



Erasmus+ program 2018-2019

# ACTIVITY REPORT

**Student:**

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## 1. Academic study

### 1.1 Research

I have studied about corrugated web cold-formed steel beams (the cold-formed steel beams) in Universitatea Politehnica Timișoara. Cold-formed steel is used for the beam, and it is a relatively new solution for beams. Studies for members, in which cold-formed steel is used, have been progressing especially in Europe and the United States. Prof. Dan Dubina in Universitatea Politehnica Timișoara studies about cold-formed steel, and he is professional in the field. Therefore, I have decided to study with him to understand the design principle of members in which cold-formed steel is used.

My research is to compare the frame in which the cold-formed steel beams are used with the conventional frames in term of economical aspect and seismic performance. I have analyzed the 3D frames and compared those models. It was really tough work for me because all the things I have done were what I had not experienced before. However, I was able to gain a lot of knowledge.



Room for students



Desk for research

### 1.2 Classes

#### 1.2.1 Design of cold-formed steel structures

One of the classes I have attended was "design of cold-formed steel structures". In this class, I was able to learn about the principle to design cold-formed steel structures. In Japan, I didn't have the class about cold-formed steel structures. So, it was very interesting for me. I was able to understand the principle of cold-formed steel structures. In addition, I was able to deepen my understanding by designing the industrial building as an application part of the class. It was also necessary for me to understand seismic design in Europe to analyze the structure and to understand verification methods of the members by European approach and American approach.

#### 1.2.2 Fire -Advanced Method-

Another class I have attended was "Fire -Advanced Method-". This provided me with the knowledge to analyze the behavior of fire in buildings. I was able to learn the method by calculating theoretically and using analysis software. What I learned in this class was also interesting because I have never taken classes to learn about fire behavior in buildings. I could learn how the behavior of fire was considered in European design code. It was my first time to learn about fire, so it took a long time to understand what the professor taught us. But it was fruitful for me to take this class.

## 2. Cultural program

### 2.1 Traveling in Romania

Romania has the quite different history from Japan. During this Erasmus+ mobility, I traveled in Romania to learn the Romanian culture and history. I visited Bucharest which is the capital city of Romania. In Bucharest, I went to the palace of the parliament which is the second largest building in the world. The building is quite important to understand the communist period in Romania. With a guided tour, I could know the background of the building. The day when I stayed in Bucharest was the national day of Romania. The parade to celebrate was held around the triumphal arch in Bucharest. I realized the difference how to celebrate the national day between Romania and Japan.

I have also visited Braşov which is one of the traditional cities in Romania. The Bran castle is famous for its history and its legend of Dracula. I found a lot of traditional household furniture in the castle. It was quite interesting for me. I also enjoyed the medieval period town in Braşov. When I visited the Black church, I learned the history of the city.



Palace of the parliament



Parade in Bucharest



The Bran castle



Council square in Braşov

### 2.2 Language courses

I took a Romanian language course which was held at the library of Universitatea Politehnica Timișoara. I learned basic of Romanian language, and it helped me a lot for my daily life and to communicate with Romanian people. Erasmus students attended the course, so I could talk with them during the course.

A Japanese language course was also held at the library of Universitatea Politehnica Timișoara. I attended the course to help as a Japanese student. I was surprised and was glad that a lot of people were studying Japanese. The course gave me an opportunity to look back on Japanese culture and language.



Japanese language course

### 3. Social program

#### 3.1 Living in the student residence

During the mobility, I lived in the student residence near the campus. My roommate was a student from Portugal. We talked about our countries, experiences in Romania and studies in Universitatea Politehnica Timisoara. He invited me to a party with his friends, and we played card games and drinking a hand-made cocktail(Piña Colada). There were students who came from Portugal, Italy and Spain. They were very socialized and friendly, so I could talk with them a lot and enjoyed the party.

In December, we decorated the corridor in the student residence, and Romanian students made a traditional hot wine for Christmas in Romania. I enjoyed the taste of the hot wine. I understood that Christmas had special meanings in Christian countries. The decoration event gave me an opportunity to have an experience of cristian culture. While drinking the hot wine, students gathered in the corridor and talked.



Traditional hot wine in Romania



Christmas party in the dorm

### 3.2 Trip to Arad

There is a group which aims to communicate in different languages in Timișoara. They held a trip to Arad, and I joined the trip. Arad is located near Timișoara, and there are traditional buildings. Most people who joined the trip were Romanian, so I felt alone a little bit. But they were very friendly and socialized. So, I talked with them and enjoyed it. After walking in Arad, we went to a bar and played a language card game and had a chat.



Trip to Arad



Guided tour in Arad

### 3.3 Meeting with a person who was the former ambassador in Romania

I met Mr. Kanji Tsushima who was the former ambassador in Romania. He was already retired from his job, but he still lived in Timișoara. He invited me for dinner, and I heard his various experiences as an ambassador in Romania. By talking with him, my desires to broaden my perceptions and to work in foreign countries have been increased.



Picture with Mr. and Mrs. Tsushima

#### 4 My experience as an Erasmus+ student

I had a very fruitful time in Timișoara as an Erasmus+ student. There were a lot of differences in living between Romania and Japan. But I could manage it and had a great time there. The following things are what I could achieve;

- I deepened understanding of my research field by taking classes and doing research with my supervisor.
- I have understood and experienced the Romanian culture which is quite different from Japanese by visiting cities and talking with people.
- I have talked with other Erasmus students, and we shared our experience and talked about our countries.
- My English has improved since I came to Timișoara.

My reflection points during my mobility are;

- I had lack of knowledge about my research field. So, it took more time to understand what I learned in classes and to progress my research as much as I expected.
- My English skill was poor, so sometimes I had difficulties to talk with people in English.
- When I talked with other people, I was afraid to speak in English.

芹川 拓人



Timișoara Orthodox Cathedral