

**34th CONFERENCE ON THE
MATHEMATICS OF OPERATIONS RESEARCH**

and

SEMINAR ON “OPERATIONS RESEARCH AND TRAFFIC”

**Conference Center ‘The Werelt’, Lunteren, The Netherlands
January, 13 – 15, 2009**

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 people from profit and non-profit organizations.

On the last day a seminar is jointly organized by the LNMB (Landelijk Netwerk Mathematische Besliskunde) and NGB (Nederlands Genootschap Besliskunde) on the subject “Operations Research and Traffic”.

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:

- Satoru Iwata (University of Kyoto, Japan; www.kurims.kyoto-u.ac.jp/~iwata/index.html)
- Zhi-Quan Luo (University of Minnesota, USA; www.ece.umn.edu/~luozq)
- Sean Meyn (University of Illinois, USA; <http://decision.csl.uiuc.edu/~meyn>)
- Gennady Samorodnitsky (Cornell University, USA; <http://people.orie.cornell.edu/~gennady>)
- Berthold Vöcking (RWTH Aachen University, Germany; <http://www-il.informatik.rwth-aachen.de/~voecking>)

On Tuesday the Gijs de Leve Prize will be presented for the best PhD Thesis in the Mathematics of Operations Research in the years 2006-2008. On Wednesday, during the lunch, the LNMB diplomas are presented. On Tuesday and Wednesday there are 30-minutes presentations by Ph.D. students.

Biographies of the five invited speakers and a registration form can be found in this announcement.

The seminar on “Operations Research and Traffic” is held on Thursday.

For more information: www.lnmb.nl/conferences/lunteren2009

Program Tuesday January 13

- 10.15 Registration
- 10.55 – 11.00 Opening
- 11.00 – 11.45 Gennady Samorodnitsky: *A bird-eye view of fluid queues in communication network models: heavy tails and long memory, part I*
- 12.00 – 12.45 Berthold Vöcking: *On the impact of combinatorial structure on congestion games*
- 12.45 Lunch
- 14.00 – 15.00 PhD presentations (parallel)
- 15.15 – 16.00 Sean Meyn: *Stability and asymptotic optimality of generalized MaxWeight policies*
- 16.15 – 17.00 Satoru Iwata: *Mimimizing submodular functions*
- 17.15 – 18.00 Presentation of the Gijs de Leve Prize
- 18.30 Dinner
- 20.30 Meeting for the members of the LNMB

Program Wednesday January 14

- 09.00 – 09.45 Tom Luo: *A semidefinite relaxation scheme for multivariate quartic polynomial optimization with quadratic constraints*
- 10.00 – 10.45 Gennady Samorodnitsky: *A bird-eye view of fluid queues in communication network models: heavy tails and long memory, part II*
- 11.15 – 12.00 Berthold Vöcking: *Scheduling with interference constraints in wireless networks*
- 12.15 – 13.00 Satoru Iwata: *Approximating submodular functions*
- 13.00 Lunch and presentation PhD diplomas
- 14.30 – 15.30 PhD presentations (parallel)
- 16.00 – 16.45 Tom Luo: *Spectrum management: complexity, duality and approximation*
- 17.00 – 17.45 Sean Meyn: *Temporal difference learning*
- 18.30 Dinner
- 20.30 Meeting PhD students LNMB

Program Thursday January 15: Seminar Operations Research and Traffic

- 09.30 – 10.00 Registration and Coffee
10.00 – 10.10 Welcome and introduction by the chairperson.
10.10 – 10.50 Henk Taale (Rijkswaterstaat): *Road network usage modelling*
11.00 – 11.40 Joris van de Klundert (UM/Mateum): *To be announced*
11.50 – 12.30 Marco Duijnsveld (TNO): *Traffic models*
12.30 – 14.00 Lunch
14.00 – 14.40 Taede Tillema (RUG): *Road pricing : a transport geographical perspective; geographical accessibility and short and long-term behavioural effects*
14.50 – 15.30 Kevin Pak/Arnoud Kuiper (ORTEC): *Revenue management in traffic*
15.40 – 16.20 Elleke Janssen (UvT): *Traffic streams research*
16.30 – 17.10 To be announced.
17.10 – 18.00 Drinks

Note:

More detailed information on the theme, short bio's of the speakers and abstracts of the talks are (in a few weeks) available at www.lnmb.nl/conferences/lunteren2009

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 5**. 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 the diploma (750 credit points or 25 EC and a PhD presentation). If you believe having fulfilled these requirements, please send **before December 12**, an e-mail to lnmb@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/lunteren2009.

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 12**, to the director of the LNMB, Prof.dr. L.C.M. Kallenberg, Mathematical Institute, Leiden University, P.O. Box 9512, 2300 RA Leiden, The Netherlands.

SPEAKERS ON JANUARY 13 AND 14

Satoru Iwata (University of Kyoto, Japan)

Satoru Iwata is a Professor at Research Institute for Mathematical Sciences (RIMS), Kyoto University, Japan. He received PhD from Kyoto University in 1996. After teaching at Osaka University and University of Tokyo, he joined RIMS in 2006. His research interests include design and analysis of efficient algorithms concerning matroids and submodular functions, as well as applications of combinatorial optimization techniques to matrix computation and dynamical systems analysis. He shared the Fulkerson Prize in 2003 for the work on submodular function minimization. He is currently on the editorial board of Mathematical Programming, SIAM Journal on Discrete Mathematics, and Operations Research Letters.

