

S4 Event and General Assembly

Monday 23 April 2012
Avignon, France

Summary of the day:

10.00-12.00: Scientific Presentations

12.00-14.00: Lunch

14.00-17.00: S4 General Assembly

10.00-12.00 PRESENTATIONS

- **Didier Josselin & Julio Rojas-Mora, UMR ESPACE 75000, CNRS, Université d'Avignon et des pays de Vaucluse. Robust and Optimal Location for Sustainable Environment and Systems (ROLSSES): Some propositions around location uncertainty.**

ROLSSES is an interdisciplinary project funded by the French ANR that gathers geographers and mathematicians to study sustainable center properties. In this presentation, we introduce and compare two ways to locate centers by modelling demand uncertainty using fuzzy sets and sensitivity analysis. This also leads us to some reflexions on center properties according to a few well-known existing metrics (1-center, gravity center, 1-median, etc.).

- **Nuno Norte Pinto, Department of Civil Engineering, University of Coimbra. Proposal for a COST Action on « Complexity and Planning for Smarter Cities »**

This talk will present a research proposal that is current under evaluation for a research network within the COST framework for an Action on 'Complexity and Planning for Smarter Cities'. This network is expected to congregate both researchers on complexity and urban studies and practitioners of urban planning to create a proper environment for knowledge transfer on innovative planning practices. The talk will also address the research activities developed both at the Centre for Territory, Transport and Environment (U. Coimbra and U. Porto, Portugal) and at the Centre for Land Policy and Valuation (Technical U. Catalonia, Spain) and the development of joint activities of this centres and S4.

- **Beniamino Murgante, Facoltà di Ingegneria, Università degli Studi della Basilicata. New approaches in mitigating urban seismic vulnerability: The Resilient City**

Seismic risk management is generally carried out through strategies aiming to reduce building seismic vulnerability, working on structural features, and not considering that the concept of vulnerability can be adopted also referring to the whole urban system.

In order to adopt a different approach, considering not only building and infrastructure vulnerability, and according to the goal of managing seismic risk reducing urban vulnerability, it is strategic to identify in peace time (before disastrous events) which elements, which activities, which functions of a city have prior importance after the event, to guarantee a rapid response and the reestablishment of normal conditions: this means identifying the resilient city. The concept of resilience has been considered as the capacity of a system to adapt itself to new, generally negative, conditions, in order to re-establish the pre-event situation.

The main aim is to define a methodological approach to identify the resilient city and establishing resilient system identification considering functional, social, morphological, geological and dimensional characteristics of the considered urban system. Each city can express resilience, and the identification of its elements have been achieved adopting spatial quantitative methods.

- **Christian Kaiser, Geography Department, University of Zurich, Switzerland. Map morphing for dynamic visualisation and analysis of flows.**

Visualisation and analysis of spatial interaction flows is a challenging task. Flow maps are often cluttered and difficult to read. Analysis becomes quickly difficult as the number of flows is generally important and problems like approximate data or spatial heterogeneity arise. This presentation presents an approach where the flows can be morphed into other non-geographical projections using cartogram transforms. Map morphing is a visualisation technique allowing for a smooth transition from one map projection to another. We can use a geographic projection and for example a population or flow density projection for visualising flows. The big agglomerations, where most of the interaction flows occur, are visually increased in size and the clutter reduced accordingly. This technique can be embedded into a dynamic, interactive mapping environment. Additionally, it is also possible to conduct spatial analysis tasks in either projection and gain new insights into the data. An example is shown for roughly 184'000 journey-to-work flows between nearly 3000 communes in Switzerland.

12.00-14.00 LUNCH

14.00-17.00 S4 GENERAL ASSEMBLY

- General presentation of ERG S4
- Collective working session concerning evolution of S4 activities: increasing relations between existing working groups? Creating new groups? Favoring the emergence of new thematic research axes? Promoting collective projects?
- Decisions