

## SCIENTIFIC PROGRAM

### Wednesday, 16 May

<b>8:00</b>	<b>Registration</b>	
<b>9:00</b>	<b>Opening</b>	
<b>9:20</b>	<b>Keynote 1, Chaired by Michel Raous</b>	
	<b>Monteiro Marques</b>	<b>J. J. Moreau's mathematical toolkit for Nonsmooth Mechanics</b>
<b>10:00</b>	<b>Session 1, dedicated to Jean-Jacques Moreau, Chaired by Michel Raous</b>	
	10:00	V. Acary, M. Brémond, O. Huber Formulations and extensive comparisons of 3D frictional contact solvers based on performance profiles
	10:20	T. Ndzana Satoh, M. Renouf, S. Grac A local multi-physical approach to model braking materials
	10:40	A. Gravouil, F. Fekak, M. Brun, D. Dureisseix Heterogeneous asynchronous time integrators for non-smooth dynamics
<b>11:00</b>	<b>Coffee break</b>	
<b>11:20</b>	<b>Session 2, Chaired by Udo Nackendorst</b>	
	11:20	A.A. Maitlo, <u>F. Lebon</u> Derivation of a model of soft imperfect interface with non local damage and unilateral contact conditions
	11:40	<u>R. Dimitri</u> , G. Zavarise Numerical study of the mixed-mode delamination of composite interfaces
	12:00	<u>K.S. Parel</u> , R.J. Paynter, D.A. Hills Frictional receding contact problems with separation of interface at remote points
	12:20	<u>R. Serpieri</u> , E. Sacco Are mode II and mode III fracture energies real material properties? A response based on a 3D DCB FEA with frictional multiplane CZMs
	12:40	G. Alotta, R. Dimitri, F.P. <u>Pinnola</u> , G. Zavarise, M. Zingales Non-local interface model based on fractional operators

<b>13:00</b>	<b>Lunch</b>	
<b>14:20</b>	<b>Keynote 2, Chaired by Valentin Popov</b>	
	<b>J.F. Molinari</b>	<b>Friction and wear across scales</b>
<b>15:00</b>	<b>Session 3, Chaired by Valentin Popov</b>	
15:00	<u>V.A. Yastrebov,</u> <u>G. Anciaux,</u> <u>J.F. Molinari</u>	An Interplay of Nayak and Hurst parameters in mechanical contact of rough surfaces
15:20	<u>G. Costagliola,</u> <u>F. Bosia,</u> <u>N.M. Pugno</u>	A 2-D model for friction of complex anisotropic surfaces
15:40	<u>A. Papangelo,</u> <u>M. Ciavarella</u>	Strong adhesive performance of indenters on thin layers
16:00	<u>R. Pohrt</u>	Usage of an asperity-free formulation in asperity models
<b>16:20</b>	<b>Coffee break</b>	
<b>16:40</b>	<b>Session 4, Chaired by Marius Cocou</b>	
16:40	<u>C. Stolz</u>	Optimal control approach to simulating wear under cyclic loading
17:00	<u>B.R. Akula,</u> <u>J. Vignollet,</u> <u>V.A. Yastrebov</u>	Frictional contact and wear along virtual interfaces
17:20	<u>E. Arfa,</u> <u>V. Magnier,</u> <u>P. Dufrénoy,</u> <u>G. de Saxcé</u>	Modeling of wear considering heterogeneous friction material (waiting for payment)
17:40	<u>F. Forsbach,</u> <u>M. Schuster,</u> <u>D. Pielsticker,</u> <u>Q. Li,</u> <u>V.L. Popov</u>	Wear analysis of a multiphasic heterogeneous cylinder
18:00	<u>M. Jureczka,</u> <u>A. Ochal</u>	Error estimation and computational simulation of contact problem with wear
<b>18:20</b>	<b>Guided tour of the Sanctuary</b>	

