

Miguel Carrero-Pazos. University of Santiago de Compostela, Spain

This is a report to provide an overview of the ATRIUM 3D Models Training School, which happened in Brno, Czech Republic from 15th to 19th of September 2025. The summer school venue was the Institute of Archaeology - Czech Academy of Sciences in Brno.

The programme of the workshop was designed to combine theory, practice, and several insights from experts, allowing us to explore a range of tools and methods for 3D documentation in archaeology.



Day 1 (15th). Introduction to 3D models in archaeology and photogrammetry

The first day began with a warm welcome and an opening lecture on the principles of 3D modelling in archaeology (*Understanding 3D: From Space to Artefacts. Introduction to 3D for Archaeology and Heritage*, by V. Nosek).

The lecture by V. Nosek focused on photogrammetry and basics on 3D models, exploring their application in the archaeological research.



In the afternoon we had the opportunity to get instructed on technical photography by Thomas Chlup, with a presentation on "*Focus, Dial and (try to) Stay sane. Photography in archaeology beyond AUTO mode*", learning to take high quality images suitable for 3D modelling.

The day closed with a very interesting keynote lecture by Dr. Lenka Starková, from the University of West Bohemia (online), entitled "*Scanning the Past: Photogrammetry, LiDAR, and HBIM in Archaeology and Heritage Care*". She showed several case studies on tools such as LiDAR tablets, scanners and photogrammetry, and explained how these datasets can be integrated into *Historic Building Information Modelling* (HBIM).

Day 2 (16th): 3D Documentation of Standing Historic Monuments

The second day was dedicated to do some fieldwork and a hands-on experience on the photogrammetric technique. In the morning we walked around Brno to the Petrov Cathedral, to document inscriptions around the cathedral. This provided direct contact to the challenges of capturing architectural features in real conditions.



In the afternoon we went back to the institute to process the data we had gathered. We used *Reality Scan* and *Agisoft Metashape* to produce detailed 3D models, discussing with the teachers the pros and cons of both software.

Day 3 (17th): 3D Documentation of artefacts

The third day was devoted to archaeological artefacts. During the morning session we learned techniques for photographing artefacts to generate precise 3D models (vessels, figurines, etc.). Working at a smaller scales required careful attention to detail and control of the photographic conditions. We were able to do so in practical terms, being supervised by the teachers.



In the afternoon, we processed the data.

Day 4 (18th): Post-processing, reconstruction, and practitioner Insights

The fourth day was focused on laser scanner and practice. We had the opportunity to use the *Arctec Leo 3D scanner*, repeat the photogrammetric practice and process the data we gathered.



Day 5 (19th): Reproducibility, Archiving, and Individual Practice

The final day of the training school was a bit free to solve doubts. We took the advantage to get more practical in photogrammetric techniques and *Reflectance Transformation Imaging*.



Conclusions

The ATRIUM 3D Models Training School successfully combined theoretical lectures, fieldwork and practical workshops. The activities showed a progression from introduction to advanced practice, being supervised with attention by the teachers. The balance of collaborative learning and practice, gently supervised by the teachers, helped us to get a strong environment.