

# Kurt Marti

**Federal Armed Forces University  
Germany**



Kurt Marti has been one of the major proponents of stochastic programming approaches to engineering problems, including those arising in structural design, robotics and others. His early work focused on approximations and stability of stochastic programs, as well as approximation and differentiation of probability functionals. Kurt has also developed new algorithmic procedures, including semi-stochastic approximation and stochastic quasigradient methods for stochastic programs. He has been a regular organizer of stochastic programming workshops in Neubiberg, (Germany), and Laxenburg (Austria) under the auspices of GAMM, IFIP, and IIASA. In connection with these workshops, he has been an editor and co-editor of several edited volumes. He has also served on the editorial board of *Optimization*. Since 1997 he has served as chairman of the working group WG~7.7 "Stochastic Optimization" within the Technical Committee for System Modelling and Optimization of IFIP

## Selected Contributions

- Approximations and stability of stochastic programs, (*Zeitschrift für Wahrscheinlichkeitstheorie* 31(1975), *Zeitschrift für Angewandte Mathematik und Mechanik - ZAMM* 57(1977))
- Semi-stochastic approximation procedures and stochastic quasigradient methods for stochastic programs (*Optimization* 17(1986); *Numerical Techniques for Stochastic Optimization* [Ermoliev, Wets, eds.] Springer, 1988),
- Approximation and differentiation of probability functionals, *Mathematical Programming B*, 75(1996).
- Engineering applications of stochastic programming: optimal structural design under stochastic uncertainty, optimal control and design of robots under stochastic uncertainty (*Mathematical Methods of Operations Research* 46 (1997), *Optimization* 45(1999))

## Stochastic Optimization by Kurt Marti (Books/Proceedings)

### Stochastic Optimization Methods

Kurt Marti, 15 November, 2004 Springer Verlag

### Descent Directions and Efficient Solutions in

Discretely Distributed Stochastic Programs (Lecture Notes in Economics and Mathematical Systems, Vol 299)

Kurt Marti, 01 May, 1988 Springer-Verlag

### Stochastic Optimization Techniques: Numerical

Methods and Technical Applications (Lecture Notes in Economics and Mathematical Systems, 513)

Kurt Marti, 01 January, 2002 Springer-Verlag

### Dynamic Stochastic Optimization (Lecture Notes in

Economics and Mathematical Systems)

GEORG CH. PFLUG, 01 January, 2004 Springer-Verlag

### Stochastic Optimization: Numerical Methods and

Technical Applications : Proceedings of a Gamm/Ifip-Workshop Held at the Federal Armed Forces University (Springer Series in Information Sciences)

Kurt Marti, 01 May, 1992 Springer-Verlag

### Stochastic Programming Methods and Technical Applications

Peter Kall, 15 February, 2001 Springer-Verlag

### Stochastic Optimization: Numerical Methods and

Technical Applications (Lecture Notes in Computer Science)

Kurt Marti, January, 1992 Springer-Verlag

### Applied Stochastics and Optimization: Iciam-Gamm

95 - Hamburg, July 3-7, 1995 (Zeitschrift Für Angewandte Mathematik Und Mechanik , Issue 3)

Reinhard Mennicken, 01 November, 1996

### Stochastic Programming: Numerical Techniques and

Engineering Applications : Proceedings of the 2nd Gamm/Ifip-Workshop on "Stochastic Optimization :

Peter Kall, 01 April, 1995 Springer-Verlag