Curriculum vitae – Michel Mandjes

Personal information

Name	Mandjes, Michael Robertus Hendrikus (Michel)
Address	Maasstraat 82 III, 1078 HM Amsterdam, The Netherlands
Birth	February 14, 1970, in Zaandam, The Netherlands
Civil status	Married, father of a daughter

Education

1982-1988	Gymnasium β, Triniteitslyceum, Haarlem, The Netherlands.
1988-1993	M.Sc. degree in Econometrics (cum laude), Vrije Universiteit (VU), Amsterdam, The Netherlands.
1989-1993	M.Sc. degree in Mathematics (cum laude), Vrije Universiteit (VU), Amsterdam, The Netherlands.
1993-1996	Ph.D. degree in Operations Research, Vrije Universiteit (VU), Amsterdam, The Netherlands.

Working experience

1990-1992	Vrije Universiteit (VU), Amsterdam, The Netherlands, Department of Econometrics: *student assistant*.
1993-1996	Vrije Universiteit (VU), Amsterdam, The Netherlands, Department of Econometrics: *research assistant*.
1996-1998	KPN Research, Leidschendam, The Netherlands, Department of Planning, Performance, and Reliability: *member of technical staff*.
1999-2001	Bell Laboratories/Lucent Technologies, Murray Hill NJ, United States, Mathematical Sciences Research Center: *member of technical staff*.
2000-2004	University of Twente (UT), The Netherlands, Faculty of Mathematical Sciences: *full professor of Stochastic Operations Research*.
2000-2006	Center for Mathematics and Computer Science (CWI), Amsterdam, The Netherlands, Department of Probability, Networks, and Algorithms: *senior researcher;* *department head (theme leader) PNA2*.
2004-....	University of Amsterdam (UvA), The Netherlands, Korteweg-de Vries Institute (KdVI) for mathematics: *full professor of Applied Probability* *(as of 2006 full-time)*.
2016-....	University of Amsterdam (UvA), The Netherlands, Amsterdam Business School (ABS): *full professor of Operations Research (0.1 fte)*.
2008	Stanford University, United States, Management Science and Engineering: *visiting professor (sabbatical leave from UvA)*.
2013-2014	New York University (NYU), United States Stern School of Business: *visiting professor (in context of visiting faculty program of UvA/NYU)*.
2014-...	Programme leader 'NETWORKS'; consortium on stochastic and algorithmics with University of Amsterdam, CWI, University of Leiden (UL), and Eindhoven University of Technology (TUE).

Address

E-mail	michel@cwi.nl; m.r.h.mandjes@uva.nl
http:	http://www.cwi.nl/~michel
Address	University of Amsterdam (UvA), Korteweg-de Vries Institute for Mathematics, Science Park 105, room F337, 1098 XG Amsterdam, The Netherlands.
Phone	+31 20 525 5164.
Fax	+31 20 525 7820.

Research interests

- *Stochastic processes and queues.* Gaussian processes - Lévy processes - asymptotic techniques - large deviations, large-buffer asymptotics, many-sources asymptotics - infinite-server queues - fluid queues - fluid limits, diffusions.
- *Queueing models for communication networks.* Models for wireline networks, IP - Feedback queues, TCP - Markov fluid models - long-range dependence, heavy tails, fractional Brownian motion, Gaussian traffic - loss networks - wireless networks, ad hoc networks - queues under various scheduling disciplines - diffusion approximations.
- *Stochastic simulation.* Fast simulation - rare events - importance sampling - exponential change of measure - splitting techniques.
- *Traffic management.* Quality of Service - service differentiation, generalized processor sharing - traffic management, resource allocation, admission control.
- *Traffic analysis.* Traffic measurements - Gaussian modeling, fractional Brownian motion - model selection - anomaly detection - bandwidth provisioning, dimensioning - measurement-based algorithms.
- *Network economics.* Charging and pricing in communication networks - bandwidth brokering - cost allocation models, resource allocation - congestion cost - Paris metro pricing.
- *Financial models.* Insurance models - risk analysis - ruin probabilities - Cramér-Lundberg theory - credit risk - Lévy-based models - Wiener-Hopf techniques - numerical inversion of Laplace transforms - option pricing.
- *Service systems.* Performance and optimization of service systems - health care applications - staffing - appointment scheduling.

