



4th COST ACTION SAGA Training School

Training in ER and GPR survey with related geoarchaeological methods

Valandovo, N. Macedonia
10-17 April



Funded by
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Република Северна Македонија
Министерство за култура



АРХЕОЛОШКИ МУЗЕЈ
НА РЕПУБЛИКА СЕВЕРНА МАКЕДОНИЈА





SAGA TS4, Valandovo, N. Macedonia

10 – 17 April 2022

LOCATION AND VENUE:

Location: The training school is being held in the city of Valandovo, R. N. Macedonia.

Venue: Hotel Izvor, Valandovo

Accommodation: The local organizer (LO) recommend to book accommodation in Hotel Izvor, Valandovo.

Questions? Contact the LO: Radomir Ivanovic

Ivanovicradomir@gmail.com



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TRAINERS:

Martin Roseveare: m.roseveare@tigergeo.com, Senior Geophysicist & Director, TigerGeo Limited: How GPR works, tracking with GNSS or odometer, surface conditions, wavepaths, hyperbolic responses, RDP, frequency and wavelength, resolution. Processing and imaging basics, introduction to software. Dielectric properties, wave propagation, Snell's law, reflection and refraction, reverberation. Order of processing, velocity, migration and topographic correction, time and depth, slice thicknesses. 2D digitization, point cloud generation, timeslice export, report writing.

Anne Roseveare: a.roseveare@tigergeo.com, Operations Manager, TigerGeo Limited: How GPR works, tracking with GNSS or odometer, surface conditions, wavepaths, hyperbolic responses, RDP, frequency and wavelength, resolution. Processing and imaging basics, introduction to software. Dielectric properties, wave propagation, Snell's law, reflection and refraction, reverberation. Order of processing, velocity, migration and topographic correction, time and depth, slice thicknesses. 2D digitization, point cloud generation, timeslice export, report writing.

David Jordan: D.W.Jordan@ljmu.ac.uk, Senior Lecturer, Forensic Archaeology, LJMU: An introduction to ER instruments and field methods, basic data gathering and a first study of ER results. Natural soils and their (geo) physical properties, the physical properties of archaeological remains, how the contrast between soils and remains make geophysical surveys possible, how differences in soil and archaeological properties make different methods suitable for different sites. Practical ER survey over known archaeological features using 2D and 3D methods, data download, analysis and exploration. The electrical resistance of soils and archaeological remains, how electrical resistance measuring instruments work, a review of archaeological geophysical surveys from previous projects and their interpretation. A comparison of 3D (ERT) ER and GPR over known features. How to develop strategies for ER survey.

Day	0800 0900	0900 - 1200*	1200 1245	1245 - 1530*	1530 1600	1900
1	Breakfast	Theory (Geoarchaeology) - Natural soils and their (geo) physical properties , the physical properties of archaeological remains, how the contrast between soils and remains make geophysical surveys possible, how differences in soil and archaeological properties make different methods suitable for different sites	Coffee	Fieldwork (ER) - An introduction to ER instruments and field methods, basic data gathering and a first study of ER results	Lunch	Dinner
2		Fieldwork (ER) - Practical ER survey over known archaeological features using 2D and 3D methods, data download, analysis and exploration		Theory (ER) - The electrical resistance of soils and archaeological remains, how electrical resistance measuring instruments work, a review of archaeological geophysical surveys from previous projects and their interpretation		
3		Fieldwork (ER and GPR) - A comparison of 3D (ERT) ER and GPR over known features		Theory (ER) - How to develop strategies for ER survey in North Macedonia		
4		Fieldwork (ER) - Survey at another site for examination of geophysical conditions in a range of soils / geomorphologies Fieldwork (GPR) – Equipment and field methods, designing a survey		Theory (ER) sliding into theory (GPR) - The relationship between ER and dielectric geophysical properties and why it matters for survey design, appropriateness of soils and surface conditions		
5		Fieldwork (ER) - Survey at another site for examination of geophysical conditions in a range of soils / geomorphologies ** Fieldwork (GPR) – How GPR works, tracking with GNSS or odometer, surface conditions, wavepaths, hyperbolic responses , RDP, frequency and wavelength, resolution		Theory (GPR) – Processing and imaging basics, introduction to software, core data processes and why, profiles and slices' time and depth. Soil versus features, why a profile is not a section and a slice not a plan		
6		Theory (GPR) – Dielectric properties, wave propagation, Snell's law, reflection and refraction, reverberation		Theory (GPR) – Order of processing, velocity, migration and topographic correction, time and depth, slice thicknesses		
7		Theory (GPR) – 2D digitisation, point cloud generation, timeslice export, report writing		Closing session (GPR Workshop) – group and individual work, processing several small surveys, imaging and quick presentations		

* There will be a brief informal break in each session ** There may be opportunities to split into groups at this point to cover ER or GPR separately