



ERSA 2019 Special session proposal

What use can city stakeholders make of research numerical models?

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This special session is organized by three Labex: “Dynamite”, “Intelligences des Mondes Urbains” and “Futurs Urbains”. These research structures labelled at the French national scale encompass most of the French research teams working on cities, using transdisciplinary approaches.

For a long time, urban studies have relied upon research resorting to digital tools of simulation, whether they involve works in economy, geography, engineering or environmental sciences. Historically, these scientific approaches are also grounded in urban planning operational objectives. Whether they operate in the sector of urban mobility, energy, water supply, sanitation, or waste collection and processing, practitioners of urban services themselves participate in the development of these modelling and simulation frameworks, trying to optimize production processes or to plan future needs for infrastructure.

This development of practices and this growing reliance on modelling tools for purposes of prediction and prospective analysis raises the question of their interest and their legitimacy in both academic and operational spheres.

The first aim of the special session is to discuss through interventions, including researchers and city stakeholders, the advantages and the limits of using models produced by researchers in the field of urban studies. The contributions of this session will be to highlight the differentiated uses that practitioners can make of digital modelling tools and the attempt to show the layouts of science and the arrangements of public policies which the models allow. Under what conditions do tools of modelling and simulation enable the emergence of new communities centered on specific public policies, which are able to formulate new issues and can induce changes in the way public policies are formulated and put on the agenda? How do these communities of researchers and practitioners agree on ways to contend with the uncertainty or even the ignorance inherent to models?

The session will then have the objective to question changes induced by big data bursting onto the scene of urban data. How and to what extent do these big data transform the practices of digital modelling and do they weaken the more traditional systems of observation which until then constituted modelers’ “raw material”? This transformation has important impacts not only in terms of methodological frameworks and of necessary skills, but also of explanatory capacity, of anticipation, or in terms of taking action.

If machine-learning approaches succeed in “tidying up” big data and – at least in the short term – in predicting the behavior of social actors and their environments, can we not do without numerical models oriented towards understanding and knowledge of physical and social systems? The analysis of possible relationships between the transformation of modes of knowledge production for action and new forms of urban governance, particularly with the emergence of new actors with strong power of initiative in globalized metropolitan systems, linked to the relative collapse of certain forms of public intervention, will be appreciated.