THIRTIETH CONFERENCE ON
THE MATHEMATICS OF OPERATIONS RESEARCH

and

SEMINAR ON "MATHEMATICAL MODELS FOR FINANCIAL OPTIMIZATION"

Conference Center 'The Werelt', Lunteren, The Netherlands
January, 18 – 20, 2005

AIM and SCOPE

The aim of the conference is to promote research activities and cooperation between senior and junior researchers in the mathematics of Operations Research in the Netherlands. The program offers high quality research and applications and should appeal to both academic researchers and to management consultants in trade and industry. For the seventh time a special seminar is jointly organized by the LNMB (Landelijk Netwerk Mathematische Besliskunde) and NGB (Nederlands Genootschap Besliskunde), this year on the subject "Mathematical Models for Financial Optimization".
The program should give ample opportunity for informal discussions. The conference center is located in the scenic surroundings of Lunteren, in the center of the Netherlands.

During the first two days, there are five prominent invited speakers from abroad who will present two lectures in their field of research:

- Alain Jean-Marie (INRIA and University of Montpellier, France): http://www.lirmm.fr/~ajm
- Mark Squillante (IBM Thomas J. Watson, USA): http://www.research.ibm.com/people/m/mss
- Rakesh Vohra (Northwestern University, USA): http://www.kellogg.nwu.edu/faculty/vohra/htm/vohra.htm
- David Yao (Columbia University, USA): http://www.ieor.columbia.edu/~yao
- Yinyu Ye (Stanford University, USA): http://www.stanford.edu/~yyye

The seminar on "Mathematical Models for Financial Optimization" is held on Thursday.
On Tuesday and Wednesday there are also some 30-minutes presentations by Ph.D. students.
Biographies of the five invited speakers and a registration form can be found in this announcement.
For more information: www.lnmb.nl/conferences/lunteren2005

Program Tuesday January 18

10.30	Registration
11.10 – 11.15	Opening
11.15 – 12.00	Jean - Marie : *On overloaded queues*
12.15 – 13.00	Yao: *Stochastic knapsacks and dynamic pricing*
13.00	Lunch
14.30 – 15.30	PhD presentations (parallel)
15.45 – 16.30	Squillante: *Parallel-server systems with dynamic affinity scheduling and load balancing*
16.45 – 17.30	Vohra: *Linear inequalities and mechanism design 1*
18.30	Dinner
20.30	Meeting for the members of the LNMB

Program Wednesday January 19

09.00 – 09.45	Ye: *Theory and computation of semidefinite programming for sensor network localization and other distance geometry problems*
10.00 – 10.45	Vohra: *Linear inequalities and mechanism design 2*
11.15 – 12.00	Jean - Marie: *Markov-modulated arrival processes in queueing theory*
12.15 – 13.00	Squillante: *Decentralized optimization, stochastic-process limits, and system dynamics*
13.00	Lunch
14.30 – 15.30	PhD presentations
15.45 – 16.30	David Yao: *Stochastic networks with concurrent resource occupancy*
16.45 – 17.30	Ye: *A strongly polynomial-time algorithm for solving the Markov decision problem with fixed discount factor*
18.30	Dinner
20.30	Meeting PhD students LNMB

Program Thursday January 20

09.30 – 10.00	Registration and Coffee
10.00 – 10.10	Welcome by Chairman Boender
10.10 – 10.50	Yao: *A stochastic control approach to financial tracking problems*
11.00 – 11.40	Pelsser: *Pricing insurance contracts: an incomplete market approach*
11.50 – 12.30	Klaassen: *Using importance sampling to assess credit risk economic capital and economic capital contributions*
12.30 – 13.30	Lunch
13.30 – 14.10	Van Vliet: *Practical examples of financial modelling*
14.20 – 15.00	Dert: *The practice of financial optimization*
15.10 – 15.50	Van Capelleveen: *Utility and usefulness of stochastic risk models for strategic pension policies*
16.00 – 16.40	Pietersz: *Optimization methods for risk management of interest rate derivatives*
16.40 – 17.30	Drinks

PhD PRESENTATIONS AND LNMB DIPLOMAS

The PhD students of the LNMB are strongly recommended to present a paper at this conference. In order to receive the LNMB diploma, a PhD student must have given such presentation at least once. For each presentation 30 minutes are available in one of the parallel sessions. For each contributed paper a senior member of the LNMB will be available to act as discussant.

