URBAN ASSEMBLAGE: THE CITY AS ARCHITECTURE, MEDIA, AI AND BIG DATA.

- **Paper Title:**
  Interoperable workflows: information life cycle at landscape and architectural scales

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- **Abstract (300 words):**
  In the era of Big Data and new technologies, one of the main challenges in the architecture, engineering and construction (AEC) sector is the accessibility to knowledge about landscape and architectural heritage, not only among experts but also to a larger public. The access to specific data, suitable to match predefined needs, is necessary to professionals and administrators for (i) the management of facilities and infrastructures, (ii) the renovation and reuse of buildings or urban areas, and (iii) the simulation of design ideas and future scenarios. The acquisition of data related to existing heritage and their management often involve collaboration with other specialists: the AEC sector has recently adopted digital technologies, which include open formats and platforms to promote data sharing among different parties. This study aims to identify interoperable workflows, by analysing previously developed examples focusing on different scales, from building up to landscape, where meaningful data are successfully exchanged to inform management, design and planning. The purpose is to outline a clear picture of effective collaborative solutions based on the adoption of digital technologies. These solutions are compared and evaluated considering the purposes and needs of the final users, their domain expertise and working tools. The definition of repeatable workflows to
exchange data can support further studies and be widely adopted to improve interoperable processes, capable of optimizing interactions between the involved actors.

• Author(s) Biography (200 words each):

Chiara Chioni received her master's degree in Architecture and Building Construction from the University of Pisa. Her dissertation, partially developed at Cardiff University, explored multi-scale multi-temporal modelling of post-disaster temporary housing. She is currently a PhD student at the University of Trento, investigating multi-dimensional modelling of the built environment.

Ambra Barbini is a PhD student at the University of Trento, Italy. After graduating in Building Engineering and Architecture, with a thesis on information exchange through digital models, she won scholarship for a research project regarding building heritage digital models and worked as scientific collaborator within the Process Engineering and Construction team at the Fraunhofer Italia Research Institute in Bolzano.

Giovanna A. Massari is Associate Professor of Drawing at the Department of Civil, Environmental and Mechanical Engineering of the University of Trento. She graduated in Architecture at Politecnico di Milano and has a PhD in Conservation of Architectural Heritage. Since 2006 she is the scientific responsible of the Laboratory of Analysis and Modeling of Architecture, Representation and Communication. In 2015, with Prof. de Rubertis (Sapienza University of Rome), she started the editorial-cultural project "XYdigitale" (www.xydigitale.it). The theoretical and applied research concerns the fields of architectural, urban and environmental survey, parametric modelling, graphic and multimedia communication.

Sara Favargiotti is Associate Professor of Landscape Architecture and Architectural Design Studio at the Department of Civil, Environmental and Mechanical Engineering of the University of Trento. Her research and teaching investigate the multiple identities of the landscape, focusing on the environmental challenges with a research by design approach based on transformation through anticipation, adaptation, and innovation. Visiting scholar at the Office for Urbanization, (GSD Harvard University, 2016), she is author of numerous essays internationally published and of the book “Airport On-hold. Towards Resilient Infrastructures” (Lisit Lab, 2016).