## Thursday, 17 May

<b>8:00</b>	<b>Registration</b>	
<b>8:40</b>	<b>Keynote 3, Chaired by Peter Wriggers</b>	
	<b>P. Ballard</b>	<b>On the coupling between dry friction and linear elasticity</b>
<b>9:20</b>	<b>Session 5, Chaired by Peter Wriggers</b>	
9:20	M.J. Lewandowski, <u>S. Stupkiewicz</u>	Non-classical contact conditions and size effects in Cosserat solids
9:40	<u>B. Rousselet</u>	Equilibrium solutions in structural mechanics with a small Lipchitz continuous or with a monotone non linearity
10:00	<u>M. Cocou</u>	A class of contact problems with rate-dependent surface constraints
10:20	P. Areias, <u>A. Pinto da Costa</u>	The discrete quasi-static incremental frictional contact problem: an alternative formulation
10:40	<u>M. Ciavarella,</u> <u>A. Papangelo</u>	A new lengthscale in wear problems with adhesion
<b>11:00</b>	<b>Coffee break</b>	
<b>11:20</b>	<b>Session 6, Chaired by Hachmi Ben Dhia</b>	
11:20	A. Popp, <u>I. Steinbrecher,</u> C. Meier	Beam-to-solid contact interaction in stent graft modeling for endovascular repair
11:40	<u>A. Konyukhov,</u> K. Schweizerhof	A new analysis for parallel beams contact
12:00	<u>F. Bussolati,</u> <u>O. Allix,</u> <u>P.A. Guidault,</u> <u>M. Guiton,</u> Y. Poirette	Toward a two-scale modeling of spiral strand wire rope for floating offshore wind turbine to predict fatigue damages: possibilities and difficulties in using a legacy code
12:20	<u>G. Fortese,</u> <u>A. Carpinteri,</u> <u>S. Vantadori,</u> <u>A. Zanichelli</u>	Stress gradient effect in estimating fretting fatigue life

	12:40	<u>I.P. Shatskyi</u>	Dynamical interaction of an elastic rod and rigid foundation through a viscous-elastic-plastic layer
<b>13:00</b>	<b>Lunch</b>		
<b>14:20</b>	<b>Keynote 4, Chaired by Stanislaw Stupkiewicz</b>		
		<u>T. Brzobohatý</u> , <b>Z. Dostál</b> , <u>T. Kozubek</u> , <u>D. Horák</u>	Toward solving contact problems with trillion variables
<b>15:00</b>	<b>Session 7, Chaired by Stanislaw Stupkiewicz</b>		
	15:00	<u>W.T. Rust</u> , <u>P. Wriggers</u>	Sliding contact using adaptive node insertion with the Virtual Element Method
	15:20	<u>M.A. Chaudry</u> , <u>C. Woitzik</u> , <u>C. Weißenfels</u> , <u>A. Düster</u> , <u>P. Wriggers</u>	Computational modelling of ship collision
	15:40	<u>U. Nackenhorst</u> , <u>T.A. Palanichamy</u> , <u>A. Suwannachit</u>	On the simulation of treaded tires in rolling contact: A coupled Lagrangian - ALE approach
	16:00	<u>H. Ben Dhia</u> , <u>S. Du</u>	Solving Lennard-Jones-based adhesive problems with a contact model-adaptivity methodology
<b>16:20</b>	<b>Coffee break</b>		
<b>16:40</b>	<b>Session 8, Chaired Michele Ciavarella</b>		
	16:40	<u>H.N. Andresen</u> , <u>D.A. Hills</u>	Frictional energy dissipation in an incomplete contact for a tilted flat and rounded punch with varying normal load
	17:00	<u>F.O. Falope</u> , <u>L. Lanzoni</u> , <u>E. Radi</u>	Shear deformable beams in contact with an elastic half-plane
	17:20	<u>I. Argatov</u> , <u>G. Mishuris</u>	Surface stretch produced by a hemispherically-ended indenter
	17:40	<u>Y. Makhovskaya</u>	A model of friction of rough bodies taking into account adhesion and hysteresis losses at microlevel
	18:00	<u>I. Tsukanov</u> , <u>I. Goryacheva</u>	Partial elastic contact of nonsinusoidal wavy surfaces
<b>19:15</b>	<b>Bus departure for Conference dinner</b>		

