CHEMARTS 2020
by Design Meets Cellulose
2012
Long-term collaboration between

Aalto University
School of Arts, Design and Architecture

Aalto University
School of Chemical Technology
INTRODUCTION

Design Meets Cellulose is the inaugural multidisciplinary summer project between Aalto University’s School of Arts, Design and Architecture and School of Chemical Technology. The project’s primary object is to combine the two distinct disciplines of design and engineering, and thus hopefully establish a long-term collaboration between these two schools of Aalto University.

In the summer 2012 the project’s main focus has been to evaluate the performance of cellulose based materials and additionally to seek for novel and advanced uses of cellulose based materials.

Even though academic collaboration within Aalto University was not one of our primary goals at the start of the project, it became increasingly important to the project team as the co-operation progressed. Consequently it was decided that the future of collaboration within Aalto should be discussed in more detail on a conceptual level.

Although there are many existing and fruitful collaboration initiatives within Aalto University, this project is in many respects a pilot venture looking at the many possible ways to integrate design and the multitude of processes and products the forest products industry entails.

In actuality the initial seed for a hopefully long-lasting collaboration within the two schools of Aalto University has already been planted with the Design Meets Cellulose project that is now concluding. This brochure that you are holding in your hands is designed to include some of our suggestions and views on keeping this novel collaboration alive and vibrant for years to come. To the six members of the Design Meets Cellulose project the summer 2012 has been innovative, unforgettable, revolutionary and most importantly an educational process like no other.

Let’s build this collaboration further and help to advance it to new unprecedented heights. This way future students can enjoy it as much as we have!

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COLLABORATION NOW
STUDENT`S POINT OF VIEW

- Upcoming open offices
- New campus site
- Freedom of movement
- Start-up support
- Aalto initiatives -> Design Factory, FabLab, AddLab
- ME310&PDP
- Connections to the industry
- Approachable staff & professors
- Experimentalism
- Internationality
Lack of synergy between Finnish and international students

Bureaucracy - hierarchy

Lack of "innovative" projects

Learning from others: exchange of departmental knowledge

Connection of studies to "real life"

Not enough rewarding for collaboration

Old fashioned engineering working methods

Lack of marketing & promoting

Lack of curiosity towards others
STRENGTHS OF THE SCHOOLS

- Flow of ideas & “free thinking”
- Brainstorming
- High confidence in idea sharing and presenting of ideas & concepts
- Strong visuality through artistic expression
- Improved group working skills through strong interaction
- Concept building
AALTO CHEM

- Core knowledge
- Empirical research through laboratory assignments
- Use of scientific equipment
- Extended exposure to technology and theoretical scientific research
- Deeply analytical way of thinking
- High ability for problem solving
- Strong ties to the industry
INTRO
- getting to know each others
- basic theory
- group based learning

METHOD N
- collaborator provides the task for one week workshop
- visits
- getting to know a new method

6TH WEEK
- learn to arrange a workshop and lead other people through it

NINJA MARKETING
NINJA LEARNING
new participants
This concept idea builds on a six week time period where intensive learning takes place. The project is divided into 6 one-week long sprints with different motives. The focus in this concept lies on learning different points of views and methods to attack problems.

In the first week the students get to know each other, exchange basic theory from their specific fields. During week 2-5 they get a glimpse of “real life”-work, as different companies, municipalities etc. are involved in giving them tasks to solve together. Students get valuable insights into different working environments and methods.

Each week has one task with one method that is based on some relative perspective. As an example of one week there would be a company that has for instance a problem based task. Students will have PD6-workshop with the company workers and then continue with other methods that are suitable for problem solving. At the end of a week students will present the solution for the company.

Team work skills increase in a short time frame, as each task is finished during one week. The sixth week differs from the previous ones; it is a so called “Ninja phase”. The target here is to arrange workshops for new prospective students to arise interest in the subject of wood and design. These workshops are planned by the project participants and they pick out interested people for an impromptu rendezvous.
For example students can be picked straight from a lecture for a one hour brainstorming session. This type of project marketing ensures that the next project participants will be enthusiastic and committed and boost the outcomes even further.

Students get to know multiple solution methods to approach different problems in their future working life. They also learn to see the big picture and study it from variable points of view.
WORKFLOW
Multidisciplinary Thinking in Six Weeks

Week 1  Introductions to each other
Week 2  Product point of view, case study with a company involved
Week 3  User point of view/service design, case study with an organization or city involved
Week 4  Research point of view, case study with Aalto University
Week 5  Marketing point of view, case study with an advertising agency
Week 6  Arranging workshops for new prospective participants in project
A YEAR-LONG
MULTI-LEARNING EXPERIENCE

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In this concept the students take a deep dive into the endless possibilities of cellulose based materials. They learn to appreciate each other’s distinct strengths by a comprehensive collaboration and get real life working experience.

The year-long “cellulose sprint” starts by participating in common courses, workshops and designated case studies. The emphasis lies on introducing design students to the different aspects of cellulose based materials and in turn exposing engineering students to the world of design. In addition the engineering and design students are introduced to each other’s working methods, which is an integral part of the entire collaboration.

