



## Paper Technology

The main research areas in the paper technology working group are in the fields of pulp and paper production and processing, paper treatments, and finishing. New and further development of technologies for the reduction of the specific energy requirements of processing and manufacturing processes to reduce carbon footprint, is the heart of the research and teaching activities. Furthermore, new fields of application for cellulosic materials, in functional layers or new products are developed and existing technologies are further improved and adapted for other applications. The entire research at the Professorship for Paper Technology is performed interdisciplinary and with international cooperation with university and non-university partners.

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## Bio-composites

Since more than half a century ago, wood and other natural fibers have been researched for application in composite production. Today, application-oriented composites and their manufacturing processes are being developed, using renewable fiber sources. New raw material sources (including plant residues) are being developed as fiber sources. Considering the background these composites are always designed to optimize the utilization of the raw material properties. This results in a semi-finished product (foam, long fiber and short fiber composites, sandwich structures).

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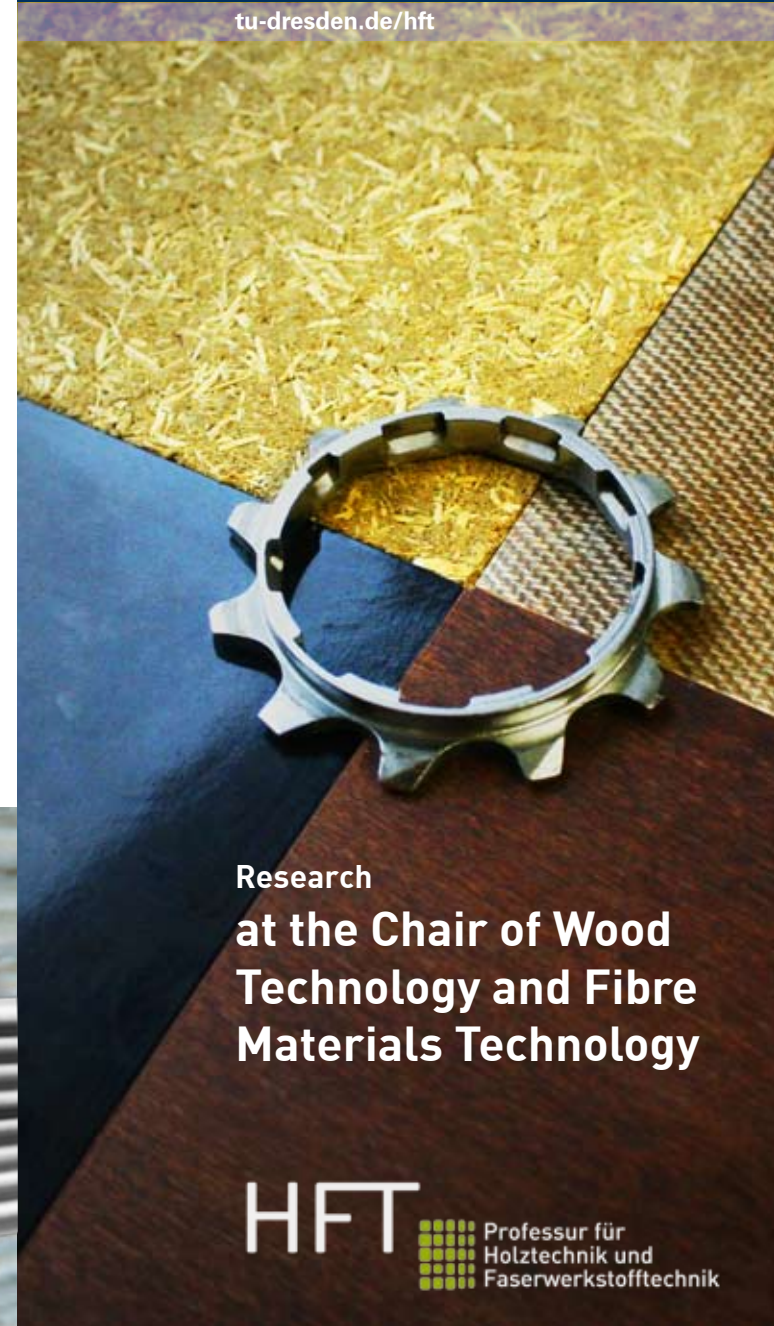


formed component and deep drawn component out of cellulose-based materials, ceramical wave profile



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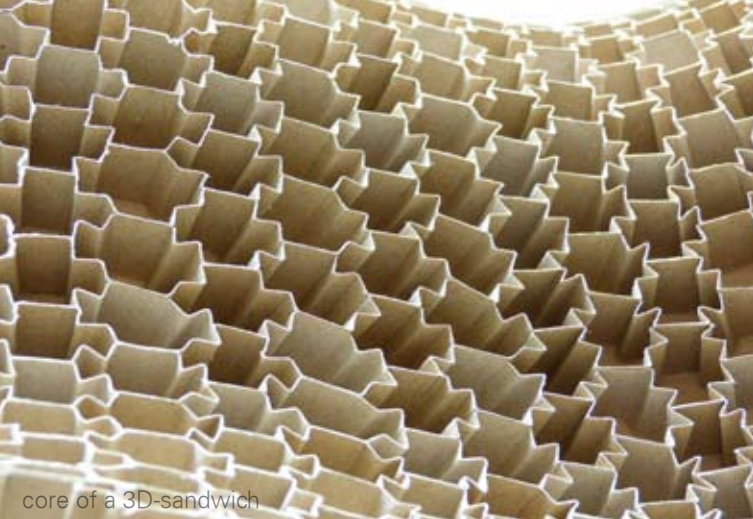
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Research  
**at the Chair of Wood  
Technology and Fibre  
Materials Technology**

**HFT**

Professur für  
Holztechnik und  
Faserwerkstofftechnik



core of a 3D-sandwich

At the chair of Wood Technology and Fiber Materials Technology, research groups are focused on specific materials and categories.

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## Manufacturing technology

The focus of the research group of the manufacturing technology is on the production processes which include wood and wood-based materials as well as other bio-composites (sandwich materials, paper, and cardboard materials). Traditionally separation- and joining-processes as well as handling processes in the middle parts, are the topics of investigations. Researches are aimed to develop new technologies and improve the process quality with

increasing energy and resource efficiency. Special process and tool developments are devoted to the further development of the current state of technology of material composites, furniture and building element construction, etc. One of the main topics of the research group is processing of biomaterials such as paper, for developing novel sandwich core materials. In addition to the research activities, the group is involved in providing standards and guidelines in its research areas.

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## Solid wood and veneer

This research group is dedicated to topics related to wood in its natural form, and also to modern solid wood composite materials. It is possible to change the natural properties of wood such as swelling and shrinkage behavior, moisture absorption, strength, hardness, color and etc., through thermal, mechanical, chemical, and biological modification or a combination of



modified wood of European beech for instruments



wood-based materials

them. With modification an improvement in application of wood and veneer as building and interior material as well as in products of everyday life and in the living environment of people is achieved.

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## Wood materials and insulating materials

Wood materials and insulating materials from renewable, raw resources are developed, modified and optimized by this research group. Their focus is on biomaterials with special properties, new products or application-oriented materials. In addition to wood fibers, other lignocellulosic raw and residual materials, from Germany and abroad, as well as biobased additives are researched and their potential application is assessed.

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