

## **Poster Presentations**

1. **MecaNano – European network for mechanics of matter at the nano-scale**  
Benoit Merle, University of Kassel, Germany
2. **The effect of size, crystal orientation and temperature on the deformation of cast microwires**  
Luciano Borasi, EPFL, Switzerland
3. **Temperature-dependance evaluation on deformation processes in the Alloy 718 using high-resolution digital image correlation**  
Damien TEXIER, Institut Clément Ader - UMR CNRS 5312, France
4. **Strategies in reinforcements of electrospun fibers and membranes**  
Urszula Stachewicz, AGH University of Science and Technology, Poland
5. **The calibration of nanoindenters revisited**  
Thomas Chudoba, ASMEC GmbH, Germany
6. **Experimental and numerical investigations of nanoindentation properties at the sub-grain level in Ni-based and Ti-based polycrystalline alloys**  
Damien Texier, Institut Clément Ader - UMR CNRS 5312, France
7. **Correlation between mechanical properties and microstructure on different ground cemented carbides grades under service-like working conditions**  
Joan Josep Roa Rovira, STEROS GPA Innovative, Spain
8. **Indentation unloading phase transformations in silicon: A new perspective**  
Gerald Josef Kamillo Schaffar, Montanuniversität Leoben, Austria
9. **Fast fabrication of micropillar arrays using a combination of laser and FIB for micromechanical compression tests**  
Fang Zhou, ZEISS Research Microscopy Solutions, Carl Zeiss Microscopy GmbH, Germany
10. **Nanoindentation material testing using SMART and SMART CUBES**  
Dennis Bedorf, SURFACE, Germany
11. **Nanomechanical testing of novel conducting 2D composite materials produced by additive manufacturing**  
Aaron D. Sinnott, Trinity College Dublin, Ireland
12. **A micropillar compression investigation into the plastic flow properties of additively manufactured alloys**  
Shi-Hao Li, Nanyang Technological University, Singapore
13. **Hydrogen induced hardening effect and the diffusion behavior in bcc Fe-Cr alloys by in situ nanoindentation**  
Jing Rao, Max-Planck-Institut für Eisenforschung GmbH, Germany
14. **Temporal sequence of deformation twinning under tribological load**  
Antje Dollmann, KIT, Germany

15. **On the effects of microstructural orientation on fracture toughness in (V,Al)-nitride and -oxynitride thin films**  
Markus Reiner Schoof, RWTH Aachen University, Germany
16. **Nano-stamping of material surface during nano-indentation by the indenter: A fingerprint for contact area precise measurement**  
Vincent Keryvin, University of South-Brittany, France
17. **Thermal activation of plasticity in BCC materials investigated by cryo-micropillar compression**  
Carl F. Kusche, RWTH Aachen University, Germany
18. **Exploring accurate structure, composition and mechanical properties of  $\eta$  carbides in high tungsten iron-based alloy: High-throughput mapping and DFT calculations**  
Yujie Meng, KLA, USA
19. **Deformation behavior and plasticity in FCC-BCC high entropy alloy nanolaminate structures**  
Amit Sharma, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
20. **Continuous measurement of strain rate sensitivity – A novel nanoindentation method**  
Hendrik Holz, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
21. **Micropillar compression of anisotropic Al<sub>2</sub>O<sub>3</sub>-based eutectic composite**  
Yuta Aoki, The University of Tokyo, Japan
22. **Dislocation and grain boundary interaction in oxides: Slip transmission or cracking?**  
Kuan Ding, TU Darmstadt, Germany
23. **Pillar compression study of binderless tungsten carbide consolidated by flash sintering and spark plasma sintering**  
Isacco Mazo, University of Trento, Italy
24. **Grain orientation dependence on nanomechanical behavior of an additively manufactured (CrCoNiFe)<sub>94</sub>Ti<sub>2</sub>Al<sub>4</sub> high-entropy alloy**  
Siqi Liu, NTNU, Norway
25. **Synthesis and characterization of metal-ceramic metamaterials at the microscale**  
Johann Jakob Schwiedrzik, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland
26. **About the measurement of restoration kinetics in metals using the HTSI method**  
Gabrielle Tiphene, Ecole Centrale de Lyon, France
27. **Effect of hydrogen on the nanomechanical behavior of dual-phase nanocrystalline high-entropy alloy**  
Zhe Gao, Hanyang University, South Korea
28. **Nanoparticle stabilized thin film metallic glasses**  
Emese Huszar, Empa, Switzerland
29. **Shear-coupling migration of grain boundaries in UFG Al**  
Marc Legros, CEMES-CNRS, France

