

**Predavanje u HDMu:**

## **High-Performance Structures in Extreme Environments**

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### **SAŽETAK**

Developing innovative solutions to interdisciplinary challenges in high-dynamic environments, in particular the reliable failure prediction of materials and applications, requires multiple approaches. This is especially important in industrial applications found, for example, in automotive, aerospace, sport, and transportation. To this end, this lecture will provide an insight into experimental and modelling approaches for interfaces (e.g., adhesive joints, composites) and energy dissipative polymeric structures (e.g., 3D-printed sport protective devices) in rate-dependent loading environments using different experimental setups (e.g., Split Hopkinson Pressure bar, Drop tower) and modelling techniques (e.g., Cohesive zone model).