Zhi-Quan Luo (University of Minnesota, USA)

Zhi-Quan (Tom) Luo has been a Professor in the Department of Electrical and Computer Engineering at the University of Minnesota since 2003 and holds an endowed ADC Chair in digital technology. He received his B.Sc. degree in Applied Mathematics in 1984 from Peking University, Beijing, China, and a Ph.D degree from the Operations Research Center and the Department of Electrical Engineering and Computer Science at MIT in 1989. From 1989 to 2003, he held a faculty position with the Department of Electrical and Computer Engineering, McMaster University, Hamilton, Canada, where he eventually became the department head and held a Canada Research Chair in Information Processing. His research interests include optimization algorithms, data communication and signal processing. He is a recipient of the 2004 IEEE Signal Processing Society's Best Paper Award, and has held editorial positions for several international journals including Journal of Optimization Theory and Applications, SIAM Journal on Optimization, Mathematics of Computation, and IEEE Transactions on Signal Processing. He currently serves on the editorial boards for the journals Mathematical Programming and Mathematics of Operations Research.

Sean Meyn (University of Illinois, USA)

Sean P. Meyn received the B.A. degree in Mathematics (Summa Cum Laude) from UCLA in 1982, and the PhD degree in Electrical Engineering from McGill University in 1987 (with Prof. P. Caines, McGill University). After a two year postdoctoral fellowship at the Australian National University in Canberra, he moved to the Midwest. He is now a Professor in the Department of Electrical and Computer Engineering, and a Research Professor in the Coordinated Science Laboratory at the University of Illinois. He is also an IEEE fellow. Dr. Meyn has served on the editorial boards of several journals in the systems and control, and applied probability areas. He was a University of Illinois Vice Chancellor's Teaching Scholar in 1994. He is coauthor with Richard Tweedie of the monograph Markov Chains and Stochastic Stability, and received jointly with Tweedie the 1994 ORSA/TIMS Best Publication In Applied Probability Award. His new book, Control Techniques for Complex Networks is published by Cambridge University Press. He has held visiting positions at universities all over the world. His research interests include stochastic processes, optimization, complex networks, and information theory.

Gennady Samorodnitsky (Cornell University, USA)

Gennady Samorodnitsky received his B.Sc. in 1978 from the Moscow Steel and Alloys Institute, USSR, his M.Sc. and his PhD from Technion, Israel in 1983 and 1986 respectively. After completing his doctorate, Samorodnitsky spent two years as a visiting professor, first at the University of North Carolina at Chapel Hill and then at Boston University. He joined the School of Operations Research and Information Engineering of the Cornell University in 1988. Presently he is at the Department of Mathematics, University of Copenhagen. His research interests lie in general applied probability theory, in particular stochastic models with heavy tails and/or long range dependence. These models behave very differently from the "usual" models that are typically based on Gaussian or Markov stochastic processes. He is Fellow in the Institute of Mathematical Statistics and author of 120 papers and several books.

Berthold Vöcking (RWTH Aachen University, Germany)

Berthold Vöcking received the Dr. rer. nat degree from Paderborn University in December 1998 under the supervision of Prof. Friedhelm Meyer auf der Heide. After postdoctoral studies in Berkeley and a visiting professorship at the University of Massachusetts, he received his Habilitation degree from the University of Saarland in January 2002 while being a researcher at the Max Planck Institute for Computer Science in Saarbrücken. He became associate professor at the University of Dortmund in October 2002 and full professor at RWTH Aachen University in October 2005 where he is heading the algorithms and complexity group. Since 2006 he is speaker of the special interest group Theoretical Computer Science of the German computer science society (GI). Since 2007 he serves in the editorial board of the ACM Transactions on Computation Theory (ToCT).

REGISTRATION FORM "LUNTEREN 2009"

Family name :

First Name : Male / Female

Affiliation :

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: € 280,00 €

I would like a single room (€ 50,- extra charge) ; Price: € 335,- €

Standard reservation (tag your choices; calculate your fee)

Fee

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: € 50,00 €

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 € 75 €

I wish to reserve a single room for Wednesday night (incl. breakfast); Price € 75 €

I wish to reserve a double room for Tuesday night (p.p. incl. breakfast); Price € 50 €

I wish to reserve a double room for Wednesday night (p.p. incl. breakfast); Price € 50 €

In case you share a room: Room mate:

■ Registration fee € 40

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/lunteren2009/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 12 to bank account 40.53.43.663 of Twente University with the note **fee LNMB/Lunteren 2009** for (fill in the name)".

Please, return this form **ultimately December 12**, to:
Prof.dr. L.C.M. Kallenberg, Mathematical Institute, Leiden University, PO Box 9512, 2300 RA Leiden.

REGISTRATION FORM SEMINAR

I hereby register for the LNBM/NGB seminar “**Operations Research and Traffic**”, which will be held in Conference Center “De Werelt”, Lunteren, January 15, 2009.

Family name:

First name:

Title: **Male / Female**

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 4, 2009 by regular mail or e-mail or by fax to

Prof.dr. L.C.M. Kallenberg
Director LNMB
Mathematical Institute
Leiden University
PO Box 9512
2300 RA Leiden
Tel: 071 – 5277130
Fax: 071 - 5277101
E-mail: kallenberg@math.leidenuniv.nl