynamics	Eelco Jansen, Tamir Rahman, Raimund Rolles	Nonlinear Vibration Analysis Of Composite Cylindrical Shells Using Semi-Analytical And Finite Element Reduced-Order Models			
	15:10-15:30	Francesco dell'Isola	Generalized Poynting Effects In Predeformed Prismatic Bars	Stephane Junca, Ly Tong	Limitation On The Method Of Strained Coordinates For Vibrations With Weak Grazing Unilateral Contact	Anders Thorin, Xavier Boutilion, José Lozada, Xavier Merhiot	Non-Smooth Simulation Of A 6-Dof Dynamical Model Of The Grand Piano Action	Zenon Jose G. Nunez Del Prado, Frederico Silva, Paulo Batista Goncalves, Ana Larissa dal Piva Argentina	The Effect Of Material And Geometry On The Nonlinear Vibrations Of Orthotropic Circular Cylindrical Shells			
	15:35-15:55	MD267	Nonlinear Stability Analysis I Chair: Herbert Mang	MD276	Non-Smooth Vibrations In Structural Dynamics II Chair: Amit Shukla Co-Chair: Mathias Legrand							
15:35-16:55		Herbert Mang	The Buckling Sphere - Theory And Algorithmic Implementation Of A New Concept For Classification Of Loss Of Stability	Markus Meingast, Mathias Legrand	A Linear Complementarity Problem Formulation For Periodic Solutions To Unilateral Contact Problems	Mostafa Nasri, Jozsef Kovacs, Francisco Gonzal, Will Wray	A Complementarity Formulation For Rigid Body Contact Problems And A Solution Algorithm (This presentation starts at 15:30 and finishes at 15:50)	Zi Chen, Qiaohang Guo, Larry Taber, Huang Zheng, Stephen Xie, Yuxin Liu	Snapping Surfaces Of The Venus Flytrap And Bio- Mimetic Structures (This presentation starts at 15:30 and finishes at 15:50)			
	15:55-16:15	Yong-Lin Pi, Mark Andrew Bradford	Effects Of Geometric Non-Linearity On Long- Term Behaviour Of Crown-Pinned Cst Arches	Guillaume James, Vincent Acary, Frédéric Péronnet	Periodic Motions Of Coupled Impact Oscillators		MD279	Microstructural Effects On Mechanical Properties Of Materials I (The Session Starts At 15:55) Chair: Srikanth Vedantam	MD280	Dynamics And Control Of MEMS And NEMS I (The Session Starts At 15:55) Chair: Dumitru Caruntu		
	16:15-16:35	Mergen H. Ghayesh, Marco Amabili, Hamed Farokhi, Rinaldo Garziera	Three-Dimensional Nonlinear Dynamics Of An Axially Moving Beam	Mohamed Chabaat, Mohammed Lamine Moussaoui, Abderrahmane Kibboua	Dynamic Detection Of Reinforced Concrete Bridge Damages By Finite Element Model Updating	Volodymyr Hutsaylyuk	Influence Pre-Combined Loading On Fatigue Deformation Of Aluminum Alloy 2024-T3	Dumitru Caruntu, Kyle Taylor	Nonlinear Dynamics Of Coupled Electrostatically Actuated Membranes Resonators			
	16:35-16:55	Jacob Meijaard	Buckling And Post-Buckling Analysis Of A Parallel Leaf-Spring Guidance			Srikanth Vedantam	Modeling Wear Of Layered Metal Matrix Composites	Eihab Abdulrahman, Bashar Hammad, Mohammad Mahmoud	Nonlinear Analysis Of Out-Of-Plane Micro- Power Generators			
16:55-17:15	Coffee Break (MD Lobby)											
17:15-18:15	Plenary Lecture (Room MC304): Professor Angelo Luongo On the Use of the Multiple Scales Method in Solving Difficult Bifurcation Problems (Chair: Francesco dell'Isola)											
18:30-21:30	Banquet & Awards (Meeting at the end of the plenary lecture)											

Friday July 26th, 2013							
		<b>MD267</b>	<b>Nonlinear Stability Analysis II Chair: Herbert Mang</b>	<b>MD279</b>	<b>Uncertainty Quantification In Solid Mechanics I Chair: Abhijit Sarkar</b>	<b>MD280</b>	<b>Hyperbolic Models And Theories In Nonlinear Solid Mechanics I Chair: Yuri Radayev</b>
