CHEMARTS

chemarts.aalto.fi

30.10.2020

Photo Eeva Suorlahti

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CHEMARTS

= bio-based materials + collaboration + hands-on experiments
+ student-driven approach + co-learning

We use wood-based materials and also other bio-based and/or natural materials.

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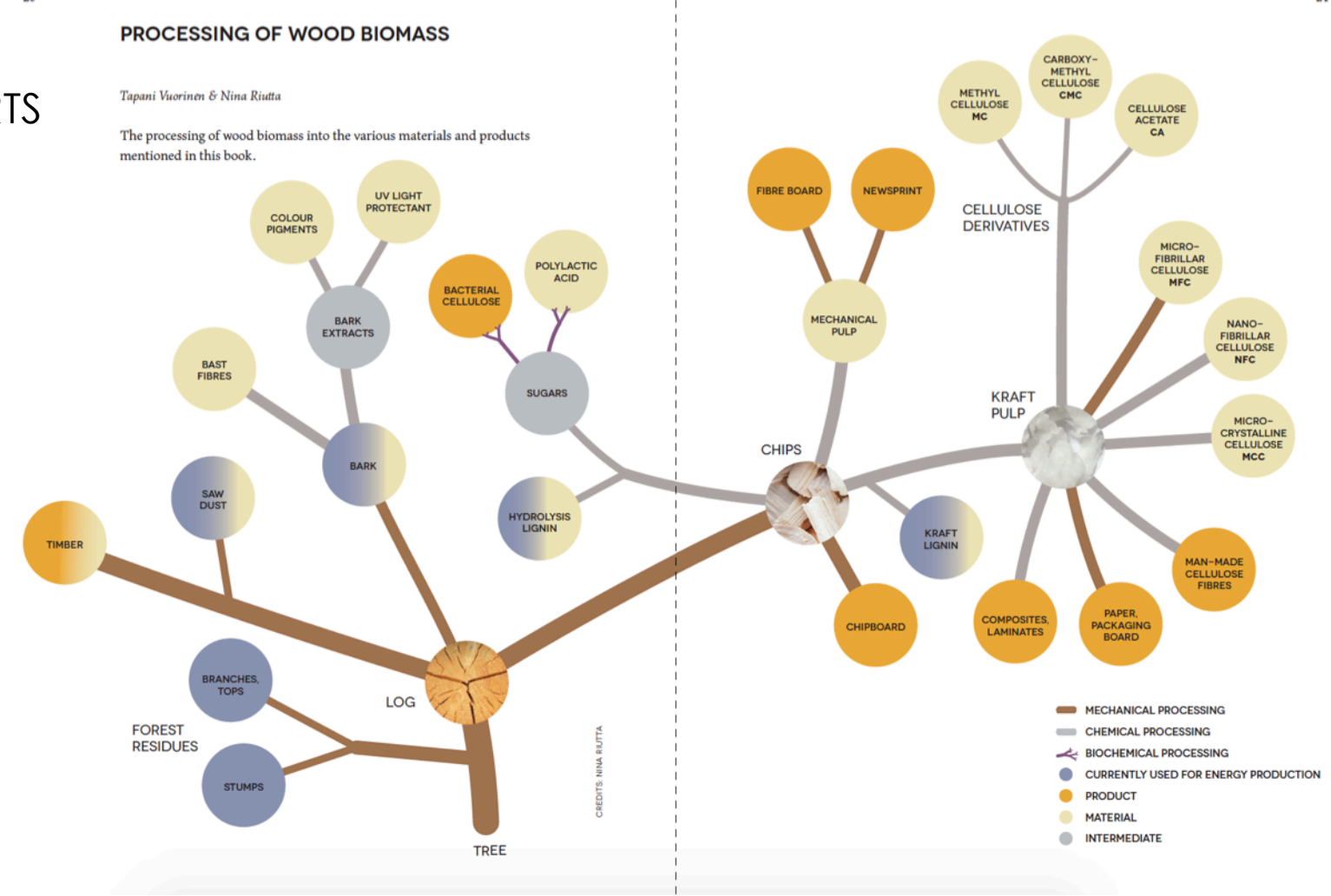
From
The CHEMARTS
Cookbook:

