

**A N N U A L**  
**R E P O R T**

**2008**

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# 1 Foreword

The Department of Statistics and Decision Support Systems is part of the Faculty of Business, Economics and Statistics of the University of Vienna. Faculty members are active in research in various fields of Statistics, Econometrics, Operations Research, Mathematics, and Computer Science. The department offers degree programs in Statistics at the bachelor, master, and PhD-level. During the academic year 2007/08 the department taught also many undergraduate and graduate courses for programs run by other departments, including the Department of Business Administration and the Department of Economics.

In 2008 there has been a number of staff changes. Regrettably, Andreas Baierl, Nikola Broussev, Radoslava Mirkov, and Nancy Wozabal left the department. We thank all of them for their great work for the department and wish them all the best in their future endeavours. Andrea Gaunersdorfer and Vera Lehmwald joined the department and Manuela Nicham-Zorn returned from leave. We wish them good luck and look forward to working with them.

I would like to express special thanks to Vera Lehmwald for editing this Annual Report 2008.

With best wishes

Erhard Reschenhofer (HoD)

Vienna, June 2009

## 2 Faculty and Staff

### 2.1 Regular Faculty (with Research Interests)

Immanuel M. Bomze (Prof.)	Operations Research and Quantitative Decision Support, Game Theory and Modelling of Behaviour, Optimization Theory and Application, Asymptotic Statistics, Stochastic Modelling, Dynamical Systems
Andreas Baierl (Dr.)	Statistical Methods in Quantitative Genetics
Florian Frommlet (Dr.)	Applied Mathematics and Statistics
Andreas Futschik (Assoc. Prof.)	Asymptotic Statistics, Applied Statistics, Bioinformatics
Florian Gach	Mathematical Statistics
Andrea Gaunersdorfer (Assoc. Prof.)	Nonlinear Economic Dynamics, Dynamic Interaction in Markets
Walter J. Gutjahr (Assoc. Prof.)	Operations Research, Evolutionary Computation, Software Engineering
Irene Klein (Assoc. Prof.)	Stochastic Finance
Radoslava Mirkov (Dr.)	Stochastic Optimization
Richard Nickl (Dr.)	Probability and Statistics in Infinite Dimensions
Georg C. Pflug (Prof.)	Mathematical Statistics, Stochastic Optimization, Risk Management
Benedikt M. Pötscher (Prof.)	Econometrics, Statistics, Time Series Analysis
Erhard Reschenhofer (Assoc. Prof.)	Time Series Analysis, Financial Econometrics, Automatic Model Selection, Chronobiology
Werner Schachinger (Assoc. Prof.)	Optimization, Probabilistic Analysis of Algorithms
Ulrike Schneider (PhD)	Statistics and Combinatorial Optimization
Nancy Wozabal (Dr.)	Statistics and Optimization

## 2.2 Externally Funded Faculty (with Research Interests)

Nikola Broussev	Electricity Markets, Electricity Derivatives, Stochastic Programming, Game Theory
Minh Ha Quang	Machine Learning, Statistical Genetics
Ronald Hochreiter (Dr.)	Optimization under Uncertainty, Stochastic Programming, Financial Risk Management, Service Oriented Computing
Ivana Ljubic (Dr.)	Algorithmic Operations Research, Algorithm Engineering
Peter Putz	Combinatorial Optimization, Network Design
Stefan Rath	Operations Research
Peter Reiter	Operations Research (Algorithms for Deterministic and Stochastic Combinatorial Optimization Problems)
Alessandro Tomazic	Combinatorial Optimization (Graph Algorithms)
Clemens Wiesinger	Stochastic Programming, Workflow Engineering/Application Integration, Web Services/Software Components, Financial Data Structures
David Wozabal	Stochastic Optimization, Non-Convex Optimization, Robust Optimization
Hildegard Zelle	Stochastic Optimization

## 2.3 External Lecturers (Academic Year 2007/08)

Peter Bauer (Prof., Medical University of Vienna), Johann Brandstetter (Dr.), Stela-Liana Brannath, Werner Brannath (Assoc. Prof., Medical University of Vienna), Manfred Deistler (Prof., Technical University of Vienna), Michaela Denk (Dr.), Wilfried Grossmann (Prof., Dept. of Scientific Computing, University of Vienna), Thomas Feierl (Dept. of Mathematics, University of Vienna), Georg Heinze (Assoc. Prof., Medical University of Vienna), Harald Heinzl (Assoc. Prof., Medical University of Vienna), Stefan Hochrainer (Dr., International Institute for Applied Systems Analysis, Laxenburg), Dirk Holste (Dr.), Maximilian Kleinert (Technical University of Vienna), Franz König (Dr., Medical University of Vienna), Christoph Krall (Dr.), Reinhard Mechler (Dr., International Institute for Applied Systems Analysis, Laxenburg), Herbert Nagel (Dr.), Martin Posch (Assoc. Prof., Medical University of Vienna), David Ramsey (PhD, University of Limerick, Ireland), Michael Schemper (Prof., Medical University of Vienna), Harald Schwab (Dr.), Gabriele Uchida (Assoc. Prof., Dept. of Scientific Computing, University of Vienna), Claus Vogl (Dr., University of Veterinary Medicine Vienna), Bertram Wassermann, Heinz Weisshaupt (Dr.)

## 2.4 Teaching Assistants (Academic Year 2007/08)

Isadora Dorn, Martin Grasslober, Christina Zauner

## **2.5 Tutors (Academic Year 2007/08)**

Johanna Bertl, Julia Gruber, Martin Hermann, Nina Huber, Stefan Katzensteiner, Georg Lehecka, Daniel Obszelka, Peter Reschenhofer, Zaks Tim Salmutter

## **2.6 Administrative Assistants**

Birgit Ewald, Simone Hackl, Gerald Kamhuber, Vera Lehmwald, Manuela Nicham-Zorn

## **2.7 Systems Administrators**

Georg Fochler, Stefan Geißler, Robert Kotal, Svetlana Mihajlovic, Sharif Purhassan

## **3 Visitors**

Hansjörg Albrecher (EPF Lausanne, Switzerland), Andreas Albrecht (University of Hertfordshire, UK), Andrzej Bobrowski (TU Lublin, Poland), Hans-Hermann Bock (RWTH Aachen, Germany), Małgorzata Bogdan (Wrocław University of Technology, Poland), Simon Boitard (INRA Toulouse, France), Gabriele Eichfelder (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), Paul Embrechts (ETH Zurich, Switzerland), Marc Hallin (UL Bruxelles, Belgium), Siegfried Hörmann (University of Utah, Salt Lake City, USA), Thomas Hotz (University of Goettingen, Germany), Joaquim Júdice (University of Coimbra, Portugal), Axel Munk (University of Goettingen, Germany), Magdalena Murawska (The Maria Skłodowska-Curie Memorial Cancer Center and Institute of Oncology, Warsaw, Poland), Marcello Pelillo (University 'Ca'Foscari', Venice, Italy), Samuel Rota Buló (University 'Ca'Foscari', Venice, Italy), Reuven Rubinstein (Technion Haifa, Israel), Juan-José Salazar (University of La Laguna, Spain), Richard Samworth (University of Cambridge, UK), Tamás Terlaky (McMaster University, Hamilton, Ontario), H. Paul Williams (London School of Economics, UK)

