

**Poster List** (Preliminary numbers – July 7, 2026)

1. **Effect of hydrogen on the mechanical properties of iron-chromium alloy: an in situ experimental approach** — Szilvia Kalacska (CNRS Laboratoire Georges Friedel, MINES Saint-Etienne, France)
2. **Spherical time-dependent plasticity studies of advanced fusion steels** — James Gibson (UK Atomic Energy Authority, UK)
3. **Bayesian optimization-enabled microstructure engineering of 3d printed copper micropillars** — Kuan Ding (Max Planck Institute for Sustainable Materials, Germany)
4. **PROBING VISCOELASTICITY UP TO 1 kHz USING HIGH-DYNAMIC NANOINDENTATION** — Christian Minnert (Empa, Switzerland)
5. **Design of Theta Device for the Micro Tensile Testing of Silica** — Wenjuan Cheng (Roma TRE University, Italy)
6. **Contact Renewal Accelerates Atom-by-Atom Wear of Microcrystalline Diamond** — Ozan Sahin (Advanced Research Center for Nanolithography, Netherlands)
7. **Assessment of High Strain Rate Nanoindentation Analysis Methods** — Kevin Schmalbach (Bruker, USA)
8. **Scratch testing at elevated temperatures on glasses – A comparison between nanoindentation and scratch testing** — Dennis Bedorf (SURFACE, Germany)
9. **Microstructural heterogeneity and phase interactions in ferritoperlitic steel: a nanoindentation and hardness mapping approach** — Etienne André (Centrale Lyon, France)
10. **Multi-Scale Micromechanical Testing For A New Polymer Core Solder Ball Interconnections Reliability In Operating Conditions** — Yvan MARTHOURET (Ecole Nationale Supérieure Des Mines De Saint-Etienne, France)
11. **Micromechanical characterization of materials for Solid Oxide Cells under relevant conditions** — Sandra García González (Ciefma, UPC, Spain)
12. **A dynamic nanoindentation method for determining the brittle-to-ductile transition temperature** — Stefan Zeiler (Montanuniversität, Austria)
13. **Annealing-induced grain boundary relaxation in nanocrystalline Ti-Nb alloys - insights from mechanical spectroscopy and correlative characterisation** — Lukas Lang (Montanuniversität, Austria)
14. **Strain-Rate-Dependent Microscale Deformation of an Intermetallic–Mg Interface under Shear Loading** — Leiming Du (Max Planck Institute for Sustainable Materials, Germany)

15. **The role of grain boundaries in hydrogen microstructure interactions** — Clara Reinhart (Max Planck Institute for Sustainable Materials, Germany)
16. **Nanoindentation of bone in dry and wet conditions: Effect of strain rate, indent spacing, degradation and local mineralization** — Dennis Droßel (FAU Erlangen-Nürnberg, Germany)
17. **Prediction of compressive flow curves from Nanoindentation and Pile-Up data utilizing Machine Learning** — Matthias Glosemeyer (FAU Erlangen-Nürnberg, Germany)
18. **DFXM characterisation of dislocation avalanches with concurrent acoustic emission measurements** — Kolos Lukács (CNRS Laboratoire Georges Friedel, Mines St. Etienne, France)
19. **A new method to determine surface mechanical properties as a function of indentation depth: application to High Temperature Scanning Indentation technique** — Fatima-Zahra MOUL-EL-KSOUR (Ecole Centrale de Lyon / LTDS, France)
20. **Nanomechanical and Microstructural Evolution of Artificially Aged AlSi10Mg–Al<sub>2</sub>O<sub>3</sub> Composites Processed by Hot Pressing** — Hanna Konopacka (Faculty of Mechatronics, Warsaw University of Technology, Poland)
21. **Nanoindentation-Based Evaluation of Irradiation Effects in Refractory High-Entropy Alloys** — Dariusz Jarzabek (Institute of Fundamental Technological Research, Poland)
22. **Investigation of Zirconia Phase Transformations and Shape-Memory Using Dark-Field X-Ray Microscopy and In-Situ Compression-Heating Cycles** — Marcelo DEMETRIO DE MAGALHAES (ESRF, France)
23. **Micromechanical testing of a machining-induced white layer on a 15-5PH stainless steel** — Paul SABY (EMSE, France)
24. **Multimaterial 3d printing: solving the challenge of brittle interfaces by geometry** — Nerea Abando (ETH Zurich, Switzerland)
25. **Correlative microstructural and micromechanical characterization of a ductile disordered phase in a high-aluminum refractory alloy** — Jin Wang (Forschungszentrum Juelich, Germany)
26. **In situ TEM crack propagation in nanocrystalline Cu-W-Re down to the atomic scale** — Jianxiao Cui (IMD-1, FZ Jülich, Germany)
27. **Data based approaches to map plastic deformation using EBSD** — Ashish Chauniyal (DLR, Germany)
28. **Integrated experimental–numerical characterization of PFAS-free polyimide passivation in BEoL stacks: benchmarking against legacy polymers** — Kian Tadayon (Fraunhofer Institute – IKTS, Germany)