Publications

Michel Mandjes has papers in the most prestigious applied probability journals (including *Annals of Applied Probability*, *Bernoulli*, and *Stochastic Processes and their Applications*).
In addition he published in the leading journals of various adjacent disciplines, such as operations research (*Operations Research*, *Mathematics of Operations Research*), mathematical finance (*Finance & Stochastics*, *Journal of Computational Finance*), networking (*IEEE/ACM Transactions on Networking*, *IEEE Journal of Selected Areas in Communications*, *IEEE Transactions on Automatic Control*, *IEEE Transactions on Mobile Computing*, *IEEE Network*, *Proceedings of the IEEE*), computational statistics and machine learning (*Journal of Machine Learning Research*, *Computational Statistics & Data Analysis*), transportation & logistics (*Transportation Research Part B*), actuarial sciences (*Scandinavian Actuarial Journal*, *Insurance: Mathematics & Economics*), quantitative sociology (*Journal of Mathematical Sociology*), and statistical physics (*Journal of Statistical Physics*).
He has also papers in the flagship journals of more specialized communities within applied probability (such as *Queueing Systems*, *Performance Evaluation*, *Stochastic Systems*, *ACM Transactions on Modeling and Computer Simulation*).

Scientific activities: research partners

Michel Mandjes has been involved in collaborations with, among others,

- Lars Norvang Andersen (*Aarhus University*, reflected Lévy processes),
- Dave Anderson (*University of Wisconsin at Madison*, chemical reaction networks, martingale techniques),
- Nick Bambos (*Stanford University*, rate-based control algorithms),
- Hans van den Berg (*TNO ICT and University of Twente*, traffic management, admission control),
- Jose Blanchet (*Stanford University*, rare-event simulation, queueing asymptotics),
- Arnoud den Boer (*University of Amsterdam*, learning, bandits),
- Sem Borst (*Eindhoven University of Technology and Bell Labs*, queues with heavy-tailed input, generalized processor sharing),
- Onno Boxma (*Eindhoven University of Technology*, queues with Lévy-input, road traffic modeling),
- Daan Crommelin (*CWI*, climate models, rare-event simulation),
- Koen De Turck (*Supélec Paris*, time scalings, infinite-server systems),
- Krzysztof Dębicki (*University of Wrocław*, Gaussian queues, Lévy-driven queues),
- Diego Garlaschelli (*Leiden University* and *IMT School of Advanced Studies, Lucca*, econophysics),
- Peter Glynn (*Stanford University,* correlation structure reflected fBm, advanced simulation techniques),
- Boudewijn Haverkort (*University of Twente*, TCP modeling, Petri nets),
- Frank den Hollander (*Leiden University*, random graph models),
- Sandeep Juneja (*Tata Institute for Fundamental Research*, birthday problems, importance sampling),
- Offer Kella (*Hebrew University, Jerusalem*, Lévy processes),
- Jeong Han Kim (*Microsoft Research*, large deviations techniques),
- Krishnan Kumaran (*Exxon-Mobil Research*, traffic management, admission control, QoS differentiation),
- Petteri Mannersalo (*VTT*, sample-path large deviations, Gaussian processes),
- Debasis Mitra (*Bell Labs*, Markov fluid models, network economics, bandwidth brokering),
- Yoni Nazarathy (*University of Queensland*, critically loaded queues, fluid and diffusion approximations, bandit problems),
- Ilkka Norros (*VTT*, sample-path large deviations, Gaussian processes),
- Neil Olver (*London School of Economics*, appointment scheduling),
- Zbigniew Palmowski (*Wrocław University of Technology*, Lévy processes),
- Guodong Pang (*Pennsylvania State University*, scaling limits),
- Rudesindo Núñez-Queija (*University of Amsterdam*, network economics, resource allocation, road traffic modeling),
- Aiko Pras (*University of Twente*, network measurements),
- Josh Reed (*New York University*, reflected autoregressive processes),
- Ad Ridder (*Vrije Universiteit Amsterdam*, large deviations techniques, fast simulation),
- Tomasz Rolski (*University of Wrocław*, Lévy processes),

