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Visualizing Information in Complex Environments

The dramatic progress in ICT and Internet-based applications has meant that individuals and organizations are exposed to an ever-increasing stream of data. In such an environment, the burden caused by information overload and processing is largely compensated for by the extraordinary potential which the availability of plentiful distributed data unleash for the management of complex environments.

Information visualization tools provide a creative way to address the issues. They offer a means to deal with a large amount of data and make sense of the emerging information. They also yield new capabilities to amplify cognition. By making it easier to exchange and share information they are artifacts for social affordance, as they enhance in novel ways the environment's properties permitting social action.

This meeting is an opportunity to get insights into the possibilities offered by visualization and into the benefits likely to be accrued to the various societal organizations as they use these new tools. Contributions are gathered around three main headings which exemplify some of the roles information visualization can play in this respect and notably: decision making in complex environments, exploration of large data-base and communication.

The meeting is a joint event by ASSYST and FuturICT, in collaboration with IRES (Institute for Economic and Social Research of the Piedmont Region), ISI Foundation, CSI-Piemonte, DUPT (Department of Urban and Regional Planning of the University of Florence), Turin Polytechnic and Faber. The event is also sponsored by University of Warwick, Open University, Regione Piemonte, National Research Council of Italy and Global System Dynamics & Policies.

Sessions

A) Visualization and Decision Making in Spatial Environments

Thursday, November 17, Facoltà di Architettura, Castello del Valentino, 14.00-18.30

Visualization to monitor and supervise spatially distributed systems, such as metropolitan and regional areas. Attention is paid to how visualization can integrate and make explicit the co-occurrence of different spatially relevant phenomena, such as those concerned with urban security, environmental risks, energy and transport management, thus supporting decision making in complex environments.

- 14.00 Opening: PIERO FASSINO (Sindaco di Torino), FRANCESCO PROFUMO (President of the Italian National Research Council, Rector of Politecnico di Torino), Piedmont Regional Authorities, CRISTINA PRONELLO (Politecnico di Torino), JEFF JOHNSON (Open University), STEFANO PIPERNO (IRES Piemonte)
- 14.30 *Chair:* FERDINANDO SEMBOLONI (Università di Firenze)
 CHRISTIANE WEBER, Laboratoire Image des Villes, Strasbourg, *From Observation to Representation toward Decision Making process*
 MICHAEL BATTY (CASA), *Visualising Cities Through Models, Maps & Machines*
 GIOVANNI RABINO (Politecnico di Milano), *Urban Modeling and Visualisation: The Semantic Link*
 MARCO QUAGGIOTTO and WOUTER VAN DEN BROECK (ISI), *Visualization and interfaces for complex systems research*
- 16.45 Break and Student Poster Session
- 17.15 Round Table: JEFF JOHNSON (Open University, chair), MARCO CAVAGNOLI (CSI Piemonte), STEFANO DE FRANCISCI (ISTAT), MAURIZIO TREVISAN (Regione Toscana), DANIELA PAOLOTTI (ISI), SYLVIE OCCELLI (IRES Piemonte)
- 18.15 Close
- 18.30 A "walking visualization" of Turin historical district

B) Visualization and Scientific Data Exploration

Friday, November 18, Facoltà di Architettura, Castello del Valentino, 9.00-13.30

Visualization as a means to look into large data-base and yield an interpretation about data that can expose complex patterns or correlations. This is the realm of visual analytics a new scientific field which is being established at the crossroads between design and computing.

- 9.00 Opening: ROBERTO MORIONDO (Regione Piemonte), MARCO AJMONE MARSAN (Politecnico di Torino), STEVEN BISHOP (UCL), ROSARIA CONTE (CNR), PAUL LUKOWICZ (Passau University), CLAUDIO LUBATTI (Comune di Torino)
- 9.30 Chair: FuturICT
DIRK HELBING (ETH Zurich), *FuturICT and the Role of Visualization to Understand What Data Are Telling Us*
ROLAND STRAUSS (Managing Director of the Knowledge4Innovation EU Platform)
SOULLA LOUCA (Chair of the ICT COST DOMAIN of the EU Commission)
PHILIPP SLUSALLEK (DFKI)
- 11.00 Coffee
ANNA CARBONE (Politecnico di Torino), *Visualizing fully 3D fractal patterns*
MIN CHEN (Oxford University)
- 12.00 Round Table: JEFF JOHNSON (Open University, chair), CLAUDIO INGUAGGIATO (CSP), GIOVANNI FERRERO (CSP), STEVEN BISHOP (UCL), CAMILLE ROTH (CNRS/EHESS), MASSIMO GIORDANI (TIME&MIND, IRES Piemonte), CLAUDIO LUBATTI (Comune di Torino)
- 14.30 From the Aosta Valley to the Mediterranean sea, Virtual Reality Theatre, Territorial Integrated Project @ Politecnico di Torino
CAMILLE ROTH (CAM/CNTRS), *Reconstructing streams of media issues from large textual corpora*

C) Visualization and Communication

Friday, November 18, Virtual Reality Multi Media Park, Corso Lombardia 190, 16.30-19.30

This session is hosted within the FABER event, organized by the Turin City Council

The focus will be on bringing together expert and lay knowledge and on the co-generation of information in locally based communities. The role of information visualization in providing contexts for general public information and thus adding value to it will be specifically addressed.

- 16.30 Welcome coffee
- 17.00 Opening: TOMMASO GAROSCI (IRES Piemonte), FRANCO CARCILLO (Comune di Torino, Servizio Telematico Pubblico), JEFF JOHNSON (Open University)
Chair: ASSYST
JORGE LOUCAS, ANTONIO FONSECA (ISTCE), *Beyond data visualization in communication networks: perceiving collective intelligence*
ANNA DE LIDDO (Open University), *Visualizing Deliberation to Enable Transparent Decision-Making in Participatory Urban Planning*
- 18.15 Round table: JEFF JOHNSON (Open University, chair), RICCARDO STAGLIANÒ (Repubblica), ANNA MASERA (La Stampa), PAOLO CIUCCARELLI (Politecnico di Milano), MARIO PEROSINO (Regione Piemonte), GIULIANA BONELLO (CSI), FRANCO CARCILLO (Comune di Torino)
- 19.15 Close

Participation is free but registration is recommended.

To register send an e-mail to editoria@ires.piemonte.it indicating the sessions you will attend.

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<http://areeweb.polito.it/ricerca/noiselab/FuturICT/Program.html>



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