

# Field report for Marshall Plan Scholarship

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Since there is a good background of working on CLT as a structural material and the way that CLT is utilized in building and structures in Austria, the Marshall Plan Scholarship program, provided the opportunity for me to learn from other researcher's experiences and become more familiar with designing buildings and structures from cross laminated timbers according Eurocode.

Networking with other researchers around the world for future collaborative works was another benefit of this project. Learning from the previous experience of Austrian researchers/ designers/ engineers was a great resource to expand my knowledge about CLT.

The Final results of this project will be used for a comparison between the design of CLT buildings according to Eurocode 5 and the National Design Standard of United States and adopting the European CLT design methods to expand the CLT building design in US and other countries.

I arrived to Salzburg on 21<sup>st</sup> of May. I joint a week long study trip with my advisor, Prof. Marius-Catalin Barbu, and his student to a Czech and Germany. During this trip we visited seven wood processing company and the IHD research Institute in Dresden, Germany. The trip ended up attending the LIGNA, world's leading trade fair for machinery. We have been introduced to different wood machinery companies such as Biesse and HOMAG. One of the interesting parts of the LIGNA show was the loges where some universities presented themselves and their research. Students from Kuchl campus of Salzburg University of applied sciences presented their newest research projects and achievements. The connection between wood industry and research institute and universities was really impressive for me.

I spent my three month research time in Kuchl campus of FH Salzburg .Even being a small campus it is a great example of collaborative work of industry and university. Unfortunately, nobody there is a CLT professional researcher, therefor I had to work self dependently which was too much of pressure for a three-month period. But I am grateful that my advisors, Dr. Barbu and Mr. Huber helped me to make the connection with CLT industry professionals in Austria and Italy. I really

1 thank all of their support and effort in helping me even though my research topic  
2 was not their specialty and both were too busy during my staying.

3 Unfortunately not all of the industry partners were willing to accept me as an  
4 American exchange researcher student in their factory which caused losing part of  
5 my research time. However, I got the chance to visit the production line of one of  
6 the largest CLT factories in Europe, Stora Enso. I took the train to Amstetten and  
7 from there another train to Ybbs an der Donau. This is the city that the production  
8 site is located in. The factory is consisted of a sawmill known one of the largest  
9 sawmills in central Europe and a CLT production line. One of the engineers of the  
10 company gave me a tour through the production line which was finger jointing of  
11 the lumbers, side gluing of finger jointed lumber, gluing and setting up different  
12 layers together, pressing layers and CNC cutting according to customer's demand.  
13 As part of the tour I have been introduced to CLT ENGINEER which is a software  
14 for designing of CLT buildings. I used this software for preparing my final report.

15 Rotho Blaas was another company recommended by Mr. Huber to be visited as a  
16 connection producer company. I took the trains to Innsbruck, Bolzano and  
17 Cortaccia to get to the company's office. Mr. Michael Brunner gave me a tour to  
18 the company. I have been given information about different productions of  
19 company specially those related to CLT connection and also to recent engineered  
20 products called X-ROT and Spider connections which are used as wall connection  
21 and floor connection.

22 I also took a trip to UT Graz for a meeting with Prof. Schickhofer and Dr.  
23 Brandner about CLT design and connections. I have been given a tour to the  
24 testing facilities employed for CLT research.

25 Meeting professionals and visiting the factories and job site extended my vision  
26 about CLT and I got more inspiration to continue my PhD research about CLT.

27 I really appreciate Marshall Plan scholarship foundation for opening the door to me  
28 to know and learn more about Cross Laminated Timber. Travelling to Austria, the  
29 main CLT producer country, was a great professional experience for me as a PhD  
30 student who wants to work on this topic.

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1 Mrs. Szigeti was a key person before and after my arriving and during my stay. I  
2 appreciate all of the arrangement she set up for me to make my staying pleasant.

3 I would definitely recommend other students to use this great learning opportunity  
4 which Marshall Plan foundation provides. I myself was hoping to be able to use it  
5 again for continuing my research in TU Graz, but realized it is just one time  
6 applicable for each researcher.

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