- Iraj Saniee (*Bell Labs*, traffic management, network economics),
- Werner Scheinhardt (*University of Twente*, Markov fluid models, feedback),
- Paulo Serra (*Vrije Universiteit*, data-driven techniques for networks),
- Peter Spreij (*University of Amsterdam*, stochastic processes, financial mathematics, large deviations),
- Aleksandr Stolyar (*University of Illinois at Urbana-Champaign*, traffic management, queueing),
- Peter Taylor (*University of Melbourne*, Markov modulated models),
- Anwar Walid (*Bell Labs*, Markov fluid models, energy efficient engineering, speed scaling),
- Alan Weiss (*MathWorks*, large deviations techniques),
- Ward Whitt (*Columbia University*, critically loaded queues),
- Bert Zwart (*CWI*, heavy tails, processor sharing, rare-event simulation).

Scientific activities: supervision

- Ph.D. thesis supervisor of

  (1) N.K. Boots (Vrije Universiteit Amsterdam — co-supervised with A.A.N. Ridder and H.C. Tijms; February 5, 2002 — title thesis: 'Rare event simulation in models with heavy-tailed random variables'),

  (2) N.D. van Foreest (University of Twente — co-supervised with W.R.W. Scheinhardt; December 17, 2004 — title thesis: 'Queues with congestion-dependent feedback'),

  (3) A.B. Dieker (CWI Amsterdam, with graduation at University of Amsterdam; March 9, 2006; *with honors* — title thesis: 'Extremes and fluid queues'),

  (4) R. van de Meent (University of Twente — co-supervised with A. Pras and L.J.M. Nieuwenhuis; March 24, 2006 — title thesis: 'Network link dimensioning: a measurement & modeling approach'),

  (5) P.M.D. Lieshout (CWI Amsterdam, with graduation at University of Amsterdam — co-supervised with S.C. Borst; September 5, 2008 — title thesis: 'Queueing models for bandwidth-sharing disciplines'),

  (6) R. Malhotra (University of Twente and Alcatel-Lucent — co-supervised with J.L. van den Berg; October 31, 2008 — title thesis: 'Quality-of-service modeling and analysis for Carrier Ethernet'),

  (7) F. Roijers (University of Amsterdam and TNO ICT — co-supervised with J.L. van den Berg; February 11, 2009 — title thesis: ''Fluid models for QoS provisioning in communication networks'),

  (8) D.I. Miretskiy (University of Twente — co-supervised with W.R.W. Scheinhardt; November 12, 2009 — title thesis: 'Queueing networks: rare events and fast simulations'),

  (9) A. Es-Saghouani (University of Amsterdam — November 17, 2009 — title thesis: 'Analysis of dependence metrics for queueing processes'),

  (10) V.J.G. Leijdekker (University of Amsterdam and ABN-Amro — co-supervised with P.J.C. Spreij; May 25, 2010 — title thesis: 'Modeling credit risk and credit derivatives'),

  (11) P.W. Żuraniewski (University of Amsterdam — March 11, 2011 — title thesis: 'Stochastic modelling and control of communication networks'),

  (12) J.D. Ivanovs (University of Amsterdam and EURANDOM, with graduation at University of Amsterdam — co-supervised with O.J. Boxma; September 6, 2011 — title thesis: 'One-sided Markov additive processes and related exit problems'),

  (13) B.P.H. Kemper (University of Amsterdam and IBIS UvA BV — co-supervised with J. de Mast; November 17, 2011 — title thesis: 'Process flow improvement in services and healthcare'),

(14) M.R. Koot (University of Amsterdam — co-supervised with C.T.A.M. de Laat and G.J. van 't Noordende; June 27, 2012 — title thesis: 'Measuring and predicting anonymity'),