The deadline for the application of a PhD presentation is **December 1**. To apply, send the following information to kallenberg@math.leidenuniv.nl: your name and the name of your supervisor, the title and an abstract of about half a page. When you give a PhD presentation, you also have to fill in the application form.
During the conference the LNMB diplomas will be presented to the PhD students who have fulfilled the requirements for this diploma (750 credit points and a PhD presentation).

If you believe to have fulfilled these requirements, please send **before December 14**, an e-mail to kallenberg@math.leidenuniv.nl with the following information:
- your family name and full first name(s);
- date of birth (dd/mm/yy);
- place of birth (city, country);
- certificated courses with credit points;
- Lunteren conferences you have attended (you receive 30 credit point for each conference).

LOCATION

Conference Center 'De Werelt', Westhofflaan 2, Lunteren, The Netherlands, phone 0318 - 484641.
For more information, e.g. 'how to reach' see: www.congrescentrum.com

ORGANIZATION AND INFORMATION

The conference is organized by the LNMB (Landelijk Netwerk Mathematische Besliskunde), the seminar jointly with the NGB (Nederlands Genootschap Besliskunde). For more information contact the director of the LNMB, Lodewijk Kallenberg (kallenberg@math.leidenuniv.nl; phone 071 - 5277130) or look at the site www.lnmb.nl/conferences/lunteren2005.

REGISTRATION

One can register by sending in the registration form and transferring the fee. Participants can register for the entire meeting as well as for partial arrangements. It is possible, against reduced rates, to share a room; in that case a roommate should be indicated on the registration form. PhD students of the LNMB who attend the entire meeting including the seminar are entitled to a reduction of € 50,- of the fee in addition to the financial support of 50% of their traveling expenses.
The various fees and bank account can be found on the enclosed registration form. Please send this form as soon as possible, but **ultimately December 20**, to the secretary of the LNMB, mrs. W.A. Hasselton - Snijder, Mathematical Institute, Leiden University, P.O. Box 9512, 2300 RA Leiden, The Netherlands.

SPEAKERS ON JANUARY 18 AND 19

Alain Jean-Marie (INRIA and University of Montpellier, France)

Alain Jean-Marie received his PhD degree from the University of Paris XI at Orsay in 1987. Since then, he has been a member of the Performance Evaluation group at INRIA, Sophia-Antipolis, France. From 1999 to 2003, he was professor of Informatics at the University of Montpellier. His research interests include stochastic modeling and performance evaluation for real-time systems and communication networks as well as control theory and game theory. He is co-author of a monograph on Conjectural Variations Equilibria. He is a member of the editorial board of RAIRO/Operations Research.

Mark Squillante (IBM Thomas J. Watson, USA)

Mark S. Squillante received the Ph.D. degree in computer science from the University of Washington, Seattle, WA, in 1990. He has been a Research Staff Member at the IBM Thomas J. Watson Research Center, Yorktown Heights, NY, since 1990, where he currently is a member of the Mathematical Sciences Department. He has been an adjunct faculty member of the Department of Computer Science at Columbia University, New York, NY, from 1991 through 1996, and a Member of the Technical Staff at Bell Telephone Laboratories, Murray Hill, NJ, from 1982 to 1985. His research interests concern the mathematical analysis, modeling and optimization of the design and control of stochastic systems, with applications in the areas of computer, business, call center, finance, manufacturing and communication systems and services. He currently serves on the editorial boards of Operations Research and Performance Evaluation.

Rakesh Vohra (Northwestern University, USA)

Rakesh Vohra received his Ph.D. in Mathematics from the University of Maryland in 1985. From 1985 to 1998 he was on the faculty of the Fisher School of Business of the Ohio State University. Since 1998 he has been Professor of Managerial Economics and Decision Sciences at the Kellogg School of Management of Northwestern University. His research interests are in auction and game theory. He is associate editor of the journals Management Science, Networks and the International Journal of Game Theory.

David Yao (Columbia University, USA)

David Yao received his Ph.D. degree from the University of Toronto in 1983, and started his academic career at Columbia University, where he became a full professor in 1988. In addition, he is the founding and current director of the Center for the Advancement of E-Commerce Technologies (AECT) at The Chinese University of Hong Kong. He has done extensive research and consulting work in stochastic networks, semiconductor manufacturing, and supply chain management.

He is author/co-author of over 160 refereed publications, three books and five edited volumes. He is a recipient of numerous honors and awards, an IEEE Fellow, and a holder of four U.S. patents in manufacturing operations and supply-chain logistics. He is the Stochastic Models Area Editor of Operations Research, and Editor-in-Chief of Foundations and Trends in Stochastic Systems.