## 4 Teaching

### 4.1 Courses Taught (Academic Year 2007/08)

#### *Winter Term 2007/08*

<b>Lecturer</b>	<b>Course Title</b>
Andreas Baierl/Franz König	UK Biostatistics I
Johann Brandstetter	FK WMS: Business Mathematics 2 (3 sections) VK Introduction to Business Mathematics
Stela-Liana Brannath	UE Linear Algebra VK Introduction to Business Mathematics (2 sections)
Thomas Feierl	UE Linear Algebra
Florian Frommlet	VO A first Course in Probability UE Exercises in Nonparametric Statistics – Nonparametric Statistics and Distribution Free Methods
Andreas Futschik	VO Linear Algebra UK Statistical Case Studies SE Stochastics Colloquium SE Statistical Inference in Bioinformatics and Genetics
Andrea Gaunersdorfer	EK Quantitative Methods for Business Decisions EK KFK OR: Operations Research I
Walter Gutjahr	UK Decision Support VK KFK OR: Software Applications in OR I
Walter Gutjahr	VU PG.STW.CT.VU Computational Techniques
Walter Gutjahr	Network Analysis
Ronald Hochreiter	UK Computational Statistics VO Database Systems UK Datawarehousing
Markus Hudec	UK Multivariate Statistics
Irene Klein	VO Markov Processes VK Introduction to Business Mathematics (2 sections)
Maximilian Kleinert	UE Probability
Christoph Krall	FK WMS: Business Statistics 1 (3 sections)
Ivana Ljubic	FK WMS: Business Mathematics 1 (2 sections)
Radoslava Mirkov	UK Economic Statistics, Social Statistics, and Population Statistics and Gender Studies
Herbert Nagel	FK WMS: Business Statistics 2 (2 sections)

<b>Lecturer</b>	<b>Course Title</b>
Georg Pflug	VO Mathematical Statistics SE DRS: Stochastic Optimization – Stochastic Optimization with Applications in Portfolio and AL-Management
Georg Pflug/Andreas Baierl/Michaela Denk	UK GZ Statistics: Basic Principles
Georg Pflug/Stefan Hochrainer/Reinhard Mechler	SE SE Statistics: Rare Events and Catastrophic Risk Management
Martin Posch	VO Nonparametric Statistics – Nonparametric Statistics and Distribution Free Methods
Benedikt Pötscher	VO Linear Models
Benedikt Pötscher/Manfred Deistler	SE Research Privatissimum in Econometrics
Benedikt Pötscher/Florian Gach	UK Probability Theory
Erhard Reschenhofer	VO Time Series Analysis UE Exercises in Time Series Analysis
Erhard Reschenhofer/Florian Frommlet	DK PhD-M: Probability and Statistics
Erhard Reschenhofer/Markus Cerman	KU Statistics and Quantification in the Science of History
Werner Schachinger	VO Analysis and Practical Mathematics UE Analysis and Practical Mathematics SE Operations Research und Stochastic Modelling
Michael Schemper	SE Seminar in Statistics for Masterstudies
Ulrike Schneider	UE Linear Models (2 sections) UK Introduction to Business Mathematics
Harald Schwab	FK WMS: Business Mathematics 1 (2 sections) FK WMS: Business Statistics 1
Alessandro Tomazic	VK Introduction to Business Mathematics (2 sections)
Claus Vogl/David Ramsey	UK Computer Intensive Methods in Statistics
Bertram Wassermann	FK WMS: Business Statistics 2
David Wozabal	UE Probability (2 sections)
Nancy Wozabal	UE Probability UE Markov Processes UE Exercises in Mathematical Statistics
Hildegard Zelle	UE Linear Algebra (2 sections)

**Summer Term 2008**

Andreas Baierl/Georg Heinze/Werner Brannath	PR Statistical Consulting
Peter Bauer	VO Experimental Design and Sequential Statistics



<b>Lecturer</b>	<b>Course Title</b>
Immanuel Bomze	VO Analysis UK Introduction to Business Mathematics SE Colloquium in Stochastics
Immanuel Bomze/Werner Schachinger	UK Deterministic Dynamic Models in Economics
Johann Brandstetter	VK Introduction to Business Mathematics FK WMS: Business Mathematics 2 (2 sections)
Stela-Liana Brannath	UE Exercises in Analysis
Florian Frommlet	UE Exercises in Analysis UK Linear Multivariate Statistics
Andreas Futschik	SE Applied Statistics: Biometrics VO Introduction to Statistical Inference
Andreas Futschik/Martin Posch/Werner Brannath/Peter Bauer	SE Research Privatissimum in Biostatistics and Genetics
Andreas Futschik/Claus Vogl	UK Advanced Biostatistics
Florian Gach	UE Exercises in Statistical Inference
Andrea Gaunersdorfer	EK Quantitative Methods for Business Decisions VK BW VM: Financial Management
Wilfried Grossmann/Michaela Denk	FK nBWM INF: Appl. Multivariate Stat. for Business Studies
Wilfried Grossmann/Markus Hudec	UK Generalized Linear Model
Walter Gutjahr	UK KFK OR: Decision Theory 2 VO Nonlinear Regression
Walter Gutjahr/Stefan Rath	UK Decision Support
Walter Gutjahr/Peter Reiter	VK nBWM: OR Methods in Production and Logistics 1
Walter Gutjahr	VO+UE Mathematics for Sociologists
Ronald Hochreiter	FK KFK IA: Asset and Liability Management
Dirk Holste/Claus Vogl	UK Statistical Genetics and Bioinformatics
Irene Klein	VK Introduction to Business Mathematics (2 sections) UK Stochastic Processes
Maximilian Kleinert	UE Exercises in Analysis
Christoph Krall	FK WMS: Business Statistics 1 (3 sections)
Ivana Ljubic	FK WMS: Business Mathematics 2 (2 sections)
Radoslava Mirkov	UK KFK OR: Operations Research II
Herbert Nagel	FK WMS: Business Statistics 1 FK WMS: Business Statistics 2 (2 sections)

