ARCHITECTURE. HISTORY AND PROJECT

MUR DM 118 - Construction Basis of Spatial Morphologies in Evidence Based Design Approaches for Urban Regeneration Processes

Funded By	MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584] Dipartimento DAD

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Context of the research activity	The PhD position (CONSTRUCTION BASIS OF SPATIAL MORPHOLOGIES IN EVIDENCE BASED DESIGN APPROACHES FOR URBAN REGENERATION PROCESSES) is supported by the Italian Government and by the Department of Architecture and Design at Politecnico di Torino, in the framework of the TRANSITIONAL MORPHOLOGIES Joint Research Unit, established between Politecnico di Torino and Southeast University in Nanjing (China) for the decade 2018-2028 (https://www.polito.it/en/education/phd-programmes-and-postgraduate-school/phd-programmes/architecture-history-and-project/research-topics/transitional-morphologies), It refers also to the TWIN2EXPAND project at the University of Cyprus "Twinning towards Research Excellence in Evidence-Based Urban Planning and Design (EBDP)" and its partnership (https://twin2expand.surf.com.cy/) with University of Chalmers, University College of London, Space Syntax Limited, Politecnico di Torino. The planned research aims at investigating and test spatial morphologies protocols and toolsets as basis for urban regeneration design processes. Comparing, through direct experiences, different design experiences in different geographical context, will allow the PhD Candidate in better describing the features of an EBDP approach. Progetto finanziato nell'ambito del PNRR - DM 118/2023 - CUP E14D23001550006
	Based on the interplay between the concept of TYPOLOGY, TOPOGRAPHY and TECTONICS (i.e. use, place, construction) the urban morphology approach concerns, in the Italian urban studies tradition, the urban form as a physical, complex and multilayer object. In the last years, some investigations related to various dynamics shaping cities and (more generally) urban

Objectives	settlements, added to the idea of the urban form as a physical object the role of economic, sociologic, anthropologic phenomena, as real "urban shapers". The transitional morphologies point of view looks at the cities as organism in continuous development, where the past configurations can enlighten the perspectives of metamorphic processes. An Evidence Based Design and Planning (EBDP) approach can be helpful in creating the exhaustive background for the urban project in the framework of transitional morphologies. As some experience already demonstrated in China, urban regeneration processes aimed at the revitalization of some zones in the historical areas of contemporary urban cities can earn a lot form the mining and analyzing of different set of data. Cities are "constellations of interactions, communications, relations, flows, and networks" and "location is, in effect, a synthesis of interactions" (Batty, 2013, pp. 13, 15). "The rapid development of machine learning methods, artificial intelligence capabilities, and user interface frameworks promises the creation of toolsets with enhanced capabilities for scenario comparisons and iterative decision support workflows. However, improved rigor is also required if hype is to be tempered and for proponents of such toolsets to remain accountable. This necessitates improved access to open datasets and openly reproducible methods and tests. There is otherwise great risk that uninformed or unverified use of such toolsets could prompt ill-informed decisions at great risk to cities, akin to the regretful lessons of modernist planning schemes caught-up in the hubris of the utopian technologies of the times" (TWIN2EXPAND, Project Research Framework, 2023 draft).

Skills and competencies for the development of the activity	The candidate should be fluently English speaker and ready to learn basic Italian. The candidate will spend at least 6 months at Southeast University Nanjing (China).