The fundamental idea behind the year-long cellulose sprint is not to make an engineer out of a designer or vice versa, but indeed to open the students minds of the never-ending possibilities of cellulose as a raw material. After the different courses and workshops, the students have opened their minds to theory, problem solving, new working methods and learning situations resulting in improved knowledge and strong interaction skills.

### Potential Courses
- Package design
- Basics of fiber sciences
- Paper fashion
- Temporary design solutions
- Furniture design
- Fiber workshops
- Textile workshops
- Sustainable solutions
- Industrial case studies
The year-long cellulose sprint collaboration program culminates in a revolutionary summer project. The so-called Fiber Bus Experience is a cellulose road trip, where the students take a tour around Finland engaging themselves in multidisciplinary tasks along the way.

The bus takes them to several companies within a wide array of industries such as paper & pulp, medicine & health care, textiles etc., where appropriate case studies, assigned by the companies, are conducted. The aim is to get concrete results by tackling a specific problem. The Fiber Bus Experience enables a novel laid back working atmosphere where exchange of knowledge is immersed with culture. This is a true once in a life time networking and learning experience!

On top of this the bus is heavily branded with Aalto-logos, slogans and colors so that it evokes a strong public interest. All of this is executed in strong cooperation with Aalto’s vision and strategy for the future. The ambition is to get a strong Aalto-buzz going and marketing our university as a reason for pride and excitement.
EXTENDED WEB OF
STAKEHOLDERS
FOR STUDENTS

. Learning new methods
. Enhancement of multidisciplinary communication skills
. Learn facts about cellulosic materials and their usage
. Learn to know stakeholders within the field
. Possibility to customise studies

FOR THE UNIVERSITY

. Strengthening Aalto University’s image and identity
. Increase of academic attractiveness
. Improving communications in Aalto
. Increased funding
. Improved communication between departments

FOR COMPANIES

. Increased coverage and presence in the academic world
. New ideas with low costs
. Testing of potential employees

FOR FINLAND

. Strengthen existing know-how
. Enhanced use of domestic resources
. Novel innovations / products / processes / start-ups
FOR STUDENTS

- Encouragement for experimental approach
- Research point of view for design students
- User point of view for engineering students
- Improved skills to choose the correct approach to each project/problem
- Valuable future contacts & networking

FOR THE UNIVERSITY

- New knowledge on multidisciplinary collaboration
- The visions and strategies of Aalto in action
- Opening doors for future collaborations in Aalto
- Increased funding
- Increased attractiveness for both students and academics

FOR COMPANIES

- Skilled professionals equipped with multidisciplinary perspectives and improved social & group working skills
- Increased presence and visibility through strong collaboration

FOR FINLAND

- Increased employment
- Improved national economy
- Promotion of Finnish wood products & Finnish design
- From bulky industrial products to higher value quality products
OUTCOMES

I S T H I S  A W E S O M E ?
Since Aalto University is an amalgamation of three different academic organizations, the variety of different academic disciplines within Aalto University is very vast. Therefore the number of potential routes for students to collaborate is near endless among the different schools of Aalto University.

Design Meets Cellulose is a one of a kind joint project between very different academic disciplines within Aalto University – design and cellulosic fiber sciences. In many respects this sort of open-minded collaboration involving students of varying academic backgrounds is a prime example of Aalto University’s strong vision and strategy.

The two primary suggestions of inter-school collaboration within Aalto University introduced in this brochure, are the products of a workshop looking at how in the future the entire collaborative atmosphere in Aalto University could be improved. In order to look bravely into the future as the primary educational institution of Finland, and no less than the entire world, there is always room for improvement.

The two previously presented suggestions are in no way exclusionary to each other. Design and engineering student have immense amounts of locked potential stored in each other’s working methods, which are just waiting to be discovered. Exposing these two student groups to each other’s working methods could produce new professionals with improved skills and modern interdisciplinary attitudes.

Furthermore the workshop produced daring future visions on how collaboration in Aalto University could improve the image of the university. With improved marketing and public presence Aalto University could be made even more interesting and desirable for prospective students, academics and the general public alike.

Additionally the role of the stakeholders was re-evaluated. A broader involvement of media and a wide array of companies of different business fields could have a very positive effect on student collaboration projects in general. Also the involvement of alumni, members of the general public and even governmental organizations could act as enrichment to collaborative projects and turn them into new heights as instruments of national and international importance.
CONCLUSION

This summer has been unforgettable for us on so many levels.

It turned out to be very different from our initial expectations; many preconceptions about designers vs. engineers were erased early on in the project. The biggest revelation was to realize how rewarding working with people with different strengths and skills can be. The engineers have learnt new techniques to problem solving, working methods as well as visualization whereas the designers have learnt more analytical and technical approaches and gotten material knowledge.

Studies should prepare students for real life work situations and that is something one cannot learn in a lecture hall. Team work skills are invaluable nowadays and something Aalto University undoubtedly should invest more in. Students are capable of achieving incredible goals as long as they are trusted and encouraged to succeed.

We hope to have inspired you to believe in the possibilities of arranging new joint projects. Awesomeness is easier to achieve together rather than alone, which probably is the core lesson learnt. A lesson we would like to share with other students by continuing the collaboration between Aalto Arts and Aalto Chem.