<b>Lecturer</b>	<b>Course Title</b>
Georg Pflug	VO Advanced Stochastic Processes: Modeling and Approximation UK Introduction to Insurance Mathematics SE Seminar in Statistics
Georg Pflug/Nancy Wozabal	UK Nonparametric Inference and Resampling
Benedikt Pötscher	UK Introduction to Econometrics
Benedikt Pötscher/Manfred Deistler	SE Research Privatissimum in Econometrics
Benedikt Pötscher/Florian Gach	UK Asymptotic Statistics
Benedikt Pötscher/Ulrike Schneider	UK Econometrics
Stefan Rath	UE Exercises in Analysis
Peter Reiter	PR Practical Course in Decision Support
Erhard Reschenhofer	UK Multivariate Time Series Analysis FK nBWM IA, FE: Financial Econometrics
Werner Schachinger	UK Stochastic Models
Ulrike Schneider	UE Exercises in Nonlinear Regression UK Statistical Information Processing
Harald Schwab	VK Introduction to Business Mathematics FK WMS: Business Mathematics 1 (2 sections)
Alessandro Tomazic	FK WMS: Business Mathematics 1 (2 sections)
Gabriele Uchida	PR KFK OR: Software Applications in OR II
Bertram Wassermann	FK WMS: Business Statistics 2
Heinz Weisshaupt	VO Selected Topics in Statistics
David Wozabal	UE Exercises in Statistical Inference UK Programming in Statistics
Nancy Wozabal	UE Exercises in Statistical Inference

## 4.2 Theses Supervised

### 4.2.1 PhD Theses

<b>Supervisor</b>	<b>Author</b>	<b>Title</b>
Andreas Futschik*	Alexandra Goll	Inference on a large number of hypotheses based on limited samples – some points to consider
Walter J. Gutjahr*	Vera Christina Hemmelmayr	Vehicle routing problems with periodic customer visits
Walter J. Gutjahr*	Günther Josef Füllerer	Vehicle routing with multi-dimensional loading constraints
Walter J. Gutjahr*	Alexander Ostertag	Decomposition strategies for large scale multi depot vehicle routing problems
Georg C. Pflug	Raimund Kovacevic	Conditional acceptability mappings: convex analysis in Banach lattices
Georg C. Pflug	David Wozabal	Applications of non-convex optimization in portfolio selection
Benedikt M. Pötscher	Florian Gach	Efficiency in indirect inference

### 4.2.2 Diploma Theses

<b>Supervisor</b>	<b>Author</b>	<b>Title</b>
Andreas Futschik	Johannes Klotz	Parametric (lognormal) estimation of the at-risk-of-poverty rate
Andreas Futschik	Thomas Zehndorfer	Statistische Analyse der Verweildauer von Frauen in privaten Krankenversicherungen
Walter J. Gutjahr	Peter Reiter	The next release problem – an extended model formulation and the comparison of two algorithms for stochastic multi-objective combinatorial optimization problems
Walter J. Gutjahr	Rüdiger Stickler	Bi-criteria decision support for optimizing TV-reach using a genetic algorithm
Ronald Hochreiter	Paul Schneeweiß	Kollektive Intelligenz im Internet: neuer Ansatz zur Portfolio Optimierung
Erhard Reschenhofer	Peter Diehl	Technische Analyse vs. klassische Zeitreihenanalyse: Ein empirischer Vergleich ausgewählter Trading-Strategien anhand von Finanzdaten

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\* second supervisor

Erhard Reschenhofer	Sifei Yu	Lang- und kurzfristiger Zusammenhang zwischen U.S. amerikanischen Aktienkursen, Ölpreisen und ökonomischen Variablen: Eine empirische Kointegrationsanalyse
Erhard Reschenhofer	Gunnar Lars Brechtken	The dynamics of interest in the Czech, Hungary and Poland: a vector autoregressive latent yield and macro factor approach
Erhard Reschenhofer	Karin Rainer	Untersuchung des Zusammenhanges zwischen Lebensqualität und Forschungsfortschritt anhand von Daten ausgewählter OECD Länder
Erhard Reschenhofer	Susanne Farkas	Analyse und Kursprognose von Finanzzeitreihen

### 4.2.3 Bachelor Theses

Immanuel M. Bomze/Werner Schachinger (1<sup>1</sup>), Andrea Gaunersdorfer (5), Walter J. Gutjahr (4), Erhard Reschenhofer (1)

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<sup>1</sup> indicates the number of bachelor theses supervised in 2008

## 5 Publications

### 5.1 Monographs

Dempster, Maureen A. H., Mitra, Gautam, **Pflug, Georg C.** (Eds.): Quantitative Fund Management. *CRC Press*, Boca Raton, USA, 2008.

### 5.2 Journal Articles

Bogdan, Małgorzata, **Frommlet, Florian**, Biecek, Przemek, Cheng, Ryan, Ghosh, Jayantha K., Doerge, Rebecca W.: Extending the Modified Bayesian Information Criterion (mBIC) to dense markers and multiple interval mapping. *Biometrics* **64**, 1162–1169, 2008.

**Bomze, Immanuel M.**, Pawlowitsch, Christina: One-third rules with equality: second-order evolutionary stability conditions in finite populations. *Journal of Theoretical Biology* **254**, 616-620, 2008.

Doerner, Karl, **Gutjahr, Walter J.**, Hartl, Richard, Strauss, Christine, Stummer, Christian: Nature-inspired metaheuristics for multiobjective activity crashing. *Omega* **36**, 1019-1037, 2008.

**Futschik, Andreas, Gach, Florian**: On the inadmissibility of Watterson's estimate. *Theoretical Population Biology* **73**, 212-221, 2008.

**Gaunersdorfer, Andrea**, Hommes, Cars H., Wagener, Florian Oskar Ottokar: Bifurcation Routes to Volatility Clustering under Evolutionary Learning. *Journal of Economic Behavior & Organization* **67**, 27-47, 2008.

**Gutjahr, Walter J.**: First steps to the runtime complexity analysis of Ant Colony Optimization. *Computers and Operations Research* **35**, 2711-2727, 2008.

**Gutjahr, Walter J.**, Harman, Mark: Search-based Software Engineering (Editorial). *Computers and Operations Research* **35**, 3049-3051, 2008.

**Gutjahr, Walter J.**, Katzensteiner, Stefan, **Reiter, Peter**, Stummer, Christian, Denk, Michaela: Competence-driven project portfolio selection, scheduling and staff assignment. *Central European Journal of Operations Research* **16**, 281-306, 2008.

**Gutjahr, Walter J.**, Sebastiani, Giovanni: Runtime analysis of ant colony optimization with best-so-far reinforcement. *Methodology and Computing in Applied Probability* **10**, 409-433, 2008.

Isogai, Eiichi, **Futschik, Andreas**: On the convergence rate of sequential fixed-width confidence intervals for normal parameters. *Statistics and Probability Letters* **78**, 1826-1834, 2008.

**Kilianová, Soňa, Pflug, Georg C.**: Optimal pension fund management under multi-period risk minimization. *Annals of Operations Research* **166**, 261-270 (in press, available online since July 2008)

**Klein, Irene**: No asymptotic free lunch reviewed in the light of Orlicz spaces. *Séminaire de Probabilités XLI*, 443-454, 2008.

Leeb, Hannes, **Pötscher, Benedikt M.**: Can One Estimate the Unconditional Distribution of Post-Model-Selection Estimators? *Econometric Theory* **24**, 338-376, 2008.