(15) K.M. Kosiński (University of Amsterdam and EURANDOM, with graduation at Eindhoven University of Technology — co-supervised with O.J. Boxma; September 27, 2012; *with honors* — title thesis: 'Gaussian and Lévy-driven queues'),

(16) P.A.G.J.M. Gruntjes (University of Amsterdam — co-supervised with P.J.C. Spreij; September 27, 2013 — title thesis: 'Essays on mathematical and computational finance, with a view towards applied probability'),

(17) N.M. Asghari (University of Amsterdam — November 25, 2014 — title thesis: 'Computational techniques in queueing and fluctuation theory'),

(18) G. Huang (University of Amsterdam — co-supervised with P.J.C. Spreij; June 17, 2015 — title thesis: 'Limit theorems for Markov-modulated and reflected diffusion processes'),

(19) W. Ellens (University of Amsterdam and TNO ICT — co-supervised with J.L. van den Berg; December 10, 2015 — title thesis: 'Stochastic methods for measurement-based network control'),

(20) H. Thórsdottir (CWI Amsterdam, with graduation at University of Amsterdam — co-supervised with J.G. Blom and U. Ayesta; May 13th, 2016 — title thesis: 'Limit theorems for Markov-modulated queues'),

(21) A. Kuiper (University of Amsterdam and IBIS UvA BV — co-supervised with J. de Mast; June 30th, 2016 — title thesis: 'Appointment Scheduling in Healthcare'),

(22) T.S. Akkerhuis (University of Amsterdam and IBIS UvA BV — co-supervised with J. de Mast; September 16, 2016 — title thesis: 'Measurement system analysis for binary tests'),

(23) M. Gharaei (University of Amsterdam — supervised by A.J. Homburg and J. Hulshof; May 19th, 2017 — title thesis: 'Iterated function systems of interval maps'),

(24) J. Kuhn (University of Amsterdam and University of Queensland, *joint doctorate* — co-supervised with T. Taimre; December 15th, 2017 — title thesis 'Monitoring and control of stochastic systems'),

(25) H.M. Jansen (University of Amsterdam and University of Ghent, *joint doctorate* — co-supervised with K. de Turck and S. Wittevrongel; March 2nd, 2018 — title thesis: 'Scaling limits for infinite-server queues and related stochastic processes'),

(26) E.J. Cahen (CWI Amsterdam, with graduation at Eindhoven University of Technology — co-supervised with A.P. Zwart; January 21st, 2019 — title thesis: 'Rare-event simulation for multidimensional stochastic models'),

(27) Abhishek (University of Amsterdam and Eindhoven University of Technology, with graduation at University of Amsterdam — co-supervised with R. Núñez-Queija, M.A.A. Boon, and O.J. Boxma; January 22nd, 2019 — tile thesis: 'Stochastic models for unsignalized road traffic intersections'),

(28) B.J. Patch (University of Amsterdam and University of Queensland, *joint doctorate* — co-supervised with N. Walton and T. Taimre — February 11th, 2019, title thesis: 'Modelling complex stochastic systems: approaches to management and stability'),

(29) D.T. Koops (University of Amsterdam and Eindhoven University of Technology, with graduation at University of Amsterdam — co-supervised with O.J. Boxma; February 22nd, 2019 — title thesis: 'Stochastic systems with nonstandard input processes'),

(30) N.J. Starreveld (University of Amsterdam — co-supervised with R. Bekker; February 28th, 2019 — title thesis: 'Queues, random graphs, and queues on random graphs'),

(31) K.Ł. Bisewski (CWI Amsterdam, with graduation at University of Amsterdam — co-supervised with D.T. Crommelin and J.H. van Zanten — October 15th, 2019, title thesis: 'Rare event simulation and time discretization'),

(32) J.M.A. Heemskerk (University of Amsterdam and Eindhoven University of Technology, with graduation at University of Amsterdam — co-supervised with J.S.H. van Leeuwaarden — October 23rd, 2020, title thesis: 'Overdispersion in Service Systems'),