Yinyu Ye (Stanford University, USA)

Yinyu Ye is Professor of Management Science and Engineering and, by courtesy, Electrical Engineering and the Director of the MS&E Industrial Affiliates Program at Stanford's School of Engineering. He holds a Ph.D. in Engineering Economic Systems and Operations Research from Stanford University. Prior to coming to Stanford in 2002, Ye served for fourteen years in the Management Science Department of the University of Iowa as the Henry Tippie Research Professor.

He has been or was on the editorial board of Management Science, Operations Research, Mathematics of Operations Research, SIAM J Optimization; and the area editor of Optimization & Engineering.

He was the recipient numerous international and national awards, fellowships and research grants.

Ye teaches courses on Optimization, Network and Integer Programming, Semidefinite Programming, etc. He has written extensively on Interior-Point Methods, Approximation Algorithms, Conic Optimization, and their applications. Ye is currently working on Markov Decision Algorithms, Computational Game Theory and Graph Localization. He has served as a consultant to a variety of industries.

SPEAKERS ON JANUARY 20

Guus Boender (ORTEC & Vrije Universiteit) chairman

Guus Boender is partner of ORTEC in Rotterdam, and ALM Professor at the Free University Amsterdam. He is well known as an expert in theory and practice of financial decision models.
ORTEC is a privately owned independent company with about 300 employees with an academic background in econometrics, Operations Research and ICT. The company specializes in applying these disciplines to clarify and optimize strategic and operational planning and decision problems. Guus Boender is responsible for the activities of ORTEC in the financial and insurance markets.

David Yao (Columbia University, New York)

David Yao received his Ph.D. degree from the University of Toronto in 1983, and started his academic career at Columbia University, where he became full Professor in 1988. In addition, he is the founding and current Director of the Center for the Advancement of E-Commerce Technologies (AECT) at The Chinese University of Hong Kong.
He is author/co-author of over 160 publications, three books and five edited volumes. He is an IEEE Fellow, and a recipient of numerous honors and awards, one of the last being the SIAM Outstanding Paper Prize (2003) for his novel work in financial optimization. He is holder of four U.S. patents.

Antoon Pelsser (Erasmus University Rotterdam)

Antoon Pelsser is a Market Risk Expert at ING Corporate Insurance Risk Management. He advises the ING insurance-business units on the calculation of market values and risk measures of (life-)insurance contracts and also on the optimal asset allocation to cover the insurance liabilities. He also holds a part-time position as Professor of Mathematical Finance at the Erasmus University in Rotterdam. His research interests focus on pricing models for interest rate derivatives, the pricing of insurance contracts and Asset-Liability Management (ALM).
In 1999 his PhD thesis on interest rate derivative models has been awarded the Christiaan Huygens prize by the Royal Dutch Academy of Sciences. He has published in several academic journals and is also author of the book Efficient Methods for Valuing Interest Rate Derivatives, published by Springer Verlag.

Pieter Klaassen (ABN AMRO Bank N.V. , Amsterdam)

Pieter Klaassen is senior vice-president Credit Risk Modelling within Group Risk Management of ABN AMRO Bank. He has been with ABN AMRO since 1997. Before that, he spent 3 years with Rabobank International, where he was responsible for structured product development. Pieter holds a Drs degree in econometrics from Erasmus University, and a Ph.D. degree in Operations Research from the Sloan School of Management at Massachusetts Institute of Technology.

André van Vliet (ORTEC bv, Rotterdam)

André van Vliet studied Econometrics at the Erasmus University in Rotterdam. He completed his PhD in Operations Research in 1995 with a theoretical thesis on "Worst case analysis for on-line bin packing and scheduling algorithms". During this PhD period he taught as an Assistant Professor at the Econometric Institute (Erasmus University Rotterdam) and published several research papers.
He started his professional career as a consultant within ORTEC. He served the Business Unit Logistics, became head of the Department Transport and Distribution and was part of the Management Team of the Business Unit. His fields of expertise during this period include vehicle routing, optimization algorithms and real-time planning.
In 2000 he changed his working environment to the Business Unit Finance of ORTEC, where he headed several departments. Current fields of expertise include ALM, performance measurement, risk management, financial engineering, private loans and mortgages, valuation of real estate and model development.

