🛠️ International Symposium on Mechanical Characterization and Testing of Advanced Materials (MECH-TEST 2026)

April 5–7, 2026

📘 Symposium Overview

The International Symposium on Mechanical Characterization and Testing of Advanced Materials (MECH-TEST 2026) brings together researchers working on mechanical behavior, deformation mechanisms, failure analysis, and mechanical testing from micro- to macro-scale.

The symposium aims to highlight cutting-edge experimental techniques, modeling approaches, and materials innovations relevant to structural, biomedical, energy, and electronics applications.

🧩 Symposium Tracks

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1. ⚙️ Fundamental Mechanical Behavior

• Elastic, plastic, and viscoelastic responses
• Toughness, strength, ductility, and fatigue mechanisms
• Time-dependent deformation (creep, stress relaxation)
• Fracture mechanics and crack propagation

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2. 🧪 Mechanical Testing Techniques

• Tensile, compression, bending and shear tests
• Nanoindentation & microindentation
• Hardness measurements (Vickers, Rockwell, Knoop)
• Dynamic Mechanical Analysis (DMA)
• High-temperature mechanical testing
• Micro- and nano-mechanical testing platforms

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3. 🔬 Advanced Characterization Methods

• In situ mechanical testing in SEM/TEM
• Digital image correlation (DIC)
• Acoustic emission monitoring
• Micro-pillar compression and micro-tensile testing
• Strain mapping and deformation field analysis

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4. 🧱 Material Classes Under Investigation

• Metallic alloys (Ti-based, Co–Cr, Mg, advanced steels)
• Ceramics and ceramic composites
• Polymers, elastomers and hydrogels
• Nanomaterials and thin films
• Additively manufactured (3D-printed) materials
• Biomaterials for orthopedic and cardiovascular applications

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5. 💥 Failure Analysis and Reliability

• Corrosion–fatigue interaction
• Wear mechanisms in load-bearing materials
• Lifetime prediction models
• Mechanical reliability of implants, electronics, coatings
• Multiscale modeling of failure