Abstract
Stochastic Programming in Economics and Finance

Stochastic Programming (SP) provides an important modeling framework able to manage uncertain data in a multi-period decision making process. Prof. Jitka Dupačová of Department of Statistics of the Charles University of Prague was the first introducing SP in our community during the XVI AMASES meeting in Treviso in 1992. I was greatly impressed by her talk and a strict collaboration started. Her contributions are a milestone in the SP history.

The beginning of SP, and in particular of stochastic linear programming, dates back to the 50's and early 60's of the last century, just to mention the pioneers Dantzig, Beale, and Charnes and Cooper. Its success goes back to the nineties as soon powerful algorithms became available to solve real world problems.

SP models provide good solutions because they explicitly model the value of future decisions taken after the uncertainty reveals. As the uncertainty is known period by period, recourse decisions responding
to new information can be made.

There are several aspects that make the stochastic programming approach a challenging opportunity:

- the uncertainty modeling through scenario generation;
- the shape of the objective function;
- the right choice of dynamics description;
- the bounding methodology for multistage stochastic problems.

The talk will address the main issues actually undergoing in stochastic programming literature, recent advances in selected areas, and some applications where the methodology has been successful.

Keywords
Stochastic programming, Uncertainty modelling, Multistage.
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Marida Bertocchi is professor of applied mathematics in economics and finance at the University of Bergamo. She taught numerous courses at the Universities of Bergamo, Urbino and Milan, including basic and advanced calculus, portfolio theory, advanced mathematical finance, stochastic optimization and parallel processing. Bertocchi has been dean of the Faculty of Economics and Business Administration and Director of the Department of Mathematics, Statistics, Computer Science and Applications at the University of Bergamo. She is the scientific coordinator of the PhD program in Economics, Applied Mathematics and Operational Research. She is author of numerous publications on bond portfolio management, and economic and financial applications. She was referee and reviewer in the EEC Vth and VIth framework. She has been responsible for many grants from national and international sources as well as from private firms.