Leeb, Hannes, **Pötscher, Benedikt M.**: Recent Developments in Model Selection and Related Areas. *Econometric Theory* **24**, 319-322, 2008.

- Leeb, Hannes, **Pötscher, Benedikt M.**: Sparse Estimators and the Oracle Property, or the Return of Hodges' Estimator. *Journal of Econometrics* **142**, 201-211, 2008.
- Posch, Martin, **Futschik, Andreas**: A uniform improvement of Bonferroni type tests by sequential tests. *Journal of the American Statistical Association* **103**, 299-308, 2008.
- Pötscher, Benedikt M.**: Comment on 'Approximating Data' by P. L. Davies. *Journal of the Korean Statistical Society* **37**, 227-229, 2008.
- Preuner, Sandra, Denk, D., **Frommlet, Florian**, Nesslerboeck, M., Lion, Thomas: Quantitative monitoring of cell clones carrying point mutations in the BCR-ABL tyrosine kinase domain by ligation-dependent polymerase chain reaction (LD-PCR). *Leukemia* **22**, 1956-1961, 2008.
- Reschenhofer, Erhard**: Combining generalized Kolmogorov-Smirnov tests. *InterStat*, June **#4**, 2008.

### 5.3 Contributions to Proceedings and Edited Books

- Chimani, Markus, Kandyba, Maria, **Ljubic, Ivana**, Mutzel, Petra: Obtaining Optimal k-Cardinality Trees Fast. In: *SIAM 2008 Proceedings of the Ninth Workshop on Algorithm Engineering and Experiments (ALENEX)*. 27-36, 2008.
- Chimani, Markus, Kandyba, Maria, **Ljubic, Ivana**, Mutzel, Petra: Strong Formulations for 2-Node-Connected Steiner Network Problems. In: *Combinatorial Optimization and Applications*. Lecture Notes in Computer Science. Volume **5165**. Springer, 190-200, 2008.
- Chimani, Markus, Mutzel, Petra, **Bomze, Immanuel M.**: A New Approach to Exact Crossing Minimization. In: Halperin, Dan, Mehlhorn, Kurt (Eds.): *Algorithms ESA 2008. 16th Annual European Symposium. Karlsruhe, Germany, September 15-17, 2008. Proceedings*. Lecture Notes in Computer Science. Volume **5193**. Springer, 284-296, 2008.
- Dockner, Engelbert J., **Gaunersdorfer, Andrea**, Jørgensen, S.: Endogenous horizontal mergers in dynamic marketing. In: Gugler, K., Yurtoglu, B. B.: *The Economics of Corporate Governance and Mergers*. Edward Elgar, Cheltenham, UK, 288-300, 2008.
- Dörner, Karl, **Gutjahr, Walter J.**, Hartl, Richard, Lulli, Guglielmo: Stochastic local search procedures for the probabilistic two-days vehicle-routing problem. In: Fink, A., Rothlauf, F. (Eds.): *Advances in Computational Intelligence in Transportation and Logistics*. Studies in Computational Intelligence **144**. Springer, Berlin-Heidelberg, 153-168, 2008.
- Hochreiter, Ronald**: Evolutionary stochastic portfolio optimization. In: Brabazon, A., O'Neill, M. (Eds.): *Natural Computing in Computational Finance*. Studies in Computational Intelligence. Volume **100**. Springer, 67-87, 2008.
- Hochreiter, Ronald, Pflug, Georg C.**, Paulsen, Volkert: Design and management of unit-linked life-insurance contracts with guarantees. In: Zenios, S. A., Ziemba, W. T. (Eds.): *Handbook of Asset and Liability Management*. Volume 2. Chapter 14. Elsevier/North-Holland, 627-662 (electronic 2008)
- Leeb, Hannes, **Pötscher, Benedikt M.**: Model Selection. In: Andersen, T. G., Davis, R. A., Kreiss, J.-P., Mikosch, T. (Eds.): *Handbook of Financial Time Series*. Springer, 889-926, 2008.
- Schabauer, Hannes, **Hochreiter, Ronald, Pflug, Georg C.**: Parallelization of pricing path-dependent financial instruments on bounded trinomial lattices. In: *International Conference on Computational Science 2008*. Lecture Notes in Computer Science. Volume **5102**. Springer, 408-415, 2008.

**Tomazic, Alessandro, Ljubic, Ivana:** A GRASP Algorithm for Connected Facility Location. In: *Proceedings of the 2008 International Symposium on Applications and the Internet, SAINT 2008, 28 July - 1 August 2008, Turku, Finland*. IEEE Computer Society, 257-260, 2008.

Wiesemann, Wolfram, **Hochreiter, Ronald**, Kuhn, Daniel: A Stochastic Programming Approach for QoS-Aware Service Composition. In: *Eighth IEEE International Symposium on Cluster Computing and the Grid*. IEEE Computer Society, 226-233, 2008.

## 5.4 Technical Reports and Working Papers

Addis, Bernardetta, **Schachinger, Werner:** Improved bounds for interatomic distance in Morse clusters. *TR 2008-07*.

Addis, Bernardetta, **Schachinger, Werner:** Morse potential energy minimization: Improved bounds for optimal configurations. To appear in: *Computational Optimization and Applications*.

**Bomze, Immanuel M., Lemaréchal, Claude:** Necessary conditions for local optimality in d.c. programming. *TR 2008-14*.

**Bomze, Immanuel:** Global Optimization – a Quadratic Programming Perspective.

**Bomze, Immanuel, Frommlet, Florian,** Locatelli, Marco: Copositivity cuts for improving SDP bounds on the clique number. To appear in: *Mathematical Programming*.

Boreiko, D. V., Kaniovski, Yuriy M., **Pflug, Georg C.:** Approximating credit portfolio loss distributions using empirical estimates for correlated rating transitions.

Broussev, Nikola, **Pflug, Georg C.:** Electricity Swing Options: Behavioral Models and Pricing. To appear in: *European Journal of Operations Research* **197**, 1041-1050, 2009.

Chen, Si, **Ljubic, Ivana,** Raghavan, S.: The regenerator location problem. To appear in: *Networks*.

Chimani, Markus, Kandyba, Maria, **Ljubic, Ivana,** Mutzel, Petra: Obtaining Optimal k-Cardinality Trees Fast. To appear in: *ACM Journal on Experimental Algorithms*.

Chimani, Markus, Kandyba, Maria, **Ljubic, Ivana,** Mutzel, Petra: Orientation-based Models for {0,1,2}-Survivable Network Design: Theory and Practice. To appear in: *Mathematical Programming*.

Froeschl, Karl A., Denk, Michaela, **Gutjahr, Walter J.,** Jerusalem, Alexander, Riedmann, Harald, Stummer, Christian: Project selection, staffing and competence building: an integrated approach to human resource development.

