LABORATORY OF WOOD TECHNOLOGY

DEPARTMENT OF MATERIALS AND ENVIRONMENTAL ENGINEERING

TALLINN UNIVERSITY OF TECHNOLOGY (TALTECH)

Anti Rohumaa & Jaan Kers

20th InnovaWood General Assembly

28 - 29 June 2022 in Porto, Portugal

LABORATORY OF WOOD TECHNOLOGY

- Laboratory of Wood Technology is the structural unit of the **Department of Materials and Environmental Technology** in the Tallinn University of Technology.
- Laboratory of Wood Technology **focuses** on the studies of wood, wooden materials, wood polymer composites, other natural materials and furniture research, development and testing.
- **The staff** of the Laboratory takes active part in teaching activities and is offering students various research topics on Bachelor's, Master's and Doctoral studies level. Laboratory is always open for co-operation with other facilities and enterprises.
- **Research group has 12 members:**

1 prof., 1 senior lecturer, 2 lecturers, 2 researchers, 3 PhD students/early-stage researchers, 2 engineers, 1 technician

R&D OF WOOD TECHNOLOGY

TALLINN UNIVERSITY OF TECHNOLOGY

PHD STUDENTS

- **Percy Festus Alao** – „Development of hemp reinforced biobased insulation materials for passive houses“, Sup Jaan Kers, Triinu Poltimäe. **Defended in June 2022**

- **Villu Kukk** Hygrothermal performance of cross laminated timber envelopes. Sup Targo Kalamees, Jaan Kers, **Defended in June 2022.**

- **Tolgay Akkurt** started 2021 Sup. Jaan Kers, Anti Rohumaa „Valorization of low-quality wood species into innovative multi-layered engineered wood products“

- Several new positions are open until the end of June 2022

Admission to Doctoral Studies at TalTech

LABORATORY EQUIPMENT

Laboratory scale veneer and plywood production line consists of following equipment (installed in 2018):

- log yard
- log conditioning bath
- lathe
- clipper
- veneer dryer
- steam generator
- glue spreader
- hot press