30. **Effects of radiation damage on the critical resolved shear stresses in zirconium alloys for nuclear applications**  
James Gibson, University of Oxford, United Kingdom
31. **Intrinsic room temperature ductilisation of lean rare-earth free ternary Mg alloys**  
Wassilios Johannes Delis, RWTH Aachen University, Germany
32. **Using small-scale mechanics to probe the origins of segregation-induced strengthening**  
Mohammed Kamran Bhat, Max-Planck-Institut für Eisenforschung GmbH, Germany
33. **Investigation of carbon fibres mechanical behaviour at micro/nano scales**  
Vincent Keryvin, University of South-Brittanny, France
34. **Mechanical properties and fracture behavior of TiB<sub>2</sub>+z thin films**  
Anna Hirle, CDL-SEC at TU Wien, Austria
35. **Comparison of mechanical properties of titanium processed by ECAP: Macro vs. micro**  
Jan Maňák, Institute of Physics of the Czech Academy of Sciences, Czech Republic
36. **High strain rates micromechanical behavior of materials: A coupled experimental and numerical approach**  
Benedicte Adogou, Ecole des mines de Saint-Etienne, LGF UMR 5307 CNRS, France
37. **Localization of plastic strain in alloy 718 using digital image correlation**  
Malo Jullien, Institut Clément Ader - UMR CNRS 5312, CEMES-CNRS, France
38. **Mechanical properties and deformation mechanisms of manganese sulphide inclusions**  
Maximilian A. Wollenweber, RWTH Aachen University, Germany
39. **Mechanical behaviors of agglomerated ceramic powders for cold spraying applications**  
Sergio Sao Joao, Mines Saint-Etienne, LGF UMR5307 CNRS, France
40. **Development of a custom high strain rate nanoindenter for small scale mechanical characterization over a wide range of strain rates**  
Stefan Zeiler, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
41. **Investigating adhesion of polyimide in semiconductor devices with cross-sectional nanoindentation**  
Moritz Hartleb, KAI Kompetenzzentrum Automobil- und Industrieelektronik GmbH, Austria
42. **Local mechanical response in the vicinity of single grain boundary in YSZ measured by nanoindentation**  
Ryo Nakamura, The University of Tokyo, Japan
43. **Investigating deformation mechanisms in thin films through design and synthesis of model nanolaminate film systems**  
Laszlo Pethö, Empa, Switzerland
44. **Three-dimensional characterization of damage in dual phase steels with deep learning**  
Setareh Medghalchi, RWTH Aachen University, Germany

