

# **EURO Management Science Strategic Innovation Prize (MSSIP 2010) on the topic of Optimization in Telecommunications**

The MSSIP Prize is awarded for an outstanding innovative contribution to Management Science/OR each year when a EURO Conference takes place. This time the subject is **Optimization in Telecommunications** and the prize will be awarded at the EURO 2010 Conference taking place in Lisbon (Portugal). The submitted work should consist of a recent paper in which a theoretical result or a practical implementation is explained. The prize is sponsored by SAP AG (12000 Euro). Submissions in electronic form should be sent before 1 January 2010 to the Jury Chair, Eric Gourdin: [eric.gourdin@orange-ftgroup.com](mailto:eric.gourdin@orange-ftgroup.com)

## **Call for Applications**

The prize is intended to recognize the role of Operational Research/Management Science in the context of **modern telecommunications**.

The world of telecommunications has changed drastically over the last decade. These changes have been caused by several factors. On the one hand, technological evolutions allow to increase constantly the bandwidth offered to the communications and to access to network services always more easily from many different places. On the other hand, the telecommunication market has become more open and many actors can pretend to play an important role in the telecommunication business. Finally, the telecommunication industry has also been driven by the new needs of the populations and the companies wishing to exchange always more information in a wide variety of situations.

To provide efficient new services, the various actors involved in the telecommunication business are putting a lot of energy to design and deploy quickly complex network architectures combining many different technologies and sometimes based on existing networking infrastructures. Many difficult decisions have to be taken on various time scales to produce and maintain a comprehensive layer of telecommunications technologies able to address uncertain demand scenarios, to offer connectivity and bandwidth requirements, or more generally some Quality of Service (QoS), and to resist to a set of most likely failure scenarios. End-users wish to remain connected, to be uniquely and safely identified and to access their own private content, wherever they are, in several places or even when they move from one place to another. Radio networks and wireless equipments must also be deployed to allow everyone to access to network facilities in the best possible conditions. Rich multimedia contents (TV, video on demand, video streaming,...) will be more and more accessed through the alternative media provided by telecommunication networks causing huge amounts of data to travel in the networks and causing potential congestions.

Operational Research and Management Science is clearly a key feature that can make quite a difference in designing and managing efficiently all these networks. However, the underlying optimization problems are, most of the time, very difficult and the size

of the real instances is often huge. The research has always been very active in the field of telecommunication network optimization. For all the above-mentioned reasons, the field has regained a lot of interest recently and many new or different challenging optimization problems have emerged and have been more or less successfully investigated. However, there are still many difficult questions to address and the scientific community will surely contribute to find better answers.

This prize is intended for some major contribution on a recent telecommunication problem. The submission should be a single or jointly authored unpublished paper describing either a successful application of known OR/MS methodologies to a real problem in the broadly defined area of **Optimization in Telecommunications** or novel methodologies that have been developed in order to solve relevant problems in this area. **Innovative and strategically relevant approaches and results will be privileged given the nature of the prize.**

The paper is to be submitted in electronic form to the chair of the jury, no later than January 1, 2009.

*Eric Gourdin.*

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