<b>09:00-10:20</b>	09:00-09:20	Benedikt Daum, Franz G. Rammerstorfer	Buckling Of Lamellae In An Elastic Plastic Matrix	Anton Matachniouk, Dominique Poirel, Abhijit Sarkar	Parametric Uncertainty Quantification In Coalescence Flutter Of A Cantilever Wing	Alexander Yakhno, Sergey Senashov	Some Symmetry Aspects Of Bi-Dimensional Ideal Plasticity Equations
	09:20-09:40	Lei Lv, Yujin Hu, Xuelin Wang	A Study On Synchronization Of Fluid-Conveying Pipes With Coupling And Supports	Christophe Audouze, Prasanth Nair	Some Theoretical Aspects Of Stochastic Galerkin Projection Schemes	W.X. Zhang, J.W. Wang, F. Yuan	Vibration Response Of Flexible Beam With Interior Inlay Fluid
	09:40-10:00	Lei Xu, Yi Zhuang	Storey-Based Stability Of Unbraced Steel Frames At Elevated Temperature	Mohammad Khalil, Waad Subber, Abhijit Sarkar	Bayesian State Estimation Of Large-Scale Stochastic Systems Using Domain Decomposition Method	Yuri Radayev, Vladimir Kovalev	On Propagation Of Cross-Coupled Hyperbolic Thermoelastic Waves Of A Given Azimuthal Number Via A Cylindrical Waveguide
	10:00-10:20			Philippe Bisailon, Rimple Sandhu, Mohammad Khalil, Dominique Poirel, Abhijit Sarkar	Parameter Estimation And Model Selection For Strongly Non-Gaussian Systems		
<b>10:20-10:40</b>		Coffee Break (MD Lobby)					
		<b>MD267</b>	<b>One Dimensional Models Of Beams, Cables And Beam-Like Structures III Chair: Francesco dell'Isola Co-Chair: Angelo Luongo</b>	<b>MD279</b>	<b>Material Nonlinearities And Their Effects I Chair: Erol Sancaktar</b>	<b>MD280</b>	<b>Regular Session On NSM II Chair: Reza N. Jazar</b>
<b>10:40-12:20</b>	10:40-11:00	Giuseppe Piccardo, Angelo Luongo, Federica Tubino	A Shear-Shear-Torsional Nonlinear Beam Model For Aeroelastic Analysis Of Tower-Buildings	Elena M. Croitoro	Universal Solutions, Universal Relations, Controllability: Body-Forces	Ney Dumont, Elvis Mamani	A Variationally-Based Boundary Element Model For The Simulation Of Plastic Zone Propagation Around Crack Tips
	11:00-11:20	Turker Dagdelen, Mustafa Yavuz, Eihab Abdullrahman, Mahmoud Khater, Karim El-Rayes, Sangtak Park	Analysis Of Thick Wire Bonds Under Thermal Loads	Shailendra Sharan	Piecewise Linearization Of Non-Linear Yield And Plastic Potential Functions Using Finite Elements	Thierry J. Massart, A.P.S Selvadurai	Fe <sup>2</sup> Modelling Of Permeability Evolution Induced By Excavation Damage
	11:20-11:40	Mariella Diaferio, Dora Foti, Ivan Nicola Giannoccaro, Francesco Tucci	A Simplified Beam Model For The Study Of An Historical Bell Tower: Experimental Tests And Fe Analysis	Hassan Assaee	Nonlinear Large Deformation Analysis Of Viscoelastic Laminated Composite Plates Using A Novel Finite Strip Formulation	Yaoqing Gong, Xiancheng Wang	Computational Dynamic Analysis For The Structural Systems Adopted By Super Tall Buildings
	11:40-12:00	Sachin Goyal	Modeling Bio-Filaments In Continuum Limit – From Their Atomistic Structures To Constitutive Laws	Kamel Zidani, Leila Chelghoum	Modeling Of Nonlinear Behavior (Superelasticity) Of Shape Memory Alloys	Reza N.Jazar, Hormoz Marzbani, Salahuddin Harithuddin	Autonomous Vehicles: An Autodriver Algorithm
	12:00-12:20	Sachin Goyal	Modeling Thermal Fluctuations Of Bio-Filaments With Elastic Rod Theory	Erol Sancaktar, I-Ta Chang, Sergey Kotomin, Dmitri Iarikov	Nanotribological, Micro/Macro-Mechanical And Rheological Behaviors And Their Relationships For Polystyrene Nanoclay Composites	Mariella Diaferio, Vincenzo Sepe	The Effects Of The Mechanical Behavior Of Hangers On The Nonlinear Dynamical Response Of Suspended Structures