**Frommlet, Florian:** Critical Remarks on a Novel Approach to Ordinal Regression without Latent Variables. *TR 2008-06*.

**Frommlet, Florian:** Tag SNP selection based on clustering with dominant sets and the replicator dynamic.

**Gutjahr, Walter J.:** Convergence analysis of metaheuristics.

**Gutjahr, Walter J.:** Optimal project portfolio selection strategies under a competence development model.

**Gutjahr, Walter J.:** Stochastic search in metaheuristics.

**Gutjahr, Walter J., Reiter, Peter:** Bi-objective project portfolio selection and staff assignment under uncertainty.

- Gutjahr, Walter J.**, Katzensteiner, Stefan, **Reiter, Peter**, Stummer, Christian: Multi-objective decision analysis for competence-oriented project portfolio selection.
- Hochrainer, Stefan, **Pflug, Georg C.**: Natural Disaster Risk Bearing Ability of Governments. *Journal of the Japan Society of Natural Disaster Science* (accepted).
- Hochreiter, Ronald, Pflug, Georg C.**: Introduction to the special issue on computational optimization under uncertainty. To appear in: *Computational Management Science* **6**, 115-116, 2009.
- Hochreiter, Ronald, Wiesinger, Clemens, Wozabal, David**: Discussion of "The evolution of web-based optimisation: From ASP to e-Services". To appear in: *Decision Support Systems* **47**, 72-73, 2009.
- Hochreiter, Ronald, Wozabal, David**: A multi-stage stochastic programming model for managing risk-optimal electricity portfolios. In: *Power Systems Handbook*. Volume of Energy Systems. Springer, 2009 (accepted).
- Nolz, Pamela C., Doerner, Karl F., **Gutjahr, Walter J.**, Hartl, Richard F.: A bi-objective metaheuristic for disaster relief operations planning.
- Pflug, Georg C.**: Version independence and nested distributions in stochastic optimization.
- Pflug, Georg C.**, Schaller, P.: A note on pivotal Value-at-Risk estimates.
- Pflug, Georg C., Wozabal, Nancy**: Asymptotic distribution of law-invariant risk functionals. To appear in: *Finance and Stochastics*.
- Pflug, Georg C.**, Römisch, Werner: The role of information in multi-period risk measurement.
- Pötscher, Benedikt M., Schneider, Ulrike**: Confidence Sets Based on Penalized Maximum Likelihood Estimators (manuscript 2008).
- Reschenhofer, Erhard**: Frequency domain modeling with piecewise constant spectra. To appear in: *Journal of Modern Applied Statistical Methods* **8**, 2009.
- Reschenhofer, Erhard**: Super-whiteness of returns spectra. To appear in: *Journal of Data Science* **7**, 2009.
- Reschenhofer, Erhard**, Schilde, Michael, Oberecker, Eva, Payr, Ellen, Tandogan, Hasan T., Wakolbinger, Lea M.: Identifying the determinants of foreign direct investment: A data-specific model selection approach.
- Schneider, Ulrike**, Wagner, Martin: Catching Growth Determinants with the Adaptive LASSO.
- Stummer, Christian, Kiesling, Elmar, **Gutjahr, Walter J.**: A multicriteria decision support system for competence-driven project portfolio selection.
- Vogl, Claus, **Futschik, Andreas**: Hidden Markov Models in Biology. To appear in: Carugo, Oliviero, Eisenhaber, Frank (Eds.): *Biological Data Mining* (Methods in Molecular Biology). The Humana Press, Totowa, USA.
- Vogl, Claus, **Futschik, Andreas**, Schlötterer, Christian: Approximate Inference of Population Demography Using a Gaussian Likelihood with Transformed Summary Statistics.
- Wozabal, David, Hochreiter, Ronald, Pflug, Georg C.**: A D.C. Formulation of Value-at-Risk constrained Optimization (submitted).
- Wozabal, David, Wozabal, Nancy**: Consistency of Risk Functionals. To appear in: *Journal of Non-parametric Statistics*.
- Wozabal, Nancy**: Uniform limit theorems for functions of order statistics. To appear in: *Statistics & Probability Letters*.



You, Alexandre, **Schneider, Ulrike**, Guillou, Armelle, Naveau, Philippe: Improving Extreme Quantile Estimation Via a Folding Procedure.

## 6 Presentations

### 6.1 Conference Presentations

	<b>Conference</b>	<b>Title of Presentation</b>
Immanuel M. Bomze	SIAM Conference on Optimization (OP08), Boston, Massachusetts, USA (invited in minisymposium)	Thrill and challenge of imperfection combinatorial optimization contacts and test instances for copositive programming
Immanuel M. Bomze	International Conference on Computational Statistics (COMPSTAT'2008), Porto, Portugal	Optimization dynamics for quadratic problems and their role in machine learning
Immanuel M. Bomze	Workshop of Computational Polynomial Optimization and Multilinear Algebra, Hong Kong, China (invited)	Optimization of posynomials under $l^p$ constraints
Florian Frommlet	Human Genome Variation (HGV 2008), Toronto, Canada	Tag SNP selection based on clustering with dominant sets and the replicator dynamic
Andreas Futschik	Statistical Society of Canada (SSC 2008), Ottawa, Canada	On the inadmissibility of Watterson's Estimator
Andreas Futschik	Workshop on Current Trends and Challenges in Model Selection and Related Areas, University of Vienna, Austria	More hypotheses versus more power: designing a multiple hypothesis testing experiment subject to a maximum overall number of possible observations
Florian Gach	Young European Statisticians Workshop (YESII) "High dimensional statistics", EURANDOM, Eindhoven, The Netherlands	Efficiency in indirect inference
Ronald Hochreiter	Statistische Woche 2008, Cologne, Germany (invited)	Market risk control of structured credit products
Ronald Hochreiter	12 <sup>th</sup> Serbian Mathematical Congress, Novi Sad, Serbia	A stochastic programming approach for QoS-aware service composition
Ronald Hochreiter	14 <sup>th</sup> International Conference on Computing in Economics and Finance, Paris, France (invited)	Dynamic stochastic programming models for long-term pension fund management

