
EPJ Special Topics: *Spatially Embedded Complex Networks*

Within the framework of the two workshops “Evolution of Complex Transportation Networks”, at the University of Strathclyde in Glasgow, and “Complexity and the Future of Transportation Network”, a satellite workshop of the ECCS ‘11 Vienna supported and funded by EUROCONTROL, we are pleased to announce a call for papers for a special issue on *Spatially Embedded Complex Networks*.

While graph theory was initially developed in the eighteenth century to solve geographical problems, its evolution in complex networks science has been mainly applied to scientific fields like sociology, economics, or biology. The recent introduction of new transportation technologies like high-speed trains, new business models like low-fare airlines, pervasive mobile technologies, as well as the availability of large amounts of geo-tagged data, are reclaiming the original importance of geography in networks science. Within the geographically embedded networks’ container, many heterogeneous subcategories of space-embedded, dynamical phenomena may be included, which can’t be really understood without taking into account their connections with the underlying spatial constraints. Spreading of diseases among cities, states and around the entire world, urbanization dynamics, health geography and urban structures, crowding behaviour, traffic management, trade networks, and communication networks are but a few of the phenomena that can be addressed. There are also several theoretical issues that still remain open, and that are directly related to these problems; as such, both research and theoretical papers are welcome.

Topics of interest related to applications and theoretical topics include:

- Evolution and growth of networking transportation systems.
- Interplay of different transportation systems and its effects on intermodality.
- Dynamics on transportation networks: from diseases’ spreading mechanisms, to citizens’ mobility.
- Adaptive transportation networks - intermingling topology and dynamics.
- Space analysis and social behaviour.
- Geographical constraints in social networks.
- Communication networks.
- Structural aspects of transportation networks.
- Node/link centrality in social and transportation networks.
- Network embeddings and planarity.
- Communities and mesoscale analysis of networks.
- Global topological structure of networks.
- Dynamical processes on networks.
- Evolution of networks, theory and algorithms.

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Submission:

Authors wishing to submit a manuscript should contact the Guest Editors.