29. **Resolving the influence of vacancies and chemical composition on plasticity in B2 FeAl alloys via micropillar compression on diffusion couples** — Jung Soo Lee (Max Planck Institute for Sustainable Materials, Germany)
30. **Screening room-temperature plasticity of perovskite oxides via solid solution and scale-bridging indentation tests** — Alexander Frisch (KIT, Germany)
31. **Impact of rotational tribological testing on microstructural evolution** — Antje Dollmann (KIT, Germany)
32. **Unlocking Structure-Property Relationships in Sodium-based Electrolytes by Cryo-EBSD** — Nicolò Maria Della Ventura (Max Planck for Sustainable Materials, Germany)
33. **Interfacial hydrogen mediates microscratch-induced deformation in pearlite** — Kaili Feng (Max Planck for Sustainable Materials, Germany)
34. **NANOINDENTATION BASED ASSESSMENT OF MECHANICAL BEHAVIOR OF  $\gamma'$ -LEAN NI-BASED SUPERALLOY – HAYNES 282** — Anjali Gawande (IISc, India)
35. **Deformation-induced structural transformations in freestanding pre-notched CoCrFeNi thin films** — Abira Rashid (IIT Gandhinagar, India)
36. **3D Printed Metal MEMS Devices: Fabrication, Optimization, and Characterization** — Nhat Hoang Van (Max Planck for Sustainable Materials, Germany)
37. **Hydrogen–dislocation interaction in bcc FeCr alloys by in situ micropillar compression** — Jing Rao (Max Planck for Sustainable Materials, Germany)
38. **Effect of Grain Boundary Doping on Thermomechanical Behavior of Cu Thin Films** — Piyush Jagtap (IIT Roorkee, India)
39. **Ab initio simulations of small nanoparticles' mechanical properties: strength and plasticity mechanisms** — Sandrine Brochard (Institut Pprime, France)
40. **Local mechanical response and deformation behavior of a plasma nitrided Zr-Ti-Nb-Al compositionally complex alloy investigated by in situ nanomechanical testing** — Karolina Stępnia (Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland)
41. **EFFECT OF STRAIN RATE ON THE DEFORMATION BEHAVIOR OF MAGNETRON SPUTTERED CuMoTaWV** — Mateusz Wloczewski (Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland)
42. **Hydrogen Effects on Plasticity in BCC Materials: A Tritium-Based Micromechanical Study** — Maral Sarebanzadeh (KIT, Germany)
43. **Probing the HEDE Mechanism in Hydrogen Embrittlement via Tritium-based In-situ Microcantilever Fracture** — Joahnnnes Reibenspies (KIT, Germany)

44. **Advanced characterization protocols for advanced heterogeneous materials based on high-speed nanoindentation mapping** — Giulia Gigante (Roma Tre University, Italy)
45. **EXPERIMENTAL AND COMPUTATIONAL ANALYSIS OF THE ULTRA-HIGH MECHANICAL DAMPING IN NANOPILLAR ARRAYS OF Cu–Al–Ni SHAPE MEMORY ALLOYS** — Ander Abadin (University of the Basque Country, Spain)
46. **New insights on the initial plasticity in metallic glasses via nanoindentation** — Valeria Lemkova (Saarland University, Germany)
47. **Polishing-induced residual stresses at the sub-microscale in commercially pure titanium** — Kento Takahashi (KU Leuven, Belgium)
48. **Multi-scale characterization using nanoindentation maps of tooth enamel across species** — Wout Van Wesemael (KU Leuven, Belgium)
49. **Engineering of plastic properties in zinc sulfide single crystals via electric-field-induced electron injection** — Wataru Matsunaga (Kyoto University, Japan)
50. **Investigation of Electron Beam Effect on Dislocation-mediated Plastic Deformation of ZnO Single Crystals under In-situ Micropillar Compression** — Ryosuke Kinoshita (University of Osaka, Japan)
51. **Fracture toughness of V alloyed TiN coatings using micro pillar splitting** — Urmila Regar (Linköping University., Sweden)
52. **Determination of surface mechanical properties by microshear: application at very high strain rates** — Gaylord Guillonneau (LTDS, ECL, CNRS, France)
53. **Isolating athermal hydrogen-metal interactions via cryogenic nanoindentation** — Amir Hamzehei (Max Planck Institute for Sustainable Materials, Germany)
54. **Liquid-Encapsulated Copper Microspheres: Impact of Global and Local Stress State on Fracture Behavior** — Jeongin Paeng (Max Planck Institute for Sustainable Materials, Germany)
55. **Diffusion bonding of ZrB<sub>2</sub>-SiC-based ultra-high temperature ceramic with Ti-6Al-4V structural alloy** — RAVI TIWARI (IIT Kanpur, India)
56. **Advanced Computer Vision Techniques for Deformation Analysis of in situ Micromechanical Tests** — Julius Keckes (Montanuniversität, Austria)
57. **Intrinsic Mechanical Properties of Thin Films via In-Situ SEM Micro-Tensile Testing** — Thomas Astecker (TU Wien, Austria)
58. **Mechanically Driven Li Dendrite Penetration in Garnet Solid Electrolyte** — Yuwei Zhang (Max Planck Institute for Sustainable Materials, Germany)

