COST Action SAGA (CA17131) 'THE SOIL SCIENCE & ARCHAEO-GEOPHYSICS ALLIANCE: GOING BEYOND PROSPECTION'

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Archaeo-geophysics currently stands as a powerful discipline in European archaeological research to discover, study and record subsurface archaeological sites. Its importance lies in its capacity to reveal hidden archaeological assets in a non-destructive, rapid and detailed manner in comparison with traditional and more invasive archaeological methods such as excavation or test-trenching. In the last decade, a major technological development in archaeo-geophysics has been the introduction of multi-sensor and motorised instrumentation. This has revolutionised archaeological prospection by allowing extremely fast and high-resolution surveys to explore large areas.

Whilst the discipline of archaeo-geophysics is going through an exciting phase of technological development, a major problem concerning researchers and practitioners is that our ability to interpret the full suite of information extractable from geophysical datasets has not kept pace with developments in technology and is still very limited. This deficiency prevents geophysical survey moving beyond basic prospection and becoming a significant tool for answering nuanced questions about archaeology and the landscapes it is part of. The reason for this limitation is that there is still much to learn about the relationships between soil properties and geophysical measurements. Since the publications of Clark (1990), Scollar et al. (1990), Fassbinder & Stanjek (1993) or Weston (2001 & 2002), back in the early stages of the application of geophysics to archaeology, most of the progress achieved in this topic has come from some significant but very fragmented studies.

Bridging this gap requires fine-tuned and multidisciplinary teams, experimental approaches, testing field and analytical methods and solutions for multivariate data integration and analysis. The lack of continuity in the development of this topic should be understood, partly, because of the scarcity in funding that has been devoted to Humanities in Europe during the last decade and the consequent research priorities followed by many institutions. These have been more interested in being at the foreground of technological development rather than competing with more time-consuming and resource-demanding projects devoted to in-depth understanding and interpretation of proxy data. Besides, there has been little scholarly discussion devoted to distilling the outcomes and structuring the achievements of the projects that have been completed in this topic into validated and shared "lessons learned".

SAGA aims to build a multi-disciplinary network in order to bring together geophysicists, archaeologists, soil scientists and a wide range of experts in other sub-disciplines in geoscience to improve our capability to interpret geophysical data for archaeological purposes. Our prospects are that after four years of intensive collaborative work, SAGA will have created a framework for emerging field procedures and enhanced data-interpretation solutions. SAGA will have facilitated a broader understanding and use of integrated geophysical methods in cultural heritage management (CHM) routines in countries where these methods were not previously common. In countries that already integrate geophysical prospection in CHM, SAGA will have educated practitioners and curators in the cutting edge of our improved understanding following the integration and synthesis of concepts,

methods and knowledge from adjacent disciplines.