

# 43<sup>rd</sup> Materials Mechanics Seminar

## June 5<sup>th</sup> - 10<sup>th</sup> 2022, Sani, Chalkidiki, Greece

### Sunday June 5<sup>th</sup>

14:00	Meeting of the organising committee
15:00	Registration and Welcome Reception

### Monday June 6<sup>th</sup>

8:45	Welcome Speak
9:00	<i>Comparative studies on multiaxial fatigue criteria on high-strength automotive stabilizer bars</i> , <b>Giannakis E.</b> , AU Thessaloniki, Greece
10:30	Coffee Break
10:45	<i>Critical plane-based assessment of multiaxial fatigue</i> , <b>Fällgren C.</b> , TU Darmstadt, Germany
12:15	Lunch Break
13:15	<i>Estimation of elastic-plastic stress-strain states in notches using artificial neural networks</i> , <b>Wuthenow, R.</b> , TU Clausthal, Germany
14:45	<i>Multiaxial Fatigue</i> , <b>Kraft J.</b> , TU Darmstadt, Germany
16:15	Break
16:30	<i>Multiaxial Fatigue</i> , <b>Linn A.</b> , TU Clausthal, Germany
18:00	<i>Comparison of Laplacian based explicit and implicit gradient elasticity with reference to one-dimensional problems in statics and dynamics</i> , <b>Bröse C.</b> , TU Darmstadt, Germany

### Tuesday June 7<sup>th</sup>

9:00	<i>Fatigue of high-strength automotive leaf springs</i> , <b>Adamidis P.</b> , AU Thessaloniki, Greece
10:30	Coffee Break
10:45	<i>Estimation of fatigue behavior of high strength steels</i> , <b>Basan R.</b> , U Rijeka, Croatia
12:15	Lunch Break
13:15	<i>Advanced approaches on Shot and Stress Peening simulation</i> , <b>Gakias G.</b> , AU Thessaloniki, Greece

14:45	<i>Surface and roughness - influence on fatigue life</i> , <b>Hupka M.</b> , TU Clausthal, Germany
16:15	Break
16:30	<i>Proof of structural durability for surface-hardened components based on the local strain approach</i> , <b>Yadegari P.</b> , TU Darmstadt, Germany
17:00	<i>Governing equations and boundary conditions for a simple model of gradient elasticity in dynamics</i> , <b>Tsakmakis C.</b> , TU Darmstadt, Germany
18:30	<i>Burst behaviours of aero-engine turbine disk at overspeed conditions</i> , <b>Zhu J.</b> , BAM Berlin, Germany

## Wednesday June 8<sup>th</sup>

9:00	<i>Equivalent Formulations of Euler-Bernoulli beam theory for a simple gradient elasticity law</i> , <b>Üngör Ö.</b> , TU Darmstadt, Germany
10:30	<i>Phase field modelling of failure</i> , <b>Tsakmakis A.</b> , TU Darmstadt, Germany
12:00-19:00	Excursion to Aristotle University of Thessaloniki to Laboratory of Machine Elements and Design

## Thursday June 9<sup>th</sup>

9:00	<i>Application of ANNs for estimation of material behavior - learning from small datasets</i> , <b>Marohnic T.</b> , U Rijeka, Croatia
10:30	<i>Crack growth under TMF conditions in cast nickel-base superalloy IN100</i> , <b>Schackert S.</b> , IWM Freiburg, Germany
12:00	Lunch Break
13:00	<i>Fatigue assessment of welded joints</i> , <b>Maier A.</b> , TU Darmstadt, Germany
14:30	<i>Low cycle fatigue of welded joints of low alloyed steels</i> , <b>Moser S.</b> , TU Darmstadt, Germany
16:00	<i>Low cycle fatigue of welded joints of austenitic steels</i> , <b>Neuhäusler J.</b> , HM München, Germany
17:30	<i>Aging railroad bridges</i> , <b>Fettke M.</b> , DB Frankfurt, Germany
19:00	<i>Strength of clinch joints</i> , <b>Fiedler M.</b> , TU Dresden, Germany

## Friday June 10<sup>th</sup>

9:00	<i>Additive manufacturing-oriented design for UAV structural elements, <b>Psarros A.</b>, AU Thessaloniki, Greece</i>
10:30	Coffee Break
10:45	<i>Engineering Design with additive manufacturing in mind – some technical perspectives, <b>Tsakiris A.</b>, AU Thessaloniki, Greece</i>
12:15	Lunch Break
13:15	<i>Investigation of residual stress and microstructure effects on the fatigue behaviour of a L-PBF AlSi10Mg alloy, <b>Roveda I.</b>, BAM Berlin, Germany</i>
14:45	<i>Fatigue of LPBF Aluminium, <b>Kern A.</b>, TH Mittelhessen, Germany</i>
16:15	<i>Fracture mechanics fatigue life assessment based on effective crack propagation data, <b>Duarte L.</b>, BAM Berlin, Germany</i>
17:45	Closing Speak