ATRIUM 3D SUMMER SCHOOL REPORT

From the 15 to 19 September 2025, I had the opportunity of joining the ATRIUM summer school on 3D models in archaeology at the Institute of Archaeology of the Czech Academy of Science, Brno. For one week I could learn how to create 3D models of archaeological artefacts and historic monuments through photogrammetry and laser scanning, as well as how to process and manage them. The summer school program covered not only theoretical lectures on different topics but also hands-on experience, which made this training such an enriching experience.

First day: Introduction to 3D Models in Archaeology and Photogrammetry

The first day began with an introductory lecture by V. Nosek on 3D applications in archaeological research, including different topics from photogrammetry to laser scanning. This theoretical session was essential, as it covered the different aspects that we would learn more in detail the following days.

In the afternoon, T. Chlup gave us a very interesting workshop on photography. After a theoretical introduction on how to photograph artefacts and heritage monuments in different settings, we dove into the first hands-on practice and had the possibility of trying different camera settings with the assistance of the tutors. This very first practice was key for what would come the next day.

Finally, we had the pleasure of attending a very interesting keynote by Dr. Lenka Starková, where we could learn more about spatial archaeology, 3D modelling and the integration of datasets into HBIM (Historic Building Information Modeling).

Second day: 3D Documentation of Standing Historic Monuments

I would say that the second day was the most intensive one within the training school. We met at 9:30 at the Brno cathedral and, after a few indications by the tutors, we were separated into groups to capture photographs of a selected relief or outdoor part of the cathedral. The aim was to practice our photography skills for photogrammetry and create a dataset that we could process later.

In the afternoon, back at the Institute, we learnt how to process all the data in RealityScan and create a nice 3D model. For participants who could not use RealityScan, indications by the tutors were given so that the data was processed in Agisoft Metashape. In my case, as I had previous experience in Agisoft, I followed the workflow in RealityScan.

At the end of the day, we came back home with our first 3D model!

Third day: 3D Documentation of Artefacts

After a first hands-on experience on 3D documentation of historic mocuments, the third day was focused on smaller objects. Before starting with the practical part, we had a lecture on the theoretical concepts and learnt about the theory behind different applications such as laser scanning, SLAM or photogrammetry for small artefacts. Then, we had the possibility of acquiring ourselves datasets for further processing. It was very nice that we had access to special equipment to capture photographs of small objects, such as turntable, light box and special lights, as well as to the use of a handheld laser scanner.

In the afternoon, we processed the data as we did the previous day. I chose again to use RealityScan, and it was very interesting to see how the workflow for photogrammetric processing of smaller objects slightly differed from standing monuments. Furthermore, we were given at the end a RTI dataset and could use the RTI viewer to test how this technique works.

Fourth day: Post-processing, Reconstruction, and Practitioner Insights

After three days full of practice, on Thursday we could relax in this sense and listen to very interesting presentations from experts on the field. From “Virtual Archaeology” to “3D Digital Storytelling”, we had the possibility of learning more on the application of 3D in archaeology by different case studies.

Fifth day: Reproducibility, Archiving, and Individual Practice

The final day of the summer school we could focus on individual practice based on our personal interests and on the experience gained throughout the workshop. In my case, I first worked on the capture and processing of a small artefact and learnt about how to apply RTI. Finally, we were given a practical lecture on how to use Blender for post-processing, which turned out to be very useful!

Final Remarks

Attending the ATRIUM 3D Summer School was an enriching experience from beginning to the end. As a student of the MA in Digital and Computational Archaeology, I was not sure at the beginning if, as this workshop was targeted to beginners, I would learn new skills as I had a previous knowledge on the field. However, I am so surprised of how much I have learnt and how my practical skills on 3D modelling in archaeology have improved after this training!

Also, it was amazing to share a whole week with all the other participants and organizers. In the end, it felt like a family, and we could spend not only time working together, but also discover a bit the city and enjoy social events organized by the tutors.

Finally, thanks to all the participants, organizers and tutors for making this week possible!