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Joint DACAS/ICTP-SAIFR Workshop on Modeling of Urban Systems

Start time: June 20, 2016

Ends on: June 24, 2016

Location: São Paulo, Brazil

Venue: IFT-UNESP

Organizers:

- Deljana Iossifova (University of Manchester, UK)
- Roberto Kraenkel (IFT-UNESP)
- Ulysses Sengupta (Manchester Metropolitan University, UK)

Speakers:

Keynote: **Ana Lúcia C. Bazzan** (Instituto de Informática-UFRGS, Brazil)

- **Panagiotis Angeloudis** (Imperial College London, UK)
- **Murilo da Silva Baptista** (University of Aberdeen, UK)
- **Shidan Cheng** (Wuhan University, China)
- **Christopher Doll** (United Nations University, Japan)
- **Alexandros Gasparatos** (University of Tokyo, Japan)
- **Daniel Graham** (Imperial College London. UK)
- **Robert Hyde** (Manchester Metropolitan University, UK)
- **Deljana Iossifova** (University of Manchester, UK)
- **Roberto Kraenke**l (IFT-UNESP, Brazil)
- **Jun Luo** (Wuhan University, China)
- **Nir Oren** (University of Aberdeen, UK)
- **Ulysses Sengupt**a (Manchester Metropolitan University, UK)

Additional participants and speakers will be confirmed shortly.

Description:

The aim of the ESRC Strategic Network Data and Cities as Complex Adaptive Systems (DACAS) is to promote an interdisciplinary complexity science approach to the study of urban data and the links between soft and hard systems as the basis for the development of innovative technological applications. DACAS connects non-academic stakeholders from the public, private and third sectors and noted academics with backgrounds in various relevant disciplines in China, Brazil and the UK.

This week-long event includes talks, workshops and collaborative sessions with the aim to identify how DACAS activities can help to address the specific challenges of Brazil's urban transformation. These include:

- changing living conditions (e.g., housing; access to infrastructure; social networks; social norms; etc.)
- epidemiology (e.g., economic classes; migrant settlements; social movements; etc.)
- changing movement patterns (e.g., employment; education; recreation; etc.)
- spatial & infrastructural change (e.g., sanitation; transportation; health care; etc.)
- external factors (e.g., droughts; distribution of amenities; technology shifts; etc.)

The needs of local government, planning departments and NGO representatives will be discussed and incorporated. Participants will present case studies which can be used to test different approaches to modelling using a complexity science framework. Activities will aim to identify data availability and needs and suitable techniques for modelling linked urban systems based on data. The following questions will be addressed:

- What are the most pressing urban issues and how can they be defined as relational, transcalar and emergent?
- Which concepts from the complexity sciences challenge existing discipline-specific research?
- What are appropriate methods to address these issues using a complexity science framework?
- How can existing, discipline-specific methods be updated or transformed to research data and cities as complex adaptive systems?
- Which complexity science models can be applied to the study of data and cities as complex adaptive systems?

Presentations will be organised in four tracks:

- **Problem Formulation**

  Defining urban systems (scalar, temporal, behavioural and spatial, etc.) and minimum and maximum levels of system definition for soft and hard systems.

- **Concept Transferability**

  Identification of appropriate theoretical concepts from the complexity sciences to challenge existing disciplinary research ontologies

- **Appropriate Methods**

  Identification of data availability and needs and, subsequently, appropriate, inadequate or incompatible methods for the collection and analysis of qualitative and quantitative data in the study of urban transformation and cities as complex adaptive systems

- **Model Typology**

  Development of a model typology based on suitable model types from the various complexity sciences when applied to a study of data and cities as complex adaptive systems

Applications

Applications to participate in DACAS São Paulo are invited from PhD and Early Career Researchers regardless of their nationality, institutional affiliation or disciplinary background.

To apply, please visit https://easychair.org/conferences/?conf=dacas02. You will be asked to select from the event tracks above the one that suits your research interests and application best; to submit an abstract (300 words); and to provide a brief CV (up to two A4 pages, .pdf or .doc file).

Your abstract should outline how your disciplinary perspective (such as physics, biology, ecology, economics, etc.) on complexity science and theory can be used to study the phenomena of urban transformation. These include, for instance, changing living conditions, movement patterns, infrastructure and others, as outlined above. Approaches which explore correlations between two or more hard and soft datasets or systems over time are especially encouraged.

The **deadline for applications is 23:59 (UK time) on Sunday, 15 May 2016**. Successful candidates will be notified within two weeks of the closing date.

The event is free to attend. Coffee and snacks will be offered, but participants will be responsible for their own travel, subsistence and accommodation expenses. Five competitive bursaries are available to highly qualified applicants.

Bursaries

Five highly competitive bursaries are available and will be offered to selected applicants. Bursaries will be awarded based on the quality of the application and commitment to write a short working paper of 4,000 words within one month of the event. Papers will be published on the DACAS website or may be selected for publication in an edited volume.

If you wish to apply for one of the bursaries, please indicate this by ticking the appropriate box during the online submission of your application.

Further information

If you have any questions regarding this event, please email the project assistant, Ivana Tosheva (ivana.tosheva@postgrad.manchester.ac.uk), with DACAS Sao Paulo in the subject field of your email.

VISA: Due to the Olympic Games to be held in Rio de Janeiro from August 5- 21 some nationalities (USA, Canada, Japan, and Australia) will be exempt from tourist visas from June 1 to September 19, 2016.