Cees Dert (ABN AMRO, Amsterdam)
Cees Dert has been a professor in Equity Derivatives and in Quantitative portfolio Management at the Vrije Universiteit from 1998 until 2004. Since 1995, he is global head of ABN AMRO Structured Asset Management (SAM). SAM manages investment portfolios (approximately 4 billion Euros) on behalf of clients. Investment decisions for these portfolios are driven by quantitative models.

Huub van Capelleveen (Cardano)
Huub van Capelleveen graduated in Econometrics with a specialisation in Operations Research/ Decisional Sciences. After his studies he started as quantitative consultant at the Centre for Applied Mathematics of Rabobank Nederland in 1995. He was responsible as project manager for various projects including Asset & Liability Management and credit risk portfolio management. He subsequently joined Cardano Risk Management as a consultant specialising in the strategic use of derivatives and entered its executive ranks at the beginning of 2001.

Raoul Pietersz (Erasmus University & ABN-AMRO)
Raoul Pietersz is a Ph.D. candidate at Erasmus University Rotterdam and a senior derivatives researcher at ABN AMRO Bank, in Amsterdam. His research topic is the valuation and risk management of interest rate derivatives. He has published in the Journal of Derivatives, Journal of Computational Finance, Quantitative Finance and Risk Magazine.

REGISTRATION FORM "LUNTEREN 2005"

Family name : ……..……

First Name : ……..……

Affilation : ……..……

Address : ……..

Postal Code: …… City: ……

Telephone : …….. E-mail address: ……

Date : ……. Signature: ……

Full Ph.D. Arrangement (tag your choices)		**Fee**
□	I am LNMB PhD student and **attend the entire meeting** including the seminar on Thursday (Price includes registration fee, lodging in double room, meals and € 50,- reduction paid by the LNMB) ; Price: € 275,-	€ ……
□	I would like a single room (€ 45,- extra charge) ; Price: € 320,-	€ ……

Standard reservation (tag your choices; calculate your fee)		**Fee**
■	Registration fee	€ 40,-
□	I will attend the conference on Tuesday (incl. coffee, tea and lunch); Price: € 37,50	€ ……
□	I will attend the conference on Wednesday (incl. coffee, tea and lunch); Price: € 37,50	€ ……
□	I will attend the seminar on Thursday (incl. coffee, tea, lunch and drinks); Price: € 50,-	€ ……
□	I will attend dinner on Tuesday; Price: € 32,50	€ ……
□	I will attend dinner on Wednesday; Price: € 32,50	€ ……
□	I wish to reserve a single room for Tuesday night (incl. breakfast); Price € 70,-	€ ……
□	I wish to reserve a single room for Wednesday night (incl. breakfast); Price € 70,-	€ ……
□	I wish to reserve a double room for Tuesday night (p.p. incl. breakfast); Price € 47,50	€ ……
□	I wish to reserve a double room for Wednesday night (p.p. incl. breakfast); Price € 47,50	€. ……

In case you share a room: Room mate: ……

TOTAL FEE (please, fill in your total fee) **€ ……..**

We don't send invoices or confirmations. In case you wish to check your registration look at the LNMB website www.lnmb.nl/conferences/lunteren2005/participants.html ; when you wish to receive a receipt for the fee, send an e-mail to lnmb@math.leidenuniv.nl.
Transfer your fee ultimately December 20 to bank account 85.79.82.990 of Maastricht University with the notes: "**no. 35010010 N**" (mention this number is absolutely necessary) and "**fee LNMB/Lunteren 2005** for …… (fill in the name(s))".
Please, return this form **ultimately December 20**, to:
Prof.dr. L.C.M. Kallenberg, Mathematical Institute, Leiden University, PO Box 9512, 2300 RA Leiden.

REGISTRATION FORM

I hereby register for the LNBM/NGB seminar "***Mathematical Models for Financial Optimization***", which will be held in Conference Center "De Werelt", Lunteren, January 20, 2005.

Family name: ……

First name: ……

Title: ……..……

Company/Institute: …….

Address: ……

Postal Code: ……. **City: ……**

Telephone number: …….. **E-mail: ……**

Date: …… **Signature: ……..…..**

Below, please tick the appropriate box:

I am:

LNMB/NGB member (Registration fee € 75): ☐

Other (Registration fee € 125): ☐

FEE PAYMENT INSTRUCTIONS WILL BE SENT TO YOU AFTER REGISTRATION

Send the registration form before January 10, 2005 by regular mail or e-mail or by fax to

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