(33) M. van Beek (University of Amsterdam and BlackRock — co-supervised with E.M.M. Winands and P.J.C. Spreij — November 3rd, 2020, title thesis: 'Multidisciplinary essays on finance'),

(34) M. de Kemp (University of Amsterdam — co-supervised with N.K. Olver — December 15th, 2020, title thesis: 'Performance bounds in stochastic scheduling problems'),

(35) P.J. Storm (Vrije Universiteit Amsterdam — co-supervised with S. Bhulai and W. Kager — February 2nd, 2021, title thesis: 'Stochastic traffic flow models: Asymptotic analysis, stability and applications'),

(36) B. Sollie (Vrije Universiteit Amsterdam — co-supervised with M.C.M. de Gunst and B. Knapik — June 7th, 2021, title thesis: 'Statistical inverse problems for population processes'),

(37) M. Derksen (University of Amsterdam and DeepBlue — supervised by B.J.K. Kleijn and R.G. de Vilder — June 16th, 2021, title thesis: 'Price formation in call auctions').

(38) G.A. Delsing (University of Amsterdam and Rabobank — co-supervised with E.M.M. Winands and P.J.C. Spreij — February 6th, 2022, title thesis: 'Ruin theory for portfolio risk modeling in banking and insurance'),

(39) Y.A. Peeters (University of Amsterdam — co-supervised with A.V. den Boer — February 24, 2022, title thesis: 'Dynamic assortment optimization – from learning to earning'),

(40) H. Zhou (University of Amsterdam and TNO — co-supervised with J.L. Dorsman and M. Snelder — January 30th, 2023, title thesis: 'Impact assessment of new mobility services using accelerated activity-based demand modeling'),

(41) L.R. van Kreveld (University of Amsterdam — co-supervised with J.L. Dorsman and O.J. Boxma — May 9th, 2023, title thesis: 'Asymptotic analysis of stochastic systems'),

(42) R.S. Karim (University of Amsterdam — co-supervised with R.J.A. Laeven — July 3rd, 2023, title thesis: 'Essays on mutually exciting point processes').

Of the above PhDs, 3 were defended at a computer science institute, 6 at an economics/business department, and the remaining 33 at a mathematics institute.

There were 4 defenses at the University of Twente, 3 at Vrije Universiteit Amsterdam, 2 at Eindhoven University of Technology, and the remaining 33 at the University of Amsterdam.

(∘) N.A.C. Levering (University of Amsterdam — co-supervised with R. Núñez-Queija and M.A.A. Boon),

(∘) K.M.D. Chan (University of Amsterdam and Transtrend — co-supervised with R. Duivenvoorden),

(∘) R.T. Kamphuis (University of Amsterdam — co-supervised with P.J. Serra),

(∘) B.V. Meylahn (University of Amsterdam — co-supervised with A.V. den Boer),

(∘) P. Dionigi (Leiden University — co-supervised with W.Th.F. den Hollander and D. Garlaschelli),

(∘) A.V. Mahes (University of Amsterdam — co-supervised with A. Kuiper and M.A.A. Boon),

(∘) S. Bodas (University of Amsterdam — co-supervised with L. Ravner),

(∘) Bharti (University of Amsterdam — co-supervised with R. Bekker),

(∘) J. Baars (University of Amsterdam — co-supervised with R.J.A. Laeven).

