

## Report of training activities

AtRium Training school, *Institute of Archaeology, Czech Acad Sci, Brno*, 16-21.09.2024

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Between the 16<sup>th</sup> and the 23<sup>rd</sup> of September 2024, the AtRium summer school was held at the Institute of Archaeology in the Czech Academy of sciences in Brno, Czech Republic. This summer school, organised by Petr Pajdla (*Institute of Archaeology, Czech Acad Sci, Brno*), Michael Kempf (*University of Basel*), Peter Tkáč (*Masaryk University*) and Giacomo Bilotti (*Kiel University*) aimed at presenting various tools and methods to exploit the R software and language towards database query and spatial analysis. The summer school started with an introduction to R, explaining simple mechanisms of the software in order to enable all participants to go on with the same set of bases. It then continued with an introduction to the Ariadne database, compiling various databases online, as well as open sciences digital tools and repositories such as Wikidata or DBpedia. With the presentation of this element also came an introduction to query languages such as Sparql. The following days were devoted to introduction to spatial analysis and more advanced point pattern analysis in R, giving an overview of various techniques than can be applied to multiple types of data. The last day was devoted to practical cases, with the possibility of applying all the newly learned elements to the participant's data. The workshop also included a keynote lecture given by Michael Kempf (*University of Basel*) and Margaux Depaermentier (*University of Vilnius*), focusing on isotopes and physical geography, and therefore on population dynamic, in the Carpathian basin during prehistoric times. The workshop hosts also allowed the participant to visit the Institute of Archaeology in the Czech Academy of sciences in Brno, enabling dialog between them and the Czech members in charge of the institution.

This workshop was a very interesting experience: the spatial analysis is quite widespread amongst archaeologist, especially on software such as QGIS and ArcGIS but using R to conduct spatial queries and analysis is not always well known and well taught in universities all across Europe. Having several days to be able to explore various aspects of the software possibilities and receiving support from experts on the matter. The last's day practise was especially useful in order to troubleshoot the various problem that could have occurred with our own data. In my case, the workshop enabled me to successfully plot my data on an Italian DEM and looking at the repartition of said data, estimating the clusters formed. Moreover, it also provided a set of simple yet useful ground information on how spatial analysis in R work, especially about data formats and packages to be independent next time we would need to try a new technique for spatial analysis on R. At last, by enabling people from various archaeological backgrounds to work and learn together these technical skills, the AtRium workshop created occasion for interesting and stimulating conversations. Although we don't work on the same subjects, this workshop was the perfect opportunity to discover new topics and new methods.