



Professor Paolo Ermanni

«I want to foster the engineering skills and the problem-solving attitude of my students, preparing them for future challenges in research and application.»

Laboratory of Composite Materials and Adaptive Structures

Institute of Design, Materials and Fabrication

As they minimize material and energy consumption, lightweight systems play a key role in realizing sustainable products and components. Research in our lab is driven by the ambition to develop lightweight, multi-functional composite structures to preserve natural resources. Our approach bridges material science and engineering, covering engineering design, structural mechanics, and processing of advanced composite materials.

Focus

- Adaptive structures for morphing and reconfigurable systems
- Composite metamaterial structures
- Processing routes for thermoplastic composites
- 3D/4D printing of adaptive and composite materials

Tools and methods

Our approach combines experimental techniques with analytical and numerical methods to understand, simulate and verify the physical behavior of the solutions developed.

Further details online:
www.structures.ethz.ch