	<b>Conference</b>	<b>Title of Presentation</b>
Ronald Hochreiter	2 <sup>nd</sup> International Workshop on Computational and Financial Econometrics, Neuchatel, Switzerland	Evaluating and extending clustering techniques to generate financial scenarios for stochastic programming models
Ronald Hochreiter	International Conference on Applied Mathematical Programming and Modeling (APMOD 2008), Bratislava, Slovakia (invited)	A stochastic programming approach for QoS-aware service composition
Ronald Hochreiter	8 <sup>th</sup> IEEE International Symposium on Cluster Computing and the Grid, Lyon, France	A stochastic programming approach for QoS-aware service composition
Ronald Hochreiter	5 <sup>th</sup> International Conference on Computational Management Science, London, UK	Computation of scenario trees for multi-stage stochastic programming models
Ivana Ljubic	9 <sup>th</sup> INFORMS Telecommunications Conference, University of Maryland, College Park, Washington D.C. Area, USA	Solving connected facility location to provable optimality
Ivana Ljubic	SIAM Conference on Optimization (OP08), Boston, Massachusetts, USA	Strong formulations for 2-node-connected Steiner network problems
Ivana Ljubic	INFORMS Annual Meeting 2008, Washington D.C., USA (invited)	Benders cuts for the single-source network loading problem
Georg C. Pflug	SIGOPT - International Conference on Optimization 2008, Lambrecht, Germany (invited)	Version independence in dynamic stochastic programming
Georg C. Pflug	5 <sup>th</sup> International Conference on Computational Management Science, London, UK (invited)	Quality assessment to scenario models: How to calculate approximation distances
Georg C. Pflug	Conference on Efficient Monte Carlo: From Variance Reduction to Combinatorial Optimization, in Honor of Reuven Rubinstein, on the Occasion of his 70 <sup>th</sup> Birthday, Sønderborg, Denmark (invited)	The weak derivative method
Georg C. Pflug	CARIPO Workshop on Numerical Linear and Nonlinear Stochastic Programming, Edinburgh, UK (invited)	The mathematics of scenario generation
Georg C. Pflug	Statistische Woche 2008, Cologne, Germany (invited)	Measuring risk

	<b>Conference</b>	<b>Title of Presentation</b>
Georg C. Pflug	International Conference on Price, Liquidity, and Credit Risk, Constance, Germany	Credit risk modeling
Georg C. Pflug	Veszprém Optimization Conference: Advanced Algorithms (VOCAL 2008), Veszprém, Hungary	DC algorithms in stochastic programming
Benedikt M. Pötscher	Royal Economic Society Easter School on Model Selection, Nuffield College, Oxford, UK (invited)	Model selection and inference
Benedikt M. Pötscher	Understanding the New Statistics: Expanding Core Statistical Theory, Banff International Research Station, Banff, Canada (invited)	Confidence sets based on sparse estimators are necessarily large
Benedikt M. Pötscher	Workshop on Current Trends and Challenges in Model Selection and Related Areas, University of Vienna, Austria	Confidence sets based on sparse estimators are necessarily large
Benedikt M. Pötscher	European Meeting of the Econometric Society, Milan, Italy	Confidence sets based on sparse estimators are necessarily large
Stefan Rath	18 <sup>th</sup> Triennial Conference of the International Federation of Operational Research Societies, Sandton, South Africa	A multi-objective warehouse location routing problem for disaster relief
Ulrike Schneider	Workshop on Computational and Financial Econometrics, Neuchatel, Switzerland	On the distribution of the adaptive LASSO estimator
Ulrike Schneider	7 <sup>th</sup> World Congress in Probability and Statistics, Singapore	On the distribution of the adaptive LASSO estimator
Ulrike Schneider	Workshop on Current Trends and Challenges in Model Selection and Related Areas, University of Vienna, Austria	On the distribution of the adaptive LASSO estimator
Ulrike Schneider	European Meeting of the Econometric Society, Milan, Italy	On the distribution of the adaptive LASSO estimator
Ulrike Schneider	Young European Statisticians Workshop (YESII) "High dimensional statistics", EURANDOM, Eindhoven, The Netherlands	On the distribution of the adaptive LASSO estimator
Nancy Wozabal	International Conference on Computational Statistics (COMPSTAT'2008), Porto, Portugal	Some limit theorems for risk measures

	<b>Conference</b>	<b>Title of Presentation</b>
Nancy Wozabal	International Symposium on Business and Industrial Statistics (ISBIS 2008), Prague, Czech Republic	A new functional limit theorem for L-statistics applied to risk measures
Nancy Wozabal	International Conference on Applied Mathematical Programming and Modeling (APMOD 2008), Bratislava, Slovakia	A new functional limit theorem for L-statistics applied to risk measures

## 6.2 Outside Seminar Presentations

	<b>Institution</b>	<b>Title</b>
Immanuel M. Bomze	University of Pisa, Italy	On the road to tractability: from combinatorial optimization via copositive programming to SDP-based approximation
Immanuel M. Bomze	University 'La Sapienza', Rome, Italy	Thrill and challenge of imperfection – combinatorial optimization contacts and test instances for copositive programming
Immanuel M. Bomze	University of Seville, Spain	Optimization dynamics for quadratic problems and their role in machine intelligence
Immanuel M. Bomze	University of Erlangen, Germany	Thrill and challenge of imperfection – combinatorial optimization interfaces and test instances for copositive programming
Immanuel M. Bomze	University 'Ca'Foscari', Venice, Italy	Replicator dynamics for multi-standard quadratic problems and their role in machine learning
Andreas Futschik	University of Goettingen, Germany	Statistical methods for quantitative trait localization based on genome data (I)
Ronald Hochreiter	Department of Mathematics, Imperial College, London, UK	The impact of choosing different scenario generation techniques for multi-stage stochastic programming models
Ronald Hochreiter	Institute of Mathematics and Informatics, Vilnius, Lithuania	A stochastic programming approach for QoS-aware service composition
Ronald Hochreiter	3 <sup>rd</sup> OePAG Press-Tour, Utrecht, The Netherlands	Contemporary ALM for an Austrian pension fund (In German)
Ronald Hochreiter	Department of Mathematics, University 'Ca'Foscari', Venice, Italy	The impact of choosing different scenario generation techniques for multi-stage stochastic programming models
Georg C. Pflug	Humboldt-Universität zu Berlin, Germany	Multiperiod risk functionals

	<b>Institution</b>	<b>Title</b>
Georg C. Pflug	Center for Mathematical Modeling (CMM), Santiago de Chile, Chile	Lectures on risk measuring
Georg C. Pflug	RICAM Special Semester on Stochastics with Emphasis on Finance, Linz, Austria	On multi-period risk functionals
Benedikt M. Pötscher	Department of Economics, London School of Economics and Political Sciences, London, UK	On the distribution of penalized maximum likelihood estimators
Benedikt M. Pötscher	CIREQ and McGill University, Montreal, Canada	On the distribution of penalized ML/LS-estimators
Ulrike Schneider	Institute for Advanced Studies (IHS), Vienna, Austria	On the distribution of the adaptive LASSO estimator

### 6.3 Departmental Seminars

Axel Munk (University of Goettingen): Jumps and inverse jumps (January, 14)

Gabriele Eichfelder (University of Erlangen): Set-semidefinite optimization (January, 15)

Joaquim Júdice (University of Coimbra): The eigenvalue complementarity problem (January, 21)

Andreas Albrecht (University of Hertfordshire): Combinatorial landscape analysis for search-based algorithms (January, 28)

Magdalena Murawska (MSCMCC, Warsaw): Evaluation of surrogate markers in microarray experiments in early drug development experiments (March, 5)

