



The 33rd Danubia Adria Symposium on Advances in Experimental Mechanics

CONFERENCE PROGRAM

20th – 23rd September, 2016

Portorož, Slovenia



University of Ljubljana
Faculty of Mechanical Engineering



VENTIL
VIRNA IN FLUIDNO TEHNIKO, AVTOMATIZACIJO IN MEHATRONIKO



Anton Paar



NATIONAL
INSTRUMENTS™

WEDNESDAY, September 21, Morning

	<i>Presenter</i>	<i>Title</i>
8.30 - 8.40	Igor Emri	Opening
Oral presentations		Chairman: W. Daum
8.40 9.00	O1 M. Ružička	Adhesive Joints in Sandwich Structures
9.00 9.20	O2 L. Kucharikova	Scanning Electron Microscope Study of the Aluminium Alloys Microstructure
9.20 9.40	O3 A. Aulova	Determination of Relaxation Modulus of Time-Dependent Materials Using Radial Basis Function Neural Network
9.40 10.00	O4 B. Pichler	Innovative Creep Testing on Cement Pastes Allows for Deciphering Creep of Concrete at Early Ages
10.00-10.30	Coffee break	
Poster presentations		Chairmen: P. Palček, M. Guagliano
10.30	P1 P. Kucharski	Numerical Estimation of Stress Intensity Factors in Lug Connector with Existing Flaw
	P3 W. Chrominski	Deformation Structures in a New Ni-base Superalloy after Creep and High Cycle Fatigue Tests
	P4 P. Dzialak	Measurements of the Overloads Acting on a Loader
	P5 H. Kariem	Dual-Scale Porosity Analysis of Bricks with Different Pore-Forming Agents and Concentrations
	P6 Kosanovic/Miloš	Testing of Tip-Jet Helicopter Rotor Lift Force
	P7 B. Kozjek	Fatigue Life Prediction of Brass Ball Forging Tool
	P8 M. Meindelhumer	Dynamic Analysis of Piezoelectrically Excited Vibrating Tools

	<i>Presenter</i>	<i>Title</i>
	P9 K. Riabova	Application of Laser Vibrometer for the Study of Loudspeaker Dynamics
	P10 M. Schweigler	The Influence of Displacement Boundary Conditions on the Embedment Behavior of Dowel-Type Fasteners
	P11 R. Zemann	Impact of the Ecap Process on the Machinability of Copper
	P12 V. Nezerka	Integrated Numerical-Experimental Study on Cracking of Quasi-Brittle Composite Structures
	P13 B. Strohhaussl	Parameter Optimization of a Deformation Model for Grey Cast Iron
	P15 C. Wu	Approximate Model for Geometrical Complex Structures
	P16 P. Bagavac	Lock-in Thermography in Detection of Osmotic Damage
	P17 L. Kanzenbach	Development of a Compression Chamber for the Determination of the Bulk Modulus
	P18 R. Liu	A Comparative Study of non-Contact Measurement Techniques for Three-Dimensional Deformation Processes
	P19 L. Moldenhauer	Experimental Feasibility Study about Moisture in Building Materials Measured with Bluetooth
12.10		
12.10 - 12.40	Poster session + Coffee break	
12.40 - 14.00	Lunch	
15 .00	Excursion	

THURSDAY, September 22, Morning

		<i>Presenter</i>	<i>Title</i>
Oral presentations			Chairman: M. Ognjanović
8.30 8.50	O5	Z. Kowalewski	Damage Development in 2024 Aluminium Alloy due to Creep and Plastic Flow
8.50 9.10	O6	H. Linsbauer	Fracture Mechanics Modeling of Spalling in the Rolling Contact Area of Wheel and Rail During a RCF-Process
9.10 9.30	O7	S. Johann	RFID Sensor Systems Embedded in Concrete – Requirements for Long-Term Operation
9.30 9.50	O8	A. Freddi	Teaching Experimental Mechanics for Learning Design Principles and Methods
9.50 - 10.20		Coffee break	
Poster presentations			Chairmen: D.M. Constantinescu, L. Krstulovic-Opara
10.20	P21	M. Somr	DIC Analysis of Shear Failure in Functionally Graded Cementitious Composite Beams
	P23	L. Collini	Automated Diagnosis of Damage in Ceilings by a Portable Device
	P24	J. Czmochowski	Method of Technical Check of Superstructure of Bucket-Chain Excavators
	P25	L. Gajdos	Effect of Overloading on Toughness Characteristics
	P26	D. Seruga	Influence of Material Parameter Estimation on Thermomechanical Damage Predictions
	P27	P. Kucharski	Analysis of Fatigue Crack Growth in Long Term Operating Mild Low Carbon Steel in Terms of Crack Closure and Energy Approach

