



POLITECNICO
MILANO 1863

Supervisor Expression of Interest MSCA-IF Marie Sklodowska Curie Action-Individual Fellowship 2019

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Department Name: Research topic: (https://www.polimi.it/en/scientific-research/research-at-the-politecnico/departments/)	Department ABC <u>Research Topic: Preservation and Enhancement of Built Heritage</u> SH5_6 History of art and architecture, arts-based research SH5_8 Cultural studies, cultural identities and memories, cultural heritage SH6_3 General archaeology, archaeometry, landscape archaeology
MSCA-IF Research Area Panels	<input type="checkbox"/> CHE_Chemistry <input type="checkbox"/> ECO_Economic Sciences <input type="checkbox"/> ENG_Information Science and Engineering <input type="checkbox"/> ENV_Environmental and Geosciences <input type="checkbox"/> LIF_Life Sciences <input type="checkbox"/> MAT_Mathematics <input type="checkbox"/> PHY_Physics <input checked="" type="checkbox"/> SOC_Social Sciences and Humanities
Politecnico di Milano Areas:	<input checked="" type="checkbox"/> Cultural Heritage <input type="checkbox"/> Smart Cities <input type="checkbox"/> Territorial Fragilities <input type="checkbox"/> Health <input type="checkbox"/> Industry 4.0
Brief description of the Department and Research Group (including URL if applicable):	<p>The Department of Architecture, Built environment and Construction engineering brings together a multi-disciplinary team of researchers and professors, fully expressing the 'polytechnic spirit' (http://www.abc.polimi.it/nc/en/).</p> <p>The 3D Survey Group, based at the ABC Department (http://www.sitech-3dsurvey.polimi.it/), is a multidisciplinary group made of archaeologists, architects, engineers and informatics experts working on the application of new technologies to the cultural heritage. It is currently engaged in the ERC CoGrant 681673 LIFE, directed by C. Rossi (www.life.polimi.it).</p> <p>The Museo Egizio, Torino (partner institution) is the world's oldest museum devoted entirely to ancient Egyptian culture. Since its re-opening in 2015, research has become one of the main focuses of the institution (www.museoegizio.it/en/).</p>



<p>Brief project description: (max 1 page)</p>	<p>Digital and Material Culture (DiMAC)</p> <p>Aim of the project is to outline the most innovative and efficient way to use digital tools to enhance and improve the study and the comprehension of the material culture. Digital imaging is spreading fast in the humanities, and in particular to the archaeological realm. However, most of it is used only as a better-looking and more efficient tool in terms of communication, in comparison, for instance, with photographs. Despite being a relatively new tool, it is used to perform old actions: its real potential in terms of highlighting hitherto unnoticed characteristics or elements is still little-investigated.</p> <p>The key-point is the detachment between the image of an object and its materiality, which may represent a disadvantage only if we do not explore and exploit its advantages. There are at least two directions of investigation: the reasons behind the creation of digital copies (ranging from popular and scientific dissemination to representing the only memory of a lost object) and the exploitation of digital copies for research purposes (that is, using digital imaging to acquire and analyse otherwise undetectable data).</p> <p>The aim of DiMAC is not to identify the latest technique or tool to be casually applied to archaeology-related themes, but rather to construct a digital system at the service of the material culture, centred on the real needs of the latter.</p> <p>Archaeology is a destructive process, starting from the excavation: progressively, archaeologists physically remove the layers that accumulated over the centuries, and separate forever the items that are found during the excavation from their original context. When the components of the stratigraphy are divided, some items start a new life, becoming objects to be studied and to be placed on display. If the modern tendency is to leave the items in relative proximity with their original finding spot, in the past items coming from the same context were mercilessly scattered across several continents, among museums and private collections. Digital imaging can help to counter these centripetal forces by:</p> <ul style="list-style-type: none">a) reconstructing the biography of the objects;b) offering the chance to re-establish severed ties or create connections that cannot exist in the real world;c) record in the most efficient way the superficial appearance of the items, to be used both for i) scientific purposes and ii) for dissemination. <p>Aim of DiMAC is to identify how the digital culture can meet the real needs of the material culture, and establish different workflows for each branch of research. The project will have an eminently practical character and will focus on a selection of items belonging to the collection of the Museo Egizio, Torino. The project will include the following phases:</p> <ul style="list-style-type: none">1) theoretical background: analysis of the relationship between an object, its image (be it 2- or 3-dimensional) and its physical reproduction, and discussion on the use that can be made of them;2) preparation: operation of cross-matching between questions posed or inspired by objects and available tools, as well as possibilities offered by the digital realm that can offer fresh insights; definition of workflow; identification of specific case-studies;3) action: creation of digital model of the select items; identification and study of the information derived from this new set of data;4) post-experiment conclusions: identification of a set of criteria to be applied to achieve the best and most efficient results from the application of digital tools on the material culture, that can be offered to the scientific community.
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