59. **Isolating shear-coupled grain boundary migration via double-notched pure shear pillars in Cu  $\Sigma$ 5 bicrystals** — Daeho Kim (Max Planck Institute for Sustainable Materials, Germany)
60. **Cross-Slip and Multi-Plane Dislocation Motion in Laves Phases** — Martina Freund (RWTH Aachen, Germany)
61. **Instrumented indentation testing on engineering materials: effect of temperature** — Hannah Zhang (National Physical Laboratory, UK)
62. **Nanoindentation fatigue as a tool for investigating mechanical grain growth kinetics in nanocrystalline metals** — Florentin Gaub (Saarland University, Germany)
63. **Correlative nanoindentation and microscratching for particle-matrix interface characterization** — Nora Kleser (Saarland University, Germany)
64. **Slip and deformation in high entropy carbides: A micromechanics based study** — Gaurav Mohanty (Tampere University, Finland)
65. **The impact of twin boundaries on strength of Mo nanoparticles** — Feitao Li (Technion, Israel)
66. **Experimental considerations for correlating indentation hardness with tensile yield stress for thermoplastic polymers** — Jacob Hempel (Texas A&M, USA)
67. **Damage evolution in die-cast Al-Mg-Si alloys: Resolving the role of elongated intermetallic compounds by in-situ SEM-DIC** — Felix Schulze (TU Darmstadt, Germany)
68. **Microstructure and mechanical properties of tungsten fabricated by electron beam powder bed fusion** — Lei Zhu (U Catalonia, Spain)
69. **Micromechanical characterization of cemented carbides with alternative binders under elevated temperatures and varying strain rates** — Francesc Barberà Flichí (UPC, Spain)
70. **Hydrogen effects on the micromechanical behaviour of palladium: Microstructure–property correlations** — Syed Abdur Rahman (University of Oxford, UK)
71. **Atomistic simulation of the compression of Si/SiO<sub>2</sub> core-shell nanoparticles : Impact of oxide thickness and morphology on mechanical response** — Jules Romuald Mvondo Edou (University of Poitiers, France)
72. **High-temperature wear in furnace component for hot stamping: from industrial analysis to lab testing design** — Giselle Ramirez Sandoval (UPC, Spain)

- 73. **A back-side electrochemical hydrogen charging platform for in situ SEM and nano-/micromechanical testing** — Amir Hamzehei (Max Planck Institute for Sustainable Materials, Germany)
- 74. **From Electrodeposition to Deformation: Microstructure and Strain Rate Effects of 3D Printed Copper Micro-Tensile Samples** — Alvaro Diego Bedoya Zapata (Max Planck Institute for Sustainable Materials, Germany)
- 75. **Giant superelasticity in Cu-based shape memory alloys revealed by in situ SEM nanotensile testing** — Jose Fernando Gómez Cortés (University of the Basque Country UPV/EHU, Spain)
- 76. **Surface Diffusion Induced Size Effect and Stress exponent shift in constant contact pressure nanoindentation creep** — Lizhong Lang (University of Toronto, Canada)
- 77. **Orientation-dependent deformation mechanisms in niobium alloy c103** — Aurelia Moriyama-Gurish (Yale University, USA)
- 78. **Tensile plasticity of typical perovskite oxides via mechanically seeded dislocations** — Jiawen Zhang (Southern University of Science and Technology, China)