Postdoc position
Distributed optimization in cyber-physical networks

A postdoc position is available within the project OPT4SMART funded under the ERC Starting Grant excellence program. Research will be conducted at the University of Salento (Lecce, Italy), under the supervision of Prof. Giuseppe Notarstefano.

About the position

The initial appointment is for one year with the possibility of extension based on performance. The post-doctoral researcher will work in a group with about six PhD students and will have the possibility to take the co-supervision of one or more of them. The salary is competitive (very competitive for the life cost in Italy).

About OPT4SMART (Distributed optimization methods for smart cyber-physical networks)

OPT4SMART is a 5 years research project funded under the EU Horizon 2020 excellence program *ERC Starting Grant*, supporting investigator-driven frontier research on the basis of scientific excellence, erc.europa.eu.

OPT4SMART will investigate a novel distributed, large-scale optimization framework and its application to big-data estimation, learning, decision and control problems in cyber-physical networks.

Billions of smart communicating devices with their sensing, computing and control capabilities promise to make our cities, transportation systems, factories and living environments more intelligent, energy-efficient, safe and secure. This extremely complex system is giving rise to a novel peer-to-peer distributed computational model in which a service is built-up cooperatively by peers, rather than by a unique provider that knows and owns all data. The interdisciplinary Optimization Community is facing this revolution sharing a common need: to find new theories, methodologies and tools to optimize over this complex network system. With this in mind, OPT4SMART has a twofold objective. First, to provide a comprehensive theoretical framework to solve distributed optimization problems over peer-to-peer networks. Second, to develop effective numerical tools, based on this framework, to solve estimation, learning, decision and control problems in cyber-physical networks. This twofold objective will be pursued by means of interdisciplinary methodologies arising from a synergic combination of optimization, controls, and graph theories.

About Lecce

Lecce is a beautiful Baroque city in the South-East of Italy. It is a lively, graceful but relaxed university town in the Salento peninsula, the heel of Italy's boot. For a 36-hours tour of Lecce you can google The New York Times: "36 hours in Lecce, Italy".

Who should apply

We are looking for motivated, talented PhDs from all over the world, who wish to:

- undertake research at the cutting edge of optimization and control in cyber-physical networks;
- contribute to the startup of an excellent, international new research group;
- study in one of the most beautiful Italian cities with a great quality of life.

The desired candidate holds a PhD degree in Controls, Optimization, Signal Processing or related fields, and has

- an excellent publication record (high-impact papers in high-quality journals or conferences);
- an excellent academic record with a strong mathematical background including optimization and preferably systems and control theory;
- strong interest in optimization and at least one of: control theory, estimation, machine learning;
- excellent proficiency in written and spoken English.

The above skills and background should clearly appear from the candidate CV, from few (the most important) publications, and from the PhD thesis.

Contact

For further information about the positions and the official calls send an email with subject "OPT4SMART Postdoc *last-name*" to giuseppe.notarstefano@unisalento.it.