Workshop

OR in a modern world

G.-W. Weber is a Professor at Institute of Applied Mathematics (IAM), Middle East Technical University (METU), Ankara, Turkey. His research in on OR, financial mathematics, optimization and control, life sciences, data mining, education and development; he is involved in the organization of scientific life internationally.

Prof. Weber received his Diploma and Doctorate in mathematics, and economics /business administration, at RWTH Aachen, and his Habilitation at TU Darmstadt. He held Professorships by proxy at University of Cologne, and TU Chemnitz, Germany. At IAM, he is in the programs of Financial Mathematics and Scientific Computing and Assistant to the Director, and he is a member of five further graduate schools, institutes and departments of METU. Further, he has affiliations at the universities of Siegen, Ballarat, Aveiro, North Sumatra, and Malaysia University of Technology, and he is "Advisor to EURO Conferences". He has numerous publications.

Tuesday, 29 of March

10.00-10.45

"Smart Cities: Better Evacuation"

Abstract: "We introduce into OR for better traffic and transportation planning for areas where catastrophes of various kinds may occur. This talk will invite to future investigation and collaboration in our OR community."

Co-authors: G.-W. Weber, H. Tüydes Yaman

Wednesday, 30 of March, morning

10.45-11.30

"Smart Cities: Improvements in Education of Migrant Students"

Abstract: "We introduce into OR in Education, Development and for the Improvement or Living Conditions on Earth, by the example of system analysis spent on modeling and simulation of how the performance of migrant students in city schools of developing countries can be improved through improved improvements of facilities of various kinds."

Co-authors: G.-W. Weber, C.S. Pedamallu. L. Özdamar, H. Akar

11.30-12.00 Coffee Break

12.00-12.45

"Smart Cities: Earthquake Prediction"

Abstract: "We use the data mining tools of MARS and, especially, our new optimization-supported modelling technique CMARS for a better understanding of ground motion and, by this, for a prediction of earthquakes. It also shows the power of conic programming and of modern continuous optimization.

"Co-authors: G.-W. Weber, F. Yerlikaya Öztürk, A. Askan

Wednesday, 30 of March, afternoon

14.30-15.15

"Finance, Economics and Nature: Optimal Control of Stochastic Systems with Regime Switches, Jumps and Delay"

Abstract: "In this presentation, we contribute to modern OR by hybrid, e.g., mixed continuous-discrete dynamics of stochastic differential equations with jumps and to its optimal control. These hybrid systems allow for the representation of random regime switches or paradigm shifts, and are of growing importance in economics, finance, science and engineering. We introduce some new approaches to this area of stochastic optimal control: one is based on the finding of optimality conditions and closed-form solutions. We further discuss aspects of differences in information, given by delay or insider information. The presentation ends with a conclusion and an outlook to future studies."

Coauthors: G.-W. Weber, E. Savku, Y. Yolcu-Okur, A. Kerimov, E. Kilic

The local of Workshop: Sala Sousa Pinto, Mathematics Department, University of Aveiro, Portugal

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Participation is FREE but the participants are kindly asked to register sending confirmation to *tatiana@ua.pt*

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