	<i>Presenter</i>	<i>Title</i>	
12.00	P28	M. Uhríček	Differences in Fracture Mechanisms by Fatigue and Charpy Impact Test
	P29	D. Závodská	Fatigue Resistance of Self-Hardening Aluminium Alloy
	P30	O. Bokuvka	Fatigue Characteristics of Structural Steels in the Gigacycle Region of Loading
	P32	L. Borbas	Reduction Possibility of Residual Stresses from Additive Manufacturing by the Optical Photostress Method
	P33	B. Madejski	Accumulation and Mechanism of Fatigue Damage for Nickel Based Superalloy
	P34	A. Moradi	Time-Temperature Parametric Analysis of SA-304L Aged Material by Small Punch Creep Test
	P35	P. Kucharski	On the Differences in Fracture Resistance of Polyurethane Elastomers in Terms of Energy Description
	P36	T. Szymczak	Stress Relaxation in Steel Subjected to Tension-Torsion Deformation
	P37	A. Vasko	Fatigue of Nodular Cast Iron at Low and High Frequency Cyclic Loading
	P38	D. Vlasceanu	Microstructure and Mechanical Properties in Industrial Applications Processes for FGM /FGCM Materials
	P42	F. Summer	Laboratory Test Methodologies for Journal Slide Bearing Life Time Assessment
	P39	L.Z. Lainez	Multiscale Revision of Bone Composition: Chemical Protocol Complemented by Microscopy
	P40	M. Pukšec	The Comparison of Biomechanical Characteristics among Temporal Muscle Fascia, Fascia Lata and Dura Mater
P41	M. Kowalik	Automation of the Mechanical Test Procedure for Ring-Shaped Arterial Specimen	
12.00 – 12.40	Poster session +Coffee break		
12.40 – 14.00	Lunch		

THURSDAY, September 22, Afternoon

		<i>Presenter</i>	<i>Title</i>
Oral presentations			Chairman: J. Eberhardsteiner
14.00 14.20	O9	F. Cosmi	Morphological and Structural Evaluation of Trabecular Bone in Early and Late Stage of Osteoarthritis
14.20 14.40	O10	M. Kowalik	Optimization Based Method for Determination of Mechanical Properties of Artery
14.40 15.00	O11	S. Pastrama	An Algorithm to Obtain a Theoretical Model of the Bronchial Tree
15.00 - 15.30		Coffee break	
Poster presentations			Chairmen: M. Ružička, M. Szata
15. 30	P43	J. Belan	The Microstructure Analysis of DV-2 Turbine Blade Damage Made From Ni-base Superalloy
	P44	D. M. Constantinescu	AtInfluence of Forging Parameters on the Structure and Toughness of Forged Parts
	P45	D. Damljanović	Evaluation of a Wind Tunnel Long-Term Measurement Quality in Testing of a Standard Moyndel
	P46	M. Gloc	Microstructural Investigations of Ni-Based Superalloy after Mechanical Testing
	P47	G. Hochreiner	Embedding Behaviour of Dowel Type Connectors in Wood - Interpretation of Experimental Findings
	P48	H. Holl	Behavior of a Timing Belt on a Wheel With Different Operating Parameters

	<i>Presenter</i>	<i>Title</i>	
17.00	P49	J. Kaczmar	Heat Transfer in High Porosity Cellular Material-PCM for the Energy Storage
	P50	I. Kampel	Pressure Fluctuations on Underflow Gates of Weirs due to Upstream Vortex Generation
	P51	T. Liptakova	Tribological and Corrosion Properties of Al-brass
	P52	P. Maslak	Comparison of Selected Methods for the Designation of the Center of Gravity in Surface Mining Machines
	P53	W. Mocko	Anisotropic Properties of Ti ₆ Al ₄ V Titanium Sheet Under Quasi-Static and Dynamic Loading Conditions
	P54	E. Nutu	Influence of Bone Elastic Properties on the Predicted Stress Distribution in the Dental Implant Vicinity
	P55	M. Sahul	Influence of Heat Treatment on the Properties of 7075 Aluminum Alloy - Titanium Bimetals Produced with Explosion Welding
	P56	A. Szust	Experimental Evaluation of Climbing Ropes under Dynamic Load
	P57	E. Tillova	Effect of the Laser Surface Treatment on Mechanical Properties of Secondary AlZn ₁₀ Si ₈ Mg Cast Alloy
	P58	M. Uhrick	Temperature Dependence of the Internal Friction of Aluminium Alloy En Ac 51200
	P70	J. Cagan	Design of Multiplexer for Electrical Impedance Tomography
P71	J. Rosa	Strain Gauge Measurement on Small Propeller Using Special in-House Developed Hardware	
17.00 - 17.40	Poster session + Coffee break		
18.00 - 19.00	Committee meeting		
20.00 - 22.00	Gala dinner		