45. **Slip and deformation behavior in intermetallic Cobalt-Samarium phases**  
Tobias Stollenwerk, RWTH Aachen University, Germany
46. **Nanoindentation induced reversible plasticity detected by acoustic emission**  
Jaroslav Cech, Czech Technical University in Prague, Czech Republic
47. **The effect of thiourea concentration in electrolytic solution on the indentation hardness and mechanical properties of electrodeposited copper samples**  
Anuradha Herath, Coventry University, United Kingdom
48. **Quantitative measurement of stress vs. strain in supported thin films by the layer compression test**  
Aaron D. Sinnott, Trinity College Dublin, Ireland
49. **Microshear mechanical properties measurements on tribolayers**  
Fadlallah Abouhadid, Ecole Centrale de Lyon, France
50. **How do H/E and H3/E2 control coating system wear? - Insights gained from elevated temperature nanoindentation, scratch and impact tests**  
Ben D. Beake, Micro Materials Ltd, United Kingdom
51. **Fatigue behavior of gold thin films at elevated temperatures studied by bulge testing**  
Anna Krapf, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
52. **Development of protocols to quantify the twinning stress of a CoCrFeMnNi high entropy alloy**  
Camila Aguiar Teixeira, Karlsruhe Institute of Technology, Germany
53. **Hot hardness and yield stress measurements on stainless steel up to 700°C**  
Bruno Passilly, Onera, France
54. **Thermomechanical fatigue and stress evolution of Cu metallization lines using FIB/SEM and synchrotron techniques**  
Peter Imrich, KAI Kompetenzzentrum Automobil- & Industrieelektronik GmbH, Austria
55. **In-situ micromechanical testing of Su-8 polymer at high strain rates using indentation and micropillar compression**  
Rahul Cherukuri, Tampere University, Finland
56. **High strain rate testing of ultra fine grained aluminium at micro and macro length scales**  
Aloshious Lambai, Tampere University, Finland
57. **A geometry for quantitative analysis of interface fracture at the micron scale**  
Eloho Okotete, Karlsruhe Institute of Technology, Germany
58. **Surface integrity evolution as a function of Dry-Electropolishing time on WC-Co**  
Guiomar Riu, Steros GPA Innovative S.L., Spain
59. **Development of novel indentation-based stress relaxation tests to study transient plasticity in metals**  
Suprit Purushottam Bhusare, University of Tampere, Finland

60. **Unveiling the mechanisms of motion of synchro-Shockley dislocations in Laves phases**  
Zhuocheng Xie, RWTH Aachen University, Germany
61. **Nanoindentation study of the oxide scale on FeCr alloy by high-pressure torsion**  
Kuan Ding, TU Darmstadt, Germany
62. **Nanoindentation strain rate jump test-based prediction of fracture and the brittle to ductile transition in tungsten**  
Kevin Schmalbach, University of Minnesota, USA
63. **In-situ micromechanical testing using a micromanipulator**  
Olof Bäcke, Chalmers University of Technology, Sweden
64. **A novel indentation size effect analysis to quantify material damage for safer nuclear structural health monitoring**  
Rohit Sharma, Coventry University, United Kingdom
65. **Nanoindentation-based strength measurements of spherical polymeric micro-samples**  
Edoardo Rossi, Università degli Studi Roma Tre, Italy
66. **A simple method for pile-up correction by high-speed nanoindentation combined with optical profilometry**  
Marco Sebastiani, Università degli studi Roma Tre, Italy
67. **Microstructural and mechanical characterization of yarns made from carbon nanotubes for the instrumentation of particle beams at CERN**  
Ana Teresa Perez Fontenla, CERN, Switzerland
68. **Spherical indentation study on incipient plasticity of medium-/high-entropy alloys**  
A-Hyun Jeon, Hanyang University, South Korea
69. **Alloy discovery via combinatorial and high-throughput synthesis and mechanical characterization**  
Adie Alwen, University of Southern California, USA
70. **Mechanical behavior of optimized optical nanomultilayers**  
Danielle White, University of Southern California, USA
71. **Nanomechanical behavior of biodegradable metallic glass for transient electrodes**  
Seung-Kyun Kang, Seoul National University, South Korea
72. **Tailoring thin-film mechanical fragmentation properties of hybrid atomic/molecular-layer-deposited materials**  
Ivo Utke, Empa, Laboratory for Mechanics of Materials and Nanostructures, Switzerland
73. **Measurement of hardness and elastic modulus by depth sensing indentation: Improvements to the technique based on continuous stiffness measurement**  
Warren C. Oliver, KLA, USA
74. **Plasticity of the CaAl<sub>2</sub> phase and its change with Mg addition at room temperature**  
Martina Freund, RWTH Aachen University, Institut für Metallkunde und Materialphysik, Germany

75. **Micromechanical characterisation of protein crystals and filamentous microorganisms**  
Achim Overbeck, Technische Universität Braunschweig, Institute for Particle Technology,  
Germany