XXII International Congress
of the Carpathian-Balkan Geological Association
7–11 September 2022, Plovdiv, Bulgaria

Form
A

ABSTRACT SUBMISSION FORM

The deadline for abstract submission is 15 June 2022

Abstract title: Middle Miocene (Badenian) calcareous nannofossil and geochemical fluctuations in the Romanian Carpathian Bend Zone

It is my first [x] or second [ ] abstract

Presenting author: Dragoș Andrei

Mark with "X" your preferred presentation mode:

Oral: [ ] Poster: [x] No preference: [ ]

The Organizing Committee will make every effort to retain your presentation mode preference, but the final allocation will depend on the total number of submissions and available time.

Mark with "X" the General or Special Session under which you wish to submit your abstract:

General sessions	
GT1	
GT2	
GT3	
GT4	
GT5	
GT6	
GT7	
GT8	
GT9	
GT10	
GT11	
GT12	
GT13	
GT14	
GT15	x
GT16	
GT17	
GT18	

Special Sessions	
SS1	
SS2	
SS3	
SS4	
SS5	
SS6	
SS7	
SS8	
SS9	
SS10	
SS11	

Aerial photogrammetry at the Argamum archaeological site

Andrei Dragoș[1] , Sorin Anghel[1] , Gabriel Iordache[1]

[1] National Institute of Marine Geology and Geo-Ecology (GeoEcoMar, 23-25 Dimitrie Onciul St., 024053, Bucharest, Romania; email: d.andreigabriel@geoecomar.ro, soanghel@geoecomar.ro, gabriel.iordache@geoecomar.ro

Photogrammetry is the science and form of art by which three-dimensional and two-dimensional information about physical objects and the environment are obtained through the acquisition, processing, and interpretation of photographic images (Vîlceanu., 2013).

This type of land surveying technique is widely used in archaeology, as the models that are constructed by processing a set of photograms can be accurately measured in the digital domain, and usually reflect the reality from the field, except for the tall vegetation that can produce aberrations, in terms of elevation (Hackney., 2015).

At the Argamum archaeological site, the 4.62 hectares ancient Greco-Roman fortress were recorded by using a UAV system through which a great deal of information can be obtained just by viewing the subject, or area of interest, from certain distances and angles that are impossible to reach form the ground level.

Generating photogrammetric products such as orthomosaics, digital elevation models (DEMs), digital terrain models (DTMs), contours maps, 3D meshes, and textured 3D meshes, can improve the visibility and access to areas that previously could not be identified without working in an intrusive way (Păunescu *et al*., 2010). Photogrammetry can work as a standalone technique or it can be combined with geophysical survey methods (eg. GPR and magnetic surveys), being in a way complementary techniques.

The main advantage of using photogrammetry in archaeology lies in the speed of on-site data acquisition and the vast amount of detail that can be retrieved from photographic images (Nache *et al*., 2017). Photogrammetry is also useful when the subject is either fragile or inaccessible since it involves no contact with the subject. The main disadvantages are the cost of using expensive instrumentation and the delay in obtaining the results after the photogrammetric mission has been completed.

*Acknowledgements***.** *Acknowledgements*. This work was supported by a Project C1.2.PFE-CDI.2021 Research of Excellence of the Romanian Ministry of Research, Innovation and Digitalization, PFE 23/30.12.2021 AMBIACVA.

REFERENCES

Vîlceanu C.B., 2013. Aplicații Practice în Fotogrammetria Digitală, 33 p., Ed. Fundația Politehnică Timișoara, Timișoara.

Hackney C., 2015. Unmanned Aerial Vehicles (UAVs) and Their Application in Geomotphic Mapping, Geomorphological Techniques, Chap. 2, Sec. 1.7.

Păunescu C., Spiroiu I., Popescu M., Păunescu V., 2010. Curs de Geodezie – Topografie, 182 p., Ed. Universității București, București.

Nache F., Stănescu R.A., Păunescu C., 2017. The Processing Workflow Needed in Order to Obtain the Main Photogrammetric Products Used in Cadastre and Topography. 16th edition National Technical-Scientific Conference (Modern Technologies for the 3rd Millennium), p. 49 – 55, March 23-24, 2017, Oradea.