## Friday, 18 May

<b>8:00</b>	<b>Registration</b>	
<b>8:40</b>	<b>Keynote 5, Chaired by Giorgio Zavarise</b>	
	<b>J. Lengiewicz</b>	<b>Multiscale frictional effects in rough soft contacts</b>
<b>9:20</b>	<b>Session 9, Chaired by Giorgio Zavarise</b>	
9:20	T. Gustafsson, <u>R. Stenberg</u> , J. Videman	An error analysis of Nitsche's method for contact problems
9:40	<u>V.L. Popov</u> , R. Pohrt, Q. Li	Adhesive contacts of complex shape: simulation by Boundary Element Method with mesh-dependent detachment criterion
10:00	Q. Gomez, O. Ciobanu, <u>I.R. Ionescu</u>	Discontinuous Galerkin modeling of wave propagation in a solid with micro-cracks in frictional contact
10:20	A. Spagnoli, <u>M. Terzano</u> , J.R. Barber	The effect of plasticity on the shakedown of coupled frictional contacts
10:40	<u>C. Pozzolini</u> , Y. Renard	Nitsche's methods for elasto-plastic contact small deformation problems: theoretical and numerical aspects
<b>11:00</b>	<b>Coffee break</b>	
<b>11:20</b>	<b>Session 10, Chaired by Claude Stolz</b>	
11:20	<u>M. Harmel</u> , R.A. Sauer	A thermo-mechanical contact formulation for liquid and solid membranes
11:40	<u>C. Putignano</u> , G. Carbone	Numerical approaches to dry and lubricated contact mechanics between linearly viscoelastic rough solids
12:00	<u>R. Guarino</u> , N.M. Pugno	Patterned and hierarchical surfaces for fluid and granular lubrication
12:20	<u>A.G. Shvarts</u> , J. Vignollet, V.A. Yastrebov	Trapped fluid in contact interface

	12:40	<u>C. Gnanasambandham</u> , P. Eberhard	Investigating methods to influence particle damper nonlinearities using coupled SPH-DEM simulations
<b>13:00</b>	<b>Lunch</b>		
<b>14:20</b>	<b>Keynote 6, Chaired by Frédéric Lebon</b>		
		<b>F. Chouly, Y. Renard</b>	<b>Explicit integrators for the impact of elastic solids: a comparison of a Nitsche-based approach with existing ones</b>
<b>15:00</b>	<b>Session 11, Chaired by Frédéric Lebon</b>		
	15:00	<u>C. Floris</u>	Random response of a sliding block with Coulomb friction
	15:20	R. Sahli, G. Pallares, C. Ducottet, I.E. Ben Ali, S. Al Akhrass, M. Guibert, <u>J. Scheibert</u>	Evolution of real contact area under shear and the value of static friction of soft materials
	15:40	V.N. Pajmushin, <u>M. Makarov</u> , S.A. Kholmo-gorov, A. Konyukhov	Experimental validation of three-points bending test with various contact approaches
	16:00	<u>S. Fukagai</u> , R. Lewis	An experimental study of traction characteristics at wheel flange/rail gauge corner interface
	16:20	<u>M. Nebab</u> , H. Ait Atmane	Free vibration of functionally graded plates resting on elastic foundation
<b>16:40</b>	<b>Conference closure</b>		
<b>16:50</b>	<b>Coffee break</b>		

# CMIS 2018

9<sup>th</sup> Contact Mechanics  
International Symposium



UNIVERSITÀ  
DEL SALENTO

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