MATHEMATICAL SCIENCES

AMMIN/DISMA - Analysis and Control of Network Systems

Funded By	Dipartimento DISMA Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	Control and intervention problems for networked multi-agent systems. Application to technical, socio-economic, and financial systems. Theoretical analysis, numerical validation, learning algorithms.
Objectives	The research activity will concern dynamical multi-agent systems interacting over networks and the analysis and design of a variety of intervention and control problems, with one or more of the following applications: socio-economic systems, production and financial networks, large-scale infrastructure systems such as transportation and energy. Part of the research project will be the set-up of the mathematical model, its theoretical and numerical analysis, the calibration thorough available data-sets. The enrolled Phd student will learn some fundamental mathematics on geometric and algebraic graph theory, evolutionary game theory, networked ordinary differential equations, along with techniques and tools from control theory and from artificial intelligence.
Skills and competencies for the development of the activity	Knowledge of undergraduate mathematics (analysis, linear algebra<, basic probability)