



# Lignocellulosic reinforcement of pine beams

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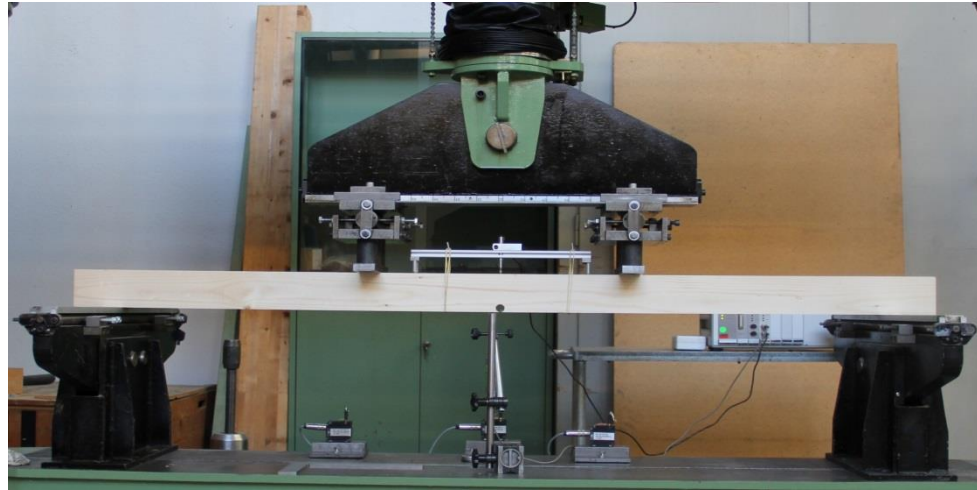
**Warsaw University of Life Sciences-SGGW  
Faculty of Wood Technology**

**Performance Testing and Testing Methodologies  
of Non-wood Biobased Materials**

**4-5 March October 2015, Tallinn Estonia**

## AIM OF WORK

To determine the possibility of using **natural, lignocellulosic** materials as a **local reinforcement** of timber beams.



Based on performed tests it may be concluded:

- ✓ The LLBC, because of its rough surface, low contact angle and high surface energy, is **perfect for gluing**. The bond and wood-bond-LLBC contact area are **not prone to cracking**.
- ✓ The LLBC, as a natural and renewable material, is an interesting **alternative to synthetic, highly processed materials**.
- ✓ Application of LLBC plate as a reinforcement material significantly **increase the MOR and MOE** of timber.

Strain of glue bond

- (a) without load,
- (b) loaded, wood-glue-LLBC setup, and
- (c) loaded, wood-glue-CFRP setup