Richard Samworth (University of Cambridge): Maximum likelihood estimation of a multidimensional log-concave density (March, 10)

Stefano Demichelis (University of Pavia): Extensive communication and the madness of crowds (April, 14)

Juan-José Salazar (University of La Laguna): Mathematical models to reconstruct phylogenetic trees under the minimum evolution criterion (April, 21)

Marc Hallin (UL Bruxelles): Dynamic factor models with block structure (April, 28)

Reuven Rubinfeld (Technion Haifa): The Gibbs cloner for combinatorial optimization, counting and sampling (May, 9)

Marcello Pelillo (University 'Ca'Foscari', Venice): Dominant sets and pairwise clustering (May, 19)

Samuel Rota Buló (Universtiy 'Ca'Foscari', Venice): On continuous characterizations of cliques on hypergraphs (May, 26)

Tamás Terlaky (McMaster University, Hamilton): The Hirsch conjecture and its relatives (May, 26)

H. Paul Williams (London School of Economics): Searching for the dual of an integer programme (June, 2)

David Wozabal (University of Vienna): A difference-of-convex representation of Value-at-Risk and its applications in portfolio optimization (June, 9)

Siegfried Hörmann (University of Utah): A powerful approach for the analysis of dependent processes (June, 16)

Matthias Staudigl (University of Vienna): Efficiency in coordination games played in a volatile environment (October, 13)

Andrzej Bobrowski (TU Lublin): Wright-Fisher models with mutations and drift (October, 20)

Raimund Kovacevic (University of Vienna): Conditional acceptability mappings: convex analysis in Banach lattices (October, 27)

Thomas Hotz (University of Goettingen): Image denoising by a statistical multiresolution criterion (October, 29)

Hans-Hermann Bock (Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen): Probabilistic models and model-based algorithms for clustering (November, 3)

Andreas Lochbihler (University of Karlsruhe): KESS – Die Komplexität evolutionär stabiler Strategien (November, 10)

Paul Embrechts (ETH Zurich): Statistics and quantitative risk management (November, 17)

Hansjörg Albrecher (EPF Lausanne): On tax identities in risk theory (November, 24)

Małgorzata Bogdan (Wrocław University of Technology): Decision theoretic approach to multiple testing and model selection under sparsity (December, 15)

## 7 Grants and Projects

Immanuel M. Bomze and Ivana Ljubic (Project- Coordinators) Research Associates: Peter Putz, Alessandro Tomazic	Algorithmic Solutions for Optimal Design of Telecommunication Networks, funded by FFG, 2007-2010
Andreas Futschik (Principal Investigator) Research Associates: Frank Cersovsky, Kao Lin, Ha Quang Minh	Mathematics and Evolution – Mathematical and Statistical Analysis of Ecological and Genetic Diversity, funded by WWTF, 2005-2009
Andreas Futschik (Project-Coordinator)	Statistical Methods in Bioinformatics and Molecular Genetics, funded by OEAD (WTZ Austria-Poland), 2007-2008
Walter J. Gutjahr (Co-Investigator) Research Associate: Peter Reiter	Matheuristics – Hybrid Algorithms for Transportation Problems with Multiple Visits, funded by FWF, 2008-2009
Walter J. Gutjahr (Co-Investigator) Research Associate: Stefan Rath	Disaster Relief Operations Planning, funded by FWF, 2007-2010
Ronald Hochreiter (Project-Coordinator) Research Associate: David Wozabal	Models for valuating credit portfolios using coupled Markov chains, funded by Jubiläumsfond der OeNB, 2007-2009

Ivana Ljubic	Algorithmische Lösungen für Last-Mile Netzwerke – Hertha Firnberg-Nachwuchsstelle, funded by FWF, 2007-2009
Georg C. Pflug (Project-Coordinator) Research Associate: Clemens Wiesinger	Entscheidungsunterstützung im Quantitativen Finance: Semantisches Organisationsmodell, funded by Jubiläumfond der OeNB, 2006-2008
Georg C. Pflug (Project-Coordinator) Research Associates: Ronald Hochreiter, Hildegard Zelle	ALMPEK – Modernes Asset Liability Management für österreichische Pensionskassen, funded by FFG, 2007-2009
Georg C. Pflug (Project-Coordinator) Research Associate: Raimund Kovacevic	Multiperiodische Risiken in der Portfolio-Selektion, funded by FWF, 2008-2010

## 8 Research Stays at Other Institutions

	<b>Institution</b>	<b>Research Topic</b>	<b>Weeks</b>
Immanuel M. Bomze	Harvard University (PED), USA	Evolutionary games in finite populations, on graphs and networks	1
Immanuel M. Bomze	University of Pisa, Italy	Variational approach to copositivity	1
Immanuel M. Bomze	University 'La Sapienza', Rome, Italy	Unconstrained formulations of StQPs	1
Immanuel M. Bomze	University of Seville, Spain	Spherical clustering and outlier detection	3
Immanuel M. Bomze	University of Erlangen, Germany	Spectral copositivity detection	1
Immanuel M. Bomze	University 'Ca'Foscari', Venice, Italy	Infection – immunization dynamics	2
Florian Frommlet	Wrocław University of Technology, Poland	Optimal rules for multiple testing and sparse multiple regression	2
Andreas Futschik	Wrocław University of Technology, Poland	Biostatistics	1
Andreas Futschik	University of Goettingen, Germany	Biostatistics	1
Andrea Gaunersdorfer	University of Amsterdam, The Netherlands	Evolutionary dynamics in financial markets	1
Walter J. Gutjahr	University of Malaga, Spain	Metaheuristics in search-based software engineering	1
Ronald Hochreiter	Department of Mathematics, Statistics, Informatics, and Applications, University of Bergamo, Italy	Multi-stage stochastic optimization	3

	<b>Institution</b>	<b>Research Topic</b>	<b>Weeks</b>
Ivana Ljubic	Robert H. Smith School of Business, University of Maryland, College Park, Washington, DC Area, USA	The (generalized) regenerator location problem	2