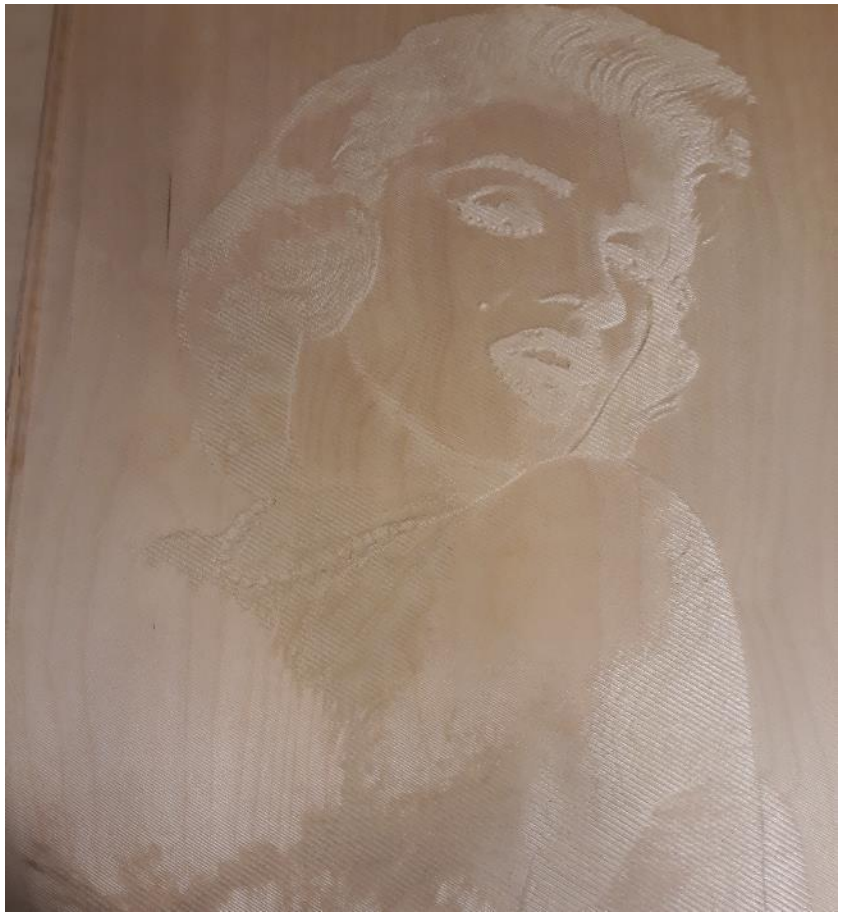
RESEARCH ACTIVITIES IN VENEER AND VENEER-BASED PRODUCTS

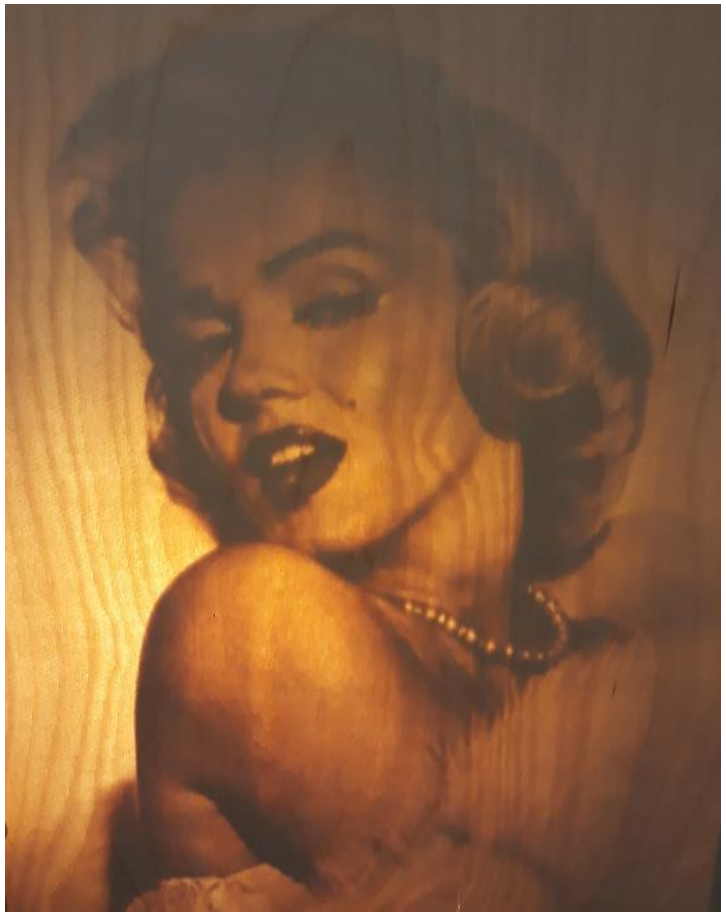
- **Raw material and production process optimization** e.g. reducing the costs, improving the drying, gluing and pressing parameters
- **Improvement of the veneer (surface) properties.** Design of veneer-based products, enhance adhesive bonding
- **Testing of new bio-based adhesives** and their interaction with wood.
- **Utilization of low quality and less used wood species** (aspen, gray alder, black alder) in veneer-based products.
- **Development of evaluation methods for veneer quality** e.g. lathe checks, integrity
- **Improving the properties of veneer and veneer-based products,** interaction with fire retardands, densification etc.

TRAININGS FOR COMPANY WORKERS

- In 2019, the lecturers of the wood technology laboratory conducted in-service training in “Basic Training in Veneer and Plywood Production”
- A training program was developed in cooperation with the Unemployment Insurance Fund and the TUT Open University
- Those who passed the exam received TalTech Open University training certificate.

FUTURE PERSPECTIVES





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