Tree of
wood-based
materials



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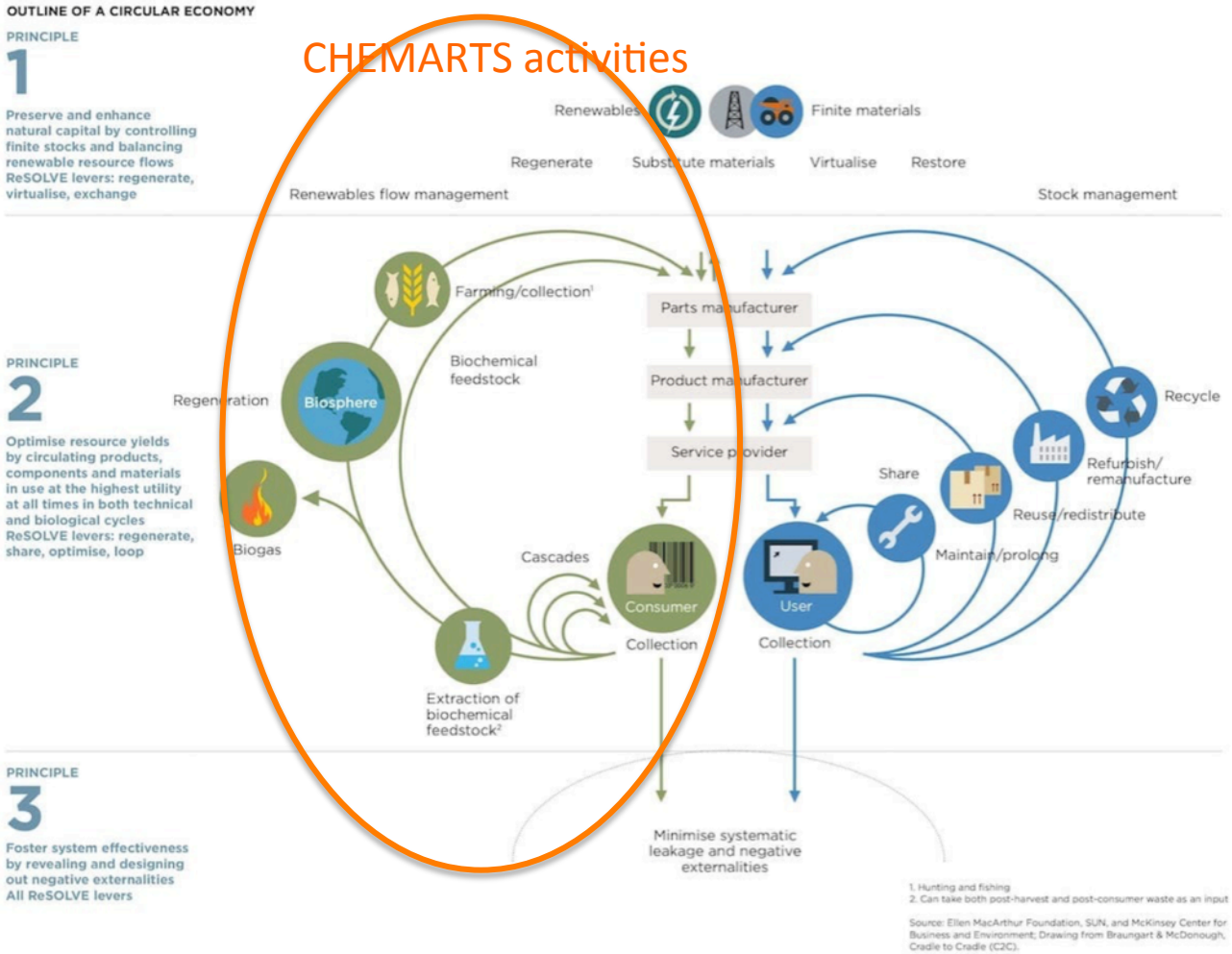
https://shop.aalto.fi/p/1193-the-chemarts-cookbook/

