

# ATRIUM 3D Training School

## Greetings!

In September 2025 I had the opportunity to participate in a 3D Training Summer School in Brno in Czech Republic. In a 5-day period, from the 15<sup>th</sup> to the 20<sup>th</sup> of September, we had constant training on how to capture, edit and analyse data so as to create 3D models. Our group was a total of 18 international members so the project was not only informative but it was also a great chance to interact with colleagues from all around the world. More specifically:

### Day One : Introduction

Sep 15, 2025

The first day of the seminar was introductory. We met the whole team of international participants and the team of instructors. First, an introduction to 3D modelling was presented to us by Vojtěch Nosek, where we were introduced to the basic principles of 3D modelling. We learned about the different techniques used to acquire data for modelling, the different stages of 3D modelling and how the final result is produced. Furthermore, we were taught about the tools needed for 3D documentation, recording and modelling and how we can practically use them in archaeology. After the lunch break, we had the second part of the seminar. This time the course was a Photography seminar by Tomáš Chlup. Personally, this was one of the highlights of the project for me since we learnt basic photography theory which is something that boosted my long-lost interest in photography and made me wanting to take it on as a hobby once again. Tomas kindly showed us all the important settings for properly photographing archaeological context and then we had a practice session so as to assimilate the given instructions. In the evening, we had the Keynote presentation by Lenká Starková about 3D scanning and LiDAR scanning, photogrammetry and HBIM.



### Day Two : Field Session

Sep 16, 2025

On the second day, we visited the Cathedral of St. Peter and Paul in Brno so as to model the site. First, we were given instructions on how to photograph the site in order to have proper material for the 3D modelling process. Then, we were instructed to form groups and take photos of a specific part of the Cathedral. With my team we decided to focus on a wall tombstone attached on the outdoor space of the Cathedral. Following the instructed protocol, we took photos of the tombstone which later we processed in the intitute. During the process session, we learnt how to create the 3D model both in RealityScan and AgisoftMetashape in a presentation by David Spáčil.





## Day Three : 3D documentation for Artefacts

Sep 17, 2025

On the third day, we had a presentation by Vojtěch Nosek about the documentation of archaeological artefacts. First, we had a theoretical session about the methods and techniques of capturing data and analyzing them. Also, we were informed on how to solve typical errors in the 3D modelling creation process, such as dealing with wholes in the model. We dwelled further into the technique of Structure from Motion and later we tested our freshly-acquired knowledge in the practical session. Once again, we formed groups and we fixed the set up for taking photos of a small object. Simultaneously, we were able to observe the capturing process conducted by other teams and check on the 3D scanning procedure of a large object. We proceeded on taking photos of the artefact and next we created the 3D model in RealityScan. The end of the day was perfectly marked with the dinner party the institute hosted for us.



## Day Four : Project presentations

Sep 18, 2025

On the fourth day of the seminar, we had 4 presentations by experts in the field regarding virtual reconstruction in archaeology. The first presentation was conducted by Jiří Unger about 3D reconstruction in archaeology, where he showed us beautiful projects he has created for archaeological sites or artefacts and how he presented them with animation and/or annotation. Jiří along with Martin Košťál talked to us about the importance of visualization and storytelling through the reconstructed product.

After the lunch break, we had 2 online presentations by Rob Shaw and Simon Radchenko. Rob gave us an interesting presentation about the research project he is involved in, the “Discovery Programme” by the Centre for Archaeology and Innovation Ireland, and how through inter-disciplinary approaches they manage to document the archaeological heritage of Ireland. Later, Simon gave us a very informative talk about the preservation process of the Ukrainian archaeological heritage during conflict time. He gave us an overview of the work he and his team are achieving and how they manage to do it under limiting circumstances.



The day ended with a beer in one hand and good vibes in Brno's “Cabbage Market Square”.



For the last day, we had brief sessions about each documentation technique. Vojtěch, David and Thomas helped us on setting up and working with both RTI and SFM techniques where we took photos of a small artefact once again. Before finishing up, we had a brief introduction to Blender and Cloud Compare on how to import and manipulate data so as to create a 3D model.



## Recap

I had high expectations for the seminar before attending it but after its completion I must admit that it actually exceeded all of them. The seminar was well-structured, the professors were all very kind and helpful, the material was highly educational and the practice sessions were all very beneficial. I already had an educational background in 3D modelling and documentation but I learned even more during this seminar-week. I would like to thank all the participants, both the students and the instructors for a very joyful and peaceful week with both an educational and a friendly vibe.

Wishing all the best,  
Paraskevi Gavra



The full team outside the Cathedral during the Field Session