Friederich-Alexander-University Erlangen-Nuremberg FAU

Chair of General Material Properties WW I

About this organisation

Machine translation

This organisation has been machine-translated based on data provided in German.

The WWI Chair is concerned with the investigation of mechanical properties and microstructure from the nanoscale to the macroscale under a wide variety of differentiated load cases, such as high-temperature deformation, fatigue, creep and wear. The focus is on researching the structure-property correlation.

The Light Metals & Mechanical Testing group at the Chair of WWI focuses on research into aluminium, magnesium and titanium alloys, particularly for structural automotive and aerospace applications. Activities are concentrated on determining the correlation between process parameters, the resulting microstructure and the resulting properties. In combination with research into the dominant damage mechanisms, it is thus possible to specifically influence or improve material/component properties based on mechanisms. Current research topics include wrought and cast aluminium alloys as well as titanium alloys. However, other materials, such as copper alloys or electrical sheets, are also the subject of current work. In all cases, an in-depth understanding of the process-microstructure-property correlation is essential, which is based on extensive material characterisation.

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91058 Erlangen
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www.ww1.tf.fau.de/

INSTITUTE I
MATERIALS SCIENCE
AND ENGINEERING

Organisation type
University or higher education institution

Sectors

Employees
500 and more

Turnover
n/a

Funding

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About this organisation

Main areas covered	Alloy development, Mechan. Properties, Microstructure analysis, Damage mechanisms, Structure-property correlation
Infrastructure	
Certifications	
Keywords	
Memberships	

Overview of lightweighting expertise

Machine translation

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	Research	Development	Manufacturing & Supply
Offer			
Products			
Services & consulting Validation, Technology transfer, Others (Material selection and quality assurance)	✓	✓	
Field of technology			
Design & layout			
Functional integration			
Measuring and testing technology			
Modelling and simulation			
Plant construction & automation			
Recycling technologies			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing			
Coating (surface engineering)			
Fibre composite technology			
Forming			
Joining			
Material property alteration			
Primary forming			
Processing and separating			
Textile technology			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium	✓	✓	
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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