CHEMARTS activities



https://www.ellenmacarthurfoundation.org/circular-economy/concept/infographic

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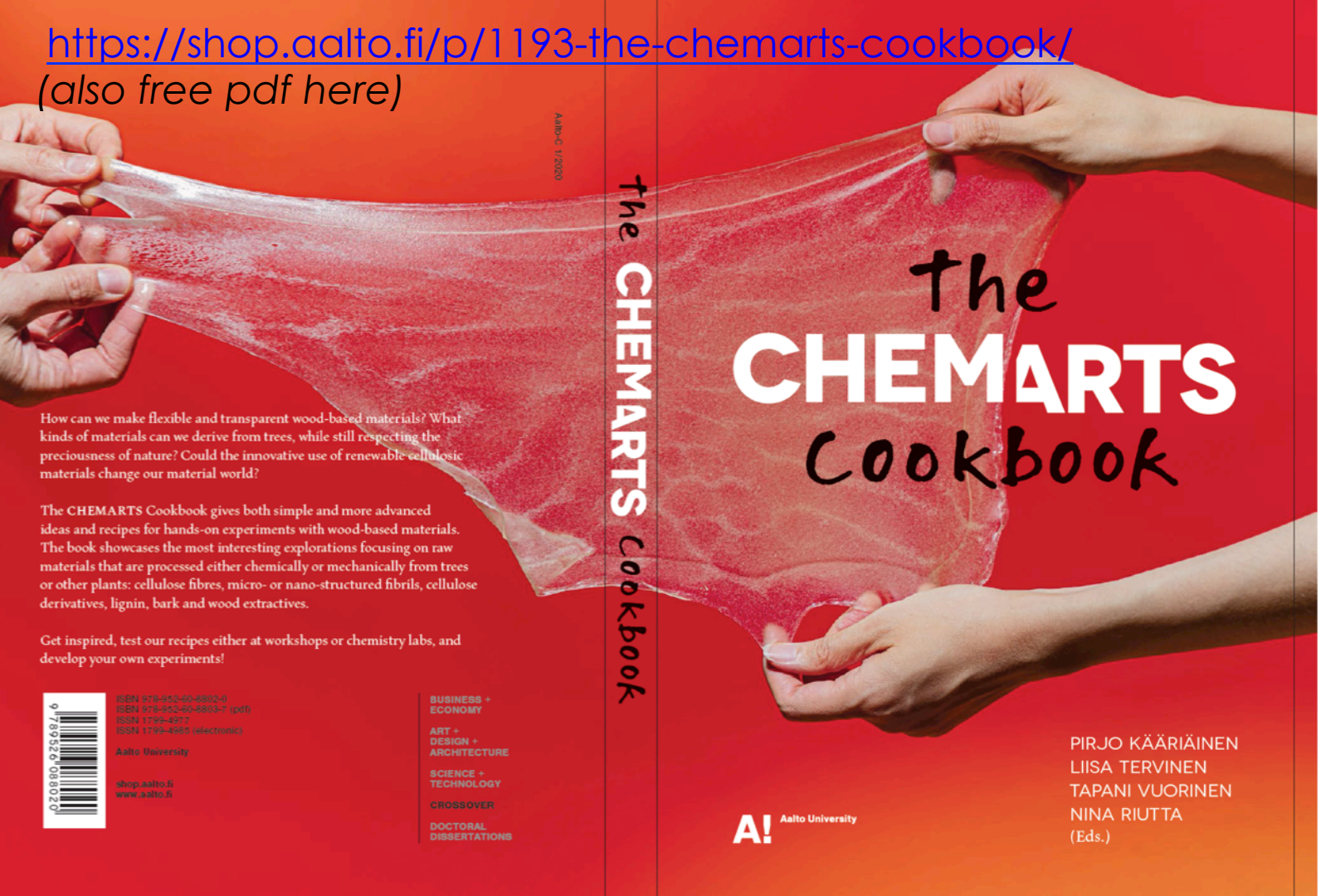
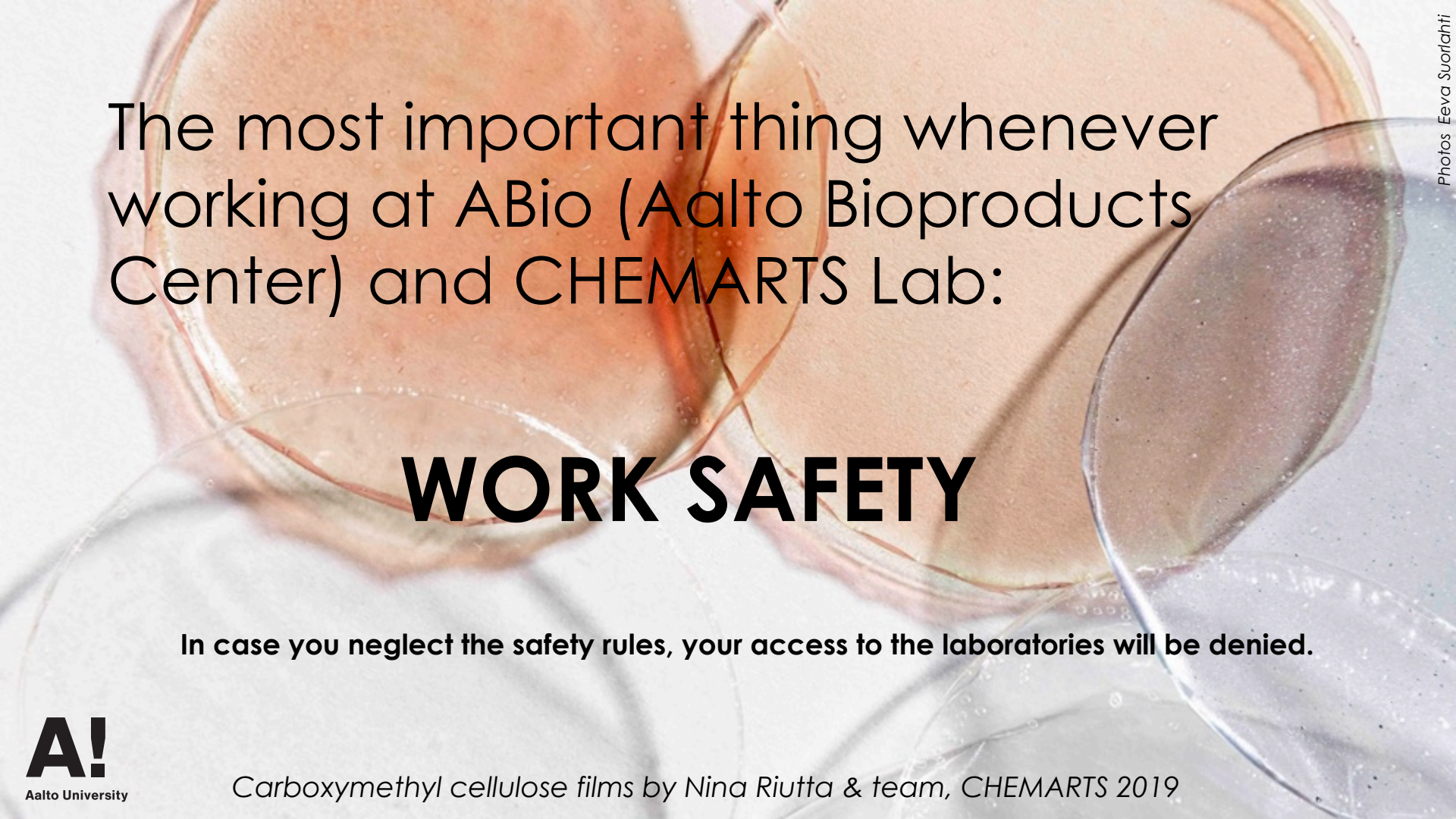
https://shop.aalto.fi/p/1193-the-chemarts-cookbook/
(also free pdf here)