## 9 Other Faculty Activities

### 9.1 Editorial Activities

Immanuel M. Bomze	<ul style="list-style-type: none"> <li>• Central European Journal of Operations Research (Associate Editor)</li> <li>• Journal of Global Optimization (Member of Editorial Board)</li> <li>• Optimization Letters (Member of Editorial Board)</li> <li>• TOP. An Official Journal of the Spanish Society of Statistics and Operations Research (Member of Editorial Board)</li> </ul>
Florian Frommlet	<ul style="list-style-type: none"> <li>• Journal of Mathematics Research (Member of Editorial Board)</li> </ul>
Andreas Futschik	<ul style="list-style-type: none"> <li>• International Journal of Information and Management Sciences (Associate Editor)</li> </ul>
Walter J. Gutjahr	<ul style="list-style-type: none"> <li>• Advances in Operations Research (Member of Editorial Board)</li> <li>• Swarm Intelligence (Member of Editorial Board)</li> <li>• Gutjahr, Walter J., Harman, Mark: Computers and Operations Research (special issue)</li> </ul>
Ronald Hochreiter	<ul style="list-style-type: none"> <li>• Special Issue of Annals of Operations Research: Applied mathematical programming and modelling (APMOD 2008) (Guest Editor)</li> <li>• Special Issue of Optimization – Proceedings of the 11<sup>th</sup> Conference on Stochastic Programming (SPXI), Vienna, Austria (Guest Editor)</li> <li>• Special Issue of Computational Management Science – Computational Optimization under Uncertainty (Guest Editor)</li> </ul>
Georg C. Pflug	<ul style="list-style-type: none"> <li>• Statistics and Decisions (Editor-in-Chief)</li> <li>• Mathematical Methods of Operations Research (Associate Editor)</li> <li>• Computational Optimization and Applications (Associate Editor)</li> <li>• Computational Management Science (Associate Editor)</li> <li>• Central European Journal of Operations Research (Associate Editor)</li> <li>• Austrian Journal of Statistics (Associate Editor)</li> <li>• Special Issue of Annals of Operations Research: Applied mathematical programming and modelling (APMOD 2008) (Guest Editor)</li> <li>• Special Issue of Optimization – Proceedings of the 11<sup>th</sup> Conference on Stochastic Programming (SPXI), Vienna, Austria (Guest Editor)</li> <li>• Special Issue of Computational Management Science – Computational Optimization under Uncertainty (Guest Editor)</li> </ul>
Benedikt M. Pötscher	<ul style="list-style-type: none"> <li>• Econometric Theory (Co-Editor)</li> <li>• Journal of Econometrics (Associate Editor)</li> </ul>



## 9.2 Refereeing<sup>2</sup>

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|----------------------|---|
| Immanuel M. Bomze    | <ul style="list-style-type: none"><li>• SIAM Journal on Optimization</li><li>• Mathematical Programming</li><li>• Journal of Global Optimization</li><li>• Optimization Letters</li><li>• Program referee for LION3 2009</li></ul>  |
| Florian Frommlet     | <ul style="list-style-type: none"><li>• Journal of Mathematics Research</li><li>• Austrian Journal of Statistics</li><li>• Heredity</li></ul>   |
| Andreas Futschik     | <ul style="list-style-type: none"><li>• Journal of Statistical Planning and Inference</li><li>• Computational Statistics and Data Analysis</li><li>• Mathematical Reviews</li></ul>   |
| Andrea Gaunersdorfer | <ul style="list-style-type: none"><li>• Bulletin of Economic Research</li><li>• Studies in Nonlinear Dynamics &amp; Econometrics</li><li>• Canadian Journal of Economics</li></ul>  |
| Walter J. Gutjahr    | <ul style="list-style-type: none"><li>• Artificial Intelligence in Medicine</li><li>• Central European Journal of Operations Research</li><li>• Computers and Industrial Engineering</li><li>• Computers and Operations Research</li><li>• European Journal of Operational Research</li><li>• IEEE Transactions on Evolutionary Computation</li><li>• IIE Transactions</li><li>• International Journal of Production Research</li><li>• Journal of Systems Science and Systems Engineering</li><li>• Software Quality Journal</li><li>• Swarm Intelligence</li><li>• Jubiläumsfonds der Österreichischen Nationalbank</li></ul> |
| Ronald Hochreiter    | <ul style="list-style-type: none"><li>• Computational Management Science</li><li>• Mathematical Methods of Operations Research</li><li>• Mathematical Programming</li><li>• Operational Research: An International Journal</li><li>• EvoStar/EvoFin Conference 2008</li></ul>   |
| Irene Klein          | <ul style="list-style-type: none"><li>• Finance and Stochastics</li></ul>   |
| Ivana Ljubic         | <ul style="list-style-type: none"><li>• Computers &amp; Operations Research</li><li>• Discrete Optimization</li><li>• Networks</li><li>• HEUNET08</li><li>• INOC2009</li></ul>  |

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<sup>2</sup> incomplete list

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|----------------------|---|
| Georg C. Pflug       | <ul style="list-style-type: none"> <li>• Examiner for a PhD defense, Amsterdam, The Netherlands</li> <li>• Mathematical Finance</li> <li>• Quantitative Finance</li> <li>• Annals of Operations Research</li> <li>• Journal of Risk and Insurance</li> <li>• Optimization Methods and Software</li> </ul> |
| Benedikt M. Pötscher | <ul style="list-style-type: none"> <li>• Econometric Theory</li> <li>• Econometrica</li> <li>• Automatica</li> <li>• Empirical Economics</li> <li>• ESAIM Probability &amp; Statistics</li> <li>• Journal of the American Statistical Association</li> <li>• Journal of Econometrics</li> </ul>           |
| Ulrike Schneider     | <ul style="list-style-type: none"> <li>• TEST</li> </ul>  |

### **9.3 Public Relations Activities**

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|------------------|--|
| Ivana Ljubic     | Participant at the panel discussion "Karrierewege ehemaliger Stipendiat(inn)en der ÖAW", Österreichische Akademie der Wissenschaften, Vienna, January 2008 |
| Ulrike Schneider | Presentation at the "Wiener Töchertag im math.space"   |

## 9.4 Other Professional Activities

- Immanuel M. Bomze
- Member of Program Committee, LION3 2009
- Florian Frommlet
- Member of Executive Board, ÖGOR
- Andreas Futschik
- Member of Executive Board, ÖSG
- Andrea Gaunersdorfer
- Director of the Studies Programme Business, Economics and Statistics (since October 2008)
- Walter J. Gutjahr
- Member of Executive Board, ÖGOR
  - Member of Program Committee, SE 2008 (Workshop Testing of Software)
  - Member of Program Committee, Search-Based Testing 2008
  - Member of Program Committee, GECCO 2008
  - Member of Program Committee, ANTS 2008
  - Member of Program Committee, Matheuristics 2008
  - Member of Program Committee, MOTES 2008
  - Member of Program Committee, SIS 2008
  - Member of Program Committee, LION 2009
  - Member of Program Committee, EvoCop 2009
  - Vice Dean of the Faculty of Business, Economics and Statistics (until September 2008)
- Ronald Hochreiter
- Member of Program Committee, EvoFin 2008
  - Member of Program Committee, APMOD 2008
- Irene Klein
- Deputy Director of the Studies Programme Business, Economics and Statistics (since October 2008)
- Ivana Ljubic
- Member of Executive Board, ÖGOR
- Georg C. Pflug
- Organizer of the APMOD 2008 Conference, Bratislava
  - Deputy Director of the Studies Programme Business, Economics and Statistics (until September 2008)
- Benedikt M. Pötscher
- Co-organizer of the Workshop “Current Trends and Challenges in Model Selection and Related Areas”
- Erhard Reschenhofer
- Head of Department (since October 2008)
- Werner Schachinger
- Head of Department (until September 2008)