



2019 World Wood Day Symposium & The 2<sup>nd</sup> IUFRO Forest Products Culture Research  
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Abstract Booklet – Annex to p.93

IAWS Lecture:

## **“Wood Technology in the Course of Time”**

The word Technology is transliterated from the two Greek words “téchne” (art, skill, cunning of hand) and “logos” (the utterance by which inward thought is expressed). It comprises the scientific and practical collection and application of techniques, skills, methods, and processes used in the production of goods or services and the accomplishment of objectives in general. Technology can be seen as the knowledge of techniques, processes, and literally it is somewhat to be embedded in machines to allow for operation without detailed knowledge of their workings.

A survey of the beginning of a structured and natural science-based wood technology to the current state of the art is provided, highlighting some selected technologies. The basic principles of wood utilization applying different technologies such as disintegration of the material, classifying and grading, modifying and engineered re-assembling are addressed. The main emphasis is put on the reduction of the natural variability of the raw material wood and the transformation into an economically viable and reliable material and the various products made thereof.

It can be shown, that technology development and technology maturity is a matter of time, and, as a general rule, it takes about 15 years from the basis invention to an industrial application.

Currently, technology development occurs at all main routes of wood processing (e.g. mechanical processing and chemical processing) at all length scales of the material wood. Nano- and microfibrillated cellulose as a potential high-performance material of the future has hypes in research and technology development as well as mass-timber construction, where there is a race for the highest wooden building. The key-driving forces for technology development can be seen within the sector but also in competition to other industrial and technology sectors. It is necessary, that technologies from outside such as information technology, high-performance material technology is transferred to the wood sector. Wood technology has always been a bit behind the common development of the application of modern techniques, but currently it seems, that wood technology can take over a leading part in some specific applications. “Green technology” has become a buzzword, but modern wood technology has become a major part and role model in the utilization of renewable materials.

In any case, modern technology development is strongly based on scientific knowledge, new findings in research, outstanding ideas in development. This needs a technologically literate community, which is based on a proper education system.

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