CHEMARTS is the long-term strategic collaboration project of two Aalto University schools: the School of Chemical Engineering (CHEM) and the School of Arts, Design and Architecture (ARTS). These schools combined their forces in 2011 with the aim of researching bio-based materials in an innovative way, and creating new concepts for advanced cellulosic materials. The core values of CHEMARTS are the sustainable use of natural resources, experimental working methods, and respectful cross-pollination between design and material research.

CHEMARTS arranges multidisciplinary study courses and the Summer School for degree students, thesis projects, workshops for elementary and high school students and externally funded research projects. This publication was produced by CHEMARTS.

The CHEMARTS Cookbook team clockwise: Professor Tapani Vuorinen (CHEM), Designer Nina Riutta, Photographer Eeva Suorlahti, Professor Pirjo Kääriäinen (ARTS) and Design manager Liisa Tervinen.



The most important thing whenever working at ABio (Aalto Bioproducts Center) and CHEMARTS Lab:

WORK SAFETY

In case you neglect the safety rules, your access to the laboratories will be denied.

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Carboxymethyl cellulose films by Nina Riutta & team, CHEMARTS 2019

Photos Eeva Suorlahti

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Tempo-oxidized nanocellulose bowl by Nina Riutta, CHEMARTS 2017. Photo Eeva Suorlahti

Havu cosmetics
from the Finnish nature
by Lumi Maunuvaara
CHEMARTS 2017.
Photo Eeva Suorlahti

