University of Wuppertal

Computational Applied Mechanics

About this organisation

At the chair of Computational Applied Mechanics (CAM) at University of Wuppertal, we are concerned with fundamental research in material and structural modeling as well as developing strategies for optimizing processes in practical engineering applications.

For example, one focus lies in increasing the lightweight construction potential of wood-fiber-based materials such as paper and paperboard. These natural and complex materials are suitable for a wide range of applications (e.g. as packaging and building materials). To that end, we work on innovative models and methods to improve the lightweight construction potential across multiple scales.

Pauluskirchstraße 7
42285 Wuppertal
North Rhine-Westphalia
Germany
www.cam.uni-wuppertal.de

Organisation type
University or higher education institution

Sector

Employees
Up to 9

Turnover
n/a

Funding
n/a

Main areas covered	material modeling, structural modeling, multiscale modeling, simulation, paper and paperboard
Infrastructure	
Certifications	
Keywords	
Memberships	

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Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Offer			
Products			
Services & consulting Training, Consulting, Simulation, Technology transfer	✓	✓	
Field of technology			
Design & layout			
Functional integration			
Measuring and testing technology			
Modelling and simulation Loads & stress, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials	✓	✓	
Plant construction & automation			
Recycling technologies			
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

	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites Carbon-fiber reinforced plastics (CFRP), Laminates	✓	✓	
Fibres Carbon fibres, Natural fibres	✓	✓	
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

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