

"Algorithms and dynamics over networks" Workshop

In recent years, the study of networks and of network-based dynamical systems has proved an essential tool to understand contemporary society and to develop innovative technologies. Several branches of mathematics, including graph theory, probability, information theory, and mathematical control theory, are fundamental to its development. In this workshop, an international group of young scholars will present some recent advances in the field, with applications ranging from sociology and opinion dynamics to automation, sensor networks and power networks.

Organizers: G. Calafiore, F. Ceragioli, F. Fagnani, P. Frasca

Date: July 14-15, 2010

Venue: Aula Buzano, Dipartimento di Matematica, Politecnico di Torino

Program

Wednesday, July 14

9:30 am: Claudio De Persis (Roma and Twente). *Control of one-dimensional guided formations using binary information*

10:30 am: Sophie Fosson (PoliTo). *Deconvolution of quantized-input linear systems*

11:30 am: Federica Garin (INRIA Grenoble). *Distributed averaging on digital noisy networks*

2:30 pm: Chiara Ravazzi (PoliTo). *Matrix completion via regular sampling*

3:30 pm: Enrico Lovisari (Padova). *A resistance-based approach to consensus algorithm performance analysis*

4:30 pm: Saverio Bolognani (Padova). *Distributed quasi-Newton method and its application to the optimal reactive power flow problem*

5:30 pm: Paolo Frasca (PoliTo). *Broadcast gossip averaging algorithms: interference and asymptotical error*

Thursday, July 15

9:30 am: Floriana Gargiulo (Clermont-Ferrand). *Groups and opinion co-evolution on social networks*

10:30 am: Giacomo Como (MIT). *Persistent disagreement in social networks*

11:30 am: Andrea Tosin (INdAM-PoliTo). *A multiscale look at pedestrian flows by time-evolving measures*

2:30 pm: Jean-Charles Delvenne (Namur). *Consensus, partial consensus, and communities*

3:30 pm: Ming Cao (Groeningen). *Cluster synchronization algorithms in diffusively coupled networks*