

# VORträge zum Operations Research

Kolloquium des Instituts für Operations Research

*Zeit:* Donnerstag, 11. Januar 2018, 17:30 Uhr

*Ort:* Raum 4A-09, Gebäude 05.20

*Es spricht:* Eduardo Alvarez-Miranda, Associated Professor at Universidad de Talca, Chile

*Zum Thema:* **Networks, Uncertainty, Applications and a Crusade for Optimality**

*Abstract:* In this presentation we address a collection of Network Design problems which are strongly motivated by applications from Telecommunications, Logistics and Bioinformatics. In most cases we justify the need of taking into account uncertainty in some of the problem parameters, and different robust optimization models are used to hedge against it. Mixed integer linear programming formulations along with sophisticated algorithmic frameworks are designed, implemented and rigorously assessed for the majority of the studied problems. The obtained results yield the following observations: (i) relevant real problems can be effectively represented as (discrete) optimization problems within the framework of network design; (ii) uncertainty can be appropriately incorporated into the decision process if a suitable robust optimization model is considered; (iii) optimal, or nearly optimal, solutions can be obtained for large instances if a tailored algorithm, that exploits the structure of the problem, is designed; (iv) a systematic and rigorous experimental analysis allows to understand both, the characteristics of the obtained (robust) solutions and the behavior of the proposed algorithm.

**Die Vorträge zum Operations Research wenden sich an alle Interessierten!**

Bei Rückfragen wenden Sie sich bitte an:  
Prof. Dr. Stefan Nickel, Institut für Operations Research.