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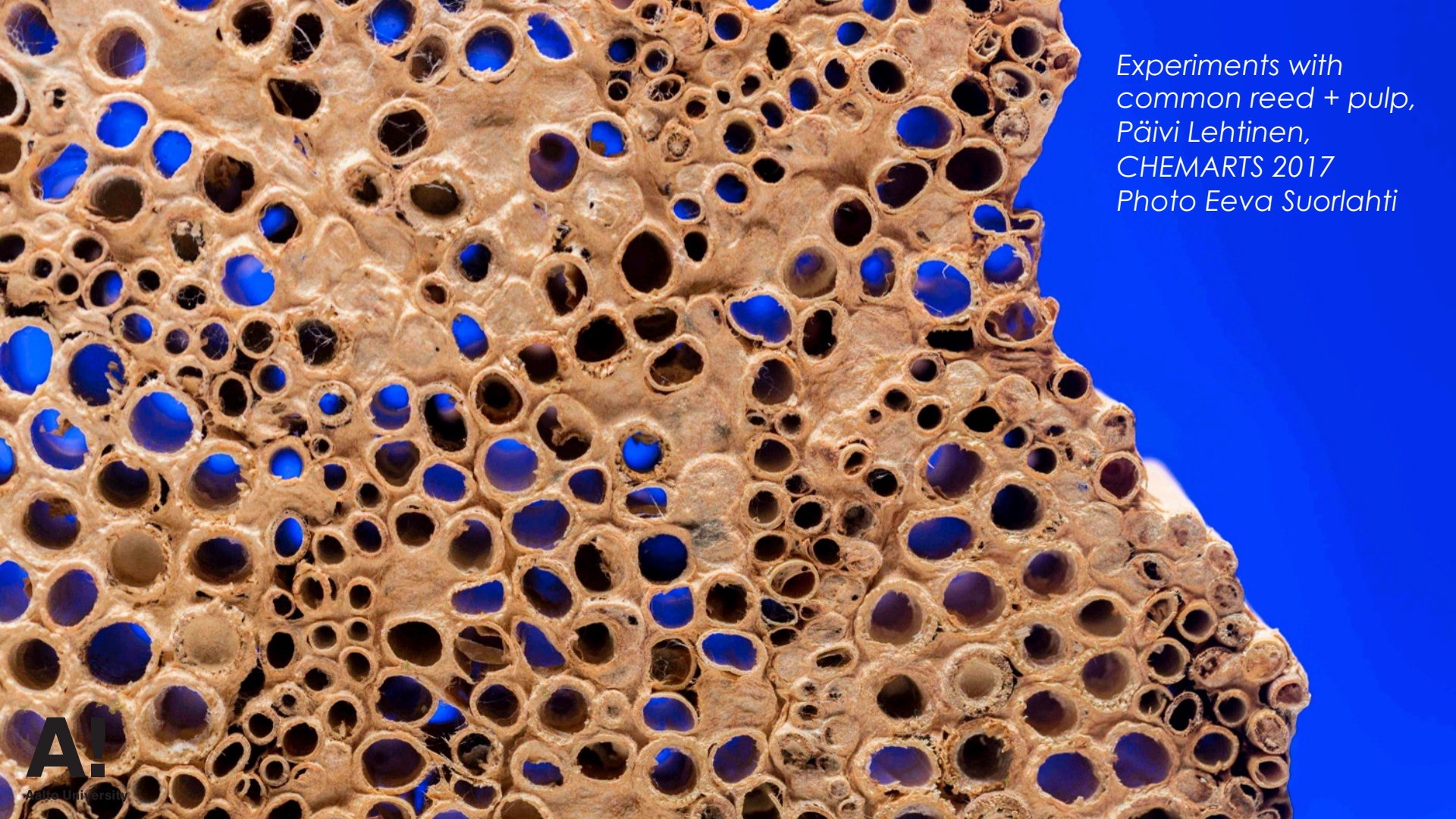
Eco Luxury jewelry by Ines Jakovlev CHEMARTS 2017. Photo Eeva Suorlahti



Experiments with common reed + pulp, Päivi Lehtinen, CHEMARTS 2017 Photo Eeva Suorlahti

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3D printing of cellulosic materials by Anastasia Ivanova and Ville Klar with VTT, DWoC project 2015-2018 Photo Eeva Suorlahti.

Timberfill® (Wood Composite)

Timberfill®

- Bio-sourced real wood fiber composite
- An authentic look and smell of wood

Filament made of biopolymers **containing fibers from real wood**.
The printed objects have an authentic look and smell of wood.
Thanks to the bio-sourced origin of the material, it is **100% biodegradable**.

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Fibers from willow bark and manmade cellulose textile fibers (Ioncell)

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Saw dust + nanocellulose by Heidi Turunen, DWoC project 2015-2018. Photo Eeva Suorlahti

CHEMARTS course list 2020-2022

INTRO to CHEMARTS: **CHEM-A1610 Design Meets Biomaterials**, 3-5 cr (periods VI-V)

MUO-E0101 CHEMARTS Summer School 2.0, 5 cr (June)

CHEM-E1100, Plant Biomass, 5 cr (period I)

CHEM-E0180 CHEMARTS Project, 5-10 cr (any time, based on student's own plan, prerequisite: Design Meets Biomaterials or Summer School)

CHEMARTS Minor CHEM3040, 15-25 cr (no special application process)

Also Pack-Age minor program deals with bio-based materials, focusing on packaging.

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