

1st IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys'09)

www.necsys.org

24-26 September, 2009, Venice, Italy



CONTEXT

Networked systems are complex dynamical systems composed of a large number of simple systems interacting through a communication medium. These systems arise as natural models in many areas of engineering and sciences, such as sensor networks, autonomous unmanned vehicles, biological networks, and animal cooperative aggregation and flocking.

There are two features that are common to all these systems: first, they deal with complex dynamics; second designing globally optimal behavior for these systems requires the solution of large-scale optimization problems, which typically necessitate a prohibitive amount of computational effort. Desirable features of the operation of these systems include robustness to uncertainties and disturbances, and adaptability to environmental changes.

SCOPE

The 1st Workshop on Distributed Estimation and Control in Networked Systems (NecSys'09) will focus on the most innovative mathematical methods proposed in the last few years for the analysis and design of networked systems.

The aim of the workshop is to bring together researchers from control, computer science, communication, game theory, statistics, mathematics and other areas to discuss emerging topics in networked systems of common interest.

WORKSHOP ORGANIZATION

The workshop will consist of two days of research presentations (24-25 Sept.) and one day of tutorials (26 Sept.).

The research presentations will be 10 invited talks by international experts and 4 interactive sessions of contributed papers. The number of contributions per session will be limited to promote interactions with all participants.

The tutorial day will consist of 4 double lectures surveying the most recent results related to the conference topics, specifically tailored to PhD students and scholars interested in an introduction to the area of networked systems.

THEMATIC AREAS

- Coordinated control and estimation over networks.
- Consensus and distributed averaging.
- Multivehicle systems and flocking.
- Control with communication constraints and quantization.
- Decentralized algorithms for computation over sensor networks.
- Randomized algorithms and gossip algorithms.
- Message passing algorithms and belief propagation.
- Graph models for networks. Percolation. Network coding.
- Distributed and decentralized signal processing
- Decentralized and cooperative optimization

VENUE

The workshop will be hosted in an environment suitable for research interactions and discussions, namely, the Cultural Center "Don Orione Artigianelli", <http://www.donorione-venezia.it/>

IMPORTANT DATES

Full paper submission: March 27, 2009

Notification of acceptance: May 31, 2009

Final version due: June 20, 2009

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PAPER SUBMISSION

Authors are invited to submit full papers of up to 8 pages for review and 6 pages at final submission. Notice that only PDF files complying with the IFAC style rules and PDF requirements are admissible. Please visit workshop website www.necsys.org for more information.

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INVITED SPEAKERS

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