

TABLE OF CONTENTS

PART I: Models, Motivation and Methods

- Chapter 1. Stochastic Programming, an Introduction
Yu. Ermoliev, R.J-B Wets 1

PART II: Numerical Procedures

- Chapter 2. Approximations in Stochastic Programming
P. Kall, A. Ruszczyński, K. Frauendorfer 33
- Chapter 3. Large Scale Linear Programming Techniques
R.J-B Wets 65
- Chapter 4. Nonlinear Programming Techniques Applied to
Stochastic Programs with Recourse
L. Nazareth, R.J-B Wets 95
- Chapter 5. Numerical Solution of Probabilistic Constrained
Programming Problems
A. Prékopa 123
- Chapter 6. Stochastic Quasigradient Methods
Yu. Ermoliev 141
- Chapter 7. Multidimensional Integration and Stochastic
Programming
I. Deák 187
- Chapter 8. Stochastic Integer Programming
A.R. Kan, L. Stougie 201

PART III: Implementation

- Chapter 9. A Proposed Standard Input Format for Computer
Codes which Solve Stochastic Programs with
Recourse
J. Edwards 215
- Chapter 10. A Computer Code for Solution of Probabilistic-
constrained Stochastic Programming Problems
T. Szantai 229

Chapter 11.	Conditional Probability and Conditional Expectation of a Random Vector <i>H. Gassmann</i>	237
Chapter 12.	An <i>L</i> -shaped Method Computer Code for Multi-stage Stochastic Linear Programs <i>J.R. Birge</i>	255
Chapter 13.	The Relationship Between the <i>L</i> -shaped Method and Dual Basis Factorization for Stochastic Linear Programming <i>J.R. Birge</i>	267
Chapter 14.	Design and Implementation of a Stochastic Programming Optimizer with Recourse and Tenders <i>L. Nazareth</i>	273
Chapter 15.	Finite Generation Method <i>A.J. King</i>	295
Chapter 16.	Implementation of Stochastic Quasigradient Methods <i>A. Gaivoronski</i>	313
Chapter 17.	Stepsize Rules, Stopping Times and their Implementation in Stochastic Quasigradient Algorithms <i>G.Ch. Pflug</i>	353
Chapter 18.	Adaptive Stochastic Quasigradient Methods <i>S. Uryasiev</i>	373
Chapter 19.	A Note about Projections in the Implementation of Stochastic Quasigradient Methods <i>R.T. Rockafellar, R.J-B Wets</i>	385
Chapter 20.	Decent Stochastic Quasigradient Methods <i>K. Martí</i>	393
Chapter 21.	Stochastic Integer Programming by Dynamic Programming <i>B.J. Lageweg, J.K. Lenstra, A.R. Kan, L. Stougie</i>	403

PART IV: Applications and Test Problems

Chapter 22.	Facility Location Problem <i>Yu. Ermoliev</i>	413
Chapter 23.	Lake Eutrophication Management: The Lake Balaton Project <i>A.J. King, R.T. Rockafellar, L. Somlyódy, R.J-B Wets</i>	435

Chapter 24.	Optimal Investments for Electricity Generation: A Stochastic Model and a Test-Problem <i>F.V. Louveau, Y. Smeers</i>	445
Chapter 25.	Some Applications of Stochastic Optimization Methods to the Electric Power System <i>C. Nedeva</i>	455
Chapter 26.	Power Generation Planning with Uncertain Demand <i>O. Janssens de Bisthoven, P. Schuchewytsch, Y. Smeers</i>	465
Chapter 27.	Exhaustible Resource Models with Uncertain Returns from Exploration Investment <i>J.R. Birge</i>	481
Chapter 28.	A Two-Stage Stochastic Facility-Location Problem with Time-Dependent Supply <i>S.W. Wallace</i>	489
Chapter 29.	Some Test Problems for Stochastic Nonlinear Multistage Programs <i>X. deGroote, M.C. Noël, Y. Smeers</i>	515
Chapter 30.	Stochastic Programming Problems: Examples from the Literature <i>A.J. King</i>	543