FRIDAY, September 23, Morning

		<i>Presenter</i>	<i>Title</i>
Oral presentations		Chairman: I. Emri	
8.30 8.50	O12	L. Krstulovic-Opara	The Detection of Plastic Flow Propagation Based on the Temperature Gradient
8.50 9.10	O13	S. Berezvai	Characterization of a Thermoplastic Foam Material with the Two-Layer Viscoplastic Model
9.10 9.30	O14	R. Helmerich	Long-Term Measurement of Vertical Displacements at the Outer Concrete Bridges of Berlin Main Station
9.30 - 10.00		Coffee break	
Poster presentations		Chairmen: O. Bokuvka, L. Borbas	
10.00	P59	M. Bek	Apparatus for Steady-State Friction Measurements of Granular Materials under Uniaxial Compression
	P60	D. Huellman	Current-independent Torque Control of PMSM Servo Drives
	P62	M. Bartholmai	Validation of Membrane-based Linear Soil Gas Sensors – Results from Repetitive CO2 Injection Experiments Performed in the Field
	P63	M. Ognjanovic	Testing Rig and Test Procedure of Gear Transmission Units with Continual Variation of Transmission Ratio for WT-Application
	P64	W. Rzadkowski	Investigation of New Type of Piezo Transducer with Helix Electrodes
	P65	M. Bartholmai	A Contribution to Intelligent Automatic Validation of Structure-Integrated Fibre Optic Strain Sensors
	P66	M. Stockmann	Long-Term Stability of Strain Gages – Climatic Test Regime and Results
	P67	R. Zana	Electrical Resistance-Based Mechanical Contact Measurement for Metallic Parts

	<i>Presenter</i>	<i>Title</i>	
11. 30	P68	A. Ohtsuki	An Innovative Method for Measuring Young's Modulus of a Flexible Multi-Layered Circular Ring
	P69	L. Vinsova	Testing of Mechanical Properties of Thick-Walled Carbon Fiber Composite for FEM Simulations
	P72	D.M.Constantinescu	Design of in-Plane Isotropic Commercial Hexagonal Honeycombs
	P73	F. Steiner	Software and design concept for thermoplastic bending process in the application architecture
	P74	P. Oblak	Processability and Rheological Properties of Extensively Recycled High Density Polyethylene (HDPE)
	P75	S. Oman	Relation Between Uniaxial Creep and Stress Relaxation of Filled Rubber
	P76	A. Oseli	Methodology for Determination of Stress-Strain Limits of Linear Theory of Viscoelasticity
P61	J. Lozanovic Sajic	Machine Stereo Vision as 3D Metrology System	
11.30 - 12.30	Poster session + Coffee break		
12.30 - 12.40	Closing speech		
12.40 - 14.00	Lunch		

Program

Tuesday, 20 th September	Wednesday, 21 st September	Thursday, 22 nd September	Friday, 23 rd September
	Session 1 8.30 – approx. 12.00	Session 2 8.30 – approx. 12.00	Session 4 8.30 – 11.30
	Poster session 1 12.00 -12.40	Poster session 2 12.00 -12.40	Poster session 4 11.30 – 12.30
	Lunch 12.40 – 14.00	Lunch 12.40 – 14.00	Closing 12.30 – 12.40
	Excursion Two departures 15.00 and 15.30	Session 3 14.00 – 17.00	Lunch 12.40 – 14.00
Registration 16.00 – 19.00		Poster session 3 17.00 – 17.40	
Welcome reception 19.00 – 21.00		Committee meeting 18.00 – 19.00	
		Gala dinner 20.00 – 22.00	

Color Legend

<ul style="list-style-type: none"> • Structural analysis: experimental tests, structural health monitoring, system identification, damage assessment, self-adaptive structures
<ul style="list-style-type: none"> • Material characterization and testing: smart materials, residual stress, fatigue, fracture, creep
<ul style="list-style-type: none"> • Practical applications and case studies
<ul style="list-style-type: none"> • Biomechanics: biomaterials, biomechanics, medical and orthopedic devices, biofluid mechanics
<ul style="list-style-type: none"> • Instrumentation: new sensors and actuators, advanced measurement systems, validation and reliability of instrumentation
<ul style="list-style-type: none"> • Complex systems, integration of mathematical/numerical methods with experimental mechanics
<ul style="list-style-type: none"> • Mechanics of time-dependent materials

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