Friday, 13th February h 11:00

PRABB – Aula R3

Università Campus Bio-Medico di Roma

Via Àlvaro del Portillo, 21 - Rome

Critical Infrastructure Preparedness and Resilience Research Network

Lecture

Optimal device placement in wireless sensor networks

Dr. Claudio Sterle

Assistant Professor of Operations Research and Optimization at Department of Electrical Engineering and Information Technology at University Federico II of Naples

ABSTRACT:
The problem of covering, monitoring and/or controlling a region of interest by wireless sensor networks (WSN) has been widely treated in literature. The presentation resumes the main ILP optimization models, providing also a discussion on some straight extensions and variants which allow to take into account the specific features of the sensors, related monitoring tasks and strategic decisions in WSN design.

Claudio Sterle is Assistant Professor in Operations Research at Department of Electrical Engineering and Information Technology - University Federico II of Naples. His current research interests include exact and approximate solving approaches for combinatorial and network optimization problems with applications to CIP, security system design and reliable system design with publications on books, journals and national/international conference proceedings.

A unified approach for 2D and 3D coverage problems in omni-directional and directional sensor networks

Prof. Antonio Sforza

Professor of Operations Research and Optimization at Department of Electrical Engineering and Information Technology at University Federico II of Naples

ABSTRACT:
The presentation proposes a unified and stepwise solving approach for two and three dimensional coverage problems to be used in omni-directional and directional sensor networks, schematizing the region of interest and the sensor potential locations by a 2D or 3D grid of points, and representing the sensor coverage area by a circle or by a circle sector. The built model constitutes the optimization module of a smart tool for the protection of a railway infrastructure protection, developed for the European project METRIP. The presentation concludes with an application of the proposed approach to a real test case and a discussion of the obtained results.

Antonio Sforza is Professor of Operations Research and Optimization at Department of Electrical Engineering and Information Technology - University Federico II of Naples. His research activity is mainly devoted to network optimization (flow, design, location and routing) with applications to urban, industrial and communication systems, with publications on books, journals and national/international conference proceedings.

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The participation is free, but registration is required for logistics reasons. For registration or further information please send an email to m.demaggio@unicampus.it.

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