- M.Sc. thesis (co-)supervisor of

- P. van der Stoel (1997 – KPN Research/Vrije Universiteit Amsterdam, with J.L. van den Berg);
- M. van Uitert (1999 – KPN Research/University of Tilburg, with J.L. van den Berg);
- T. Dieker (2002 – CWI/Vrije Universiteit Amsterdam);
- J. Slegers (2002 – Worldcom/University of Twente);
- R. de Jonge (2007 – University of Amsterdam);
- S. Greeuw (2009 – Technical University of Denmark/University of Amsterdam, with B.F. Nielsen);
- E. Boezeman (2009 – Shell/University of Amsterdam, with P.J.C. Spreij);
- B. Groot (2011 – University of Amsterdam);
- M. Boersma (2011 – University of Amsterdam);
- D. van Waarden (2012 – MIcompany/University of Amsterdam);
- A. Kuiper (2012 – IBIS/University of Amsterdam, with B.P.H. Kemper);
- J. Kuhn (2013 – TNO/University of Amsterdam);
- D. Broedersz (2014 – VUmc/University of Amsterdam);
- N. Starreveld (2014 – University of Utrecht);
- S. Błaszczuk (2014 – Vrije Universiteit Amsterdam, with W. Ellens);
- V. Rensink (2015 – Vrije Universiteit Amsterdam, with W. Kager and S. Bhulai);
- B. Sollie (2015 – Vrije Universiteit Amsterdam, with M.C.M. de Gunst and B. Knapik);
- M. Heemskerk (2015 – University of Amsterdam, with J.S.H. van Leeuwaarden);
- V. Gregor (2015 – NLR/Vrije Universiteit Amsterdam);
- R. Brokkelkamp (2015 – IBIS/University of Amsterdam, with A. Kuiper);
- E. Martini (2015 – University of Milan, with N.J. Starreveld);
- M. de Kemp (2016 – Vrije Universiteit Amsterdam, with N.K. Olver – was awarded ASML Master Thesis prize in Mathematics, 2016);
- A. Malsagov (2016 – University of Amsterdam);
- Y. Peeters (2017 – University of Amsterdam, with A.V. den Boer);
- A. Cichocka (2018 – Vrije Universiteit Amsterdam);
- W. Berkelmans (2018 – Vrije Universiteit Amsterdam);
- L. van Vianen (2018 – University of Amsterdam);
- B. Karuza (2018 – University of Amsterdam, with H. Leahu);
- N. Levering (2019 – University of Amsterdam, with B.J. Patch and K. Hock);
- R. Mahes (2020 – University of Amsterdam, with M.A.A. Boon);
- D. Nieman (2020 – University of Amsterdam, with L. Ravner);
- A. Orie (2021 – CBS/University of Amsterdam, with G. Buiten);
- B. Haver (2021 – University of Amsterdam, with S.M. Hautphenne);
- K. Chen (2021 – TNO/University of Amsterdam, with H. Zhou and J.L. Dorsman);
- C. Hossainkhan (2022 – University of Amsterdam);
- N. Hoefsloot (2022 – CBS/University of Amsterdam, with F.P. Pijpers);
- J. Kayzel (2022 – CBS/University of Amsterdam, with F.P. Pijpers);
- S. Morcy (2023 – University of Amsterdam);
- F. Kuipers (2023 – University of Amsterdam);
- T. Nijsten (2023 – TNO/University of Amsterdam, with E. Walraven, M. Snelder and J.L. Dorsman);
- P. ten Caat (2023 – Effect Healthcare/University of Amsterdam, with A. Kuiper and D. Jansen);

  - D. Rutgers (2023 – University of Amsterdam);
  - J. Baars (2023 – University of Amsterdam, with R.A.J. Laeven);
  - F. Hinze (2023 – University of Amsterdam).

- Involved in postdoc mentoring of
  - P. Lassila (2001 – University of Twente),
  - P. Mannersalo (2004 – CWI),
  - U. Ayesta (2005 – CWI),
  - L. Leskelä (2006 – CWI),
  - E. Tzenova (2006 – EURANDOM),
  - Y. Nazarathy (2009 – EURANDOM),
  - H. Leahu (2015 – University of Amsterdam),
  - J. Carstens (2016 – University of Amsterdam),
  - P. Serra (2016 – University of Amsterdam),
  - M. Frolkova (2016 – University of Amsterdam),
  - L. Ravner (2017 – University of Amsterdam/Eindhoven University of Technology),
  - M. Zubeldía (2019 – University of Amsterdam/Eindhoven University of Technology),
  - P. Braunsteins (2020 – University of Amsterdam/Leiden University),
  - R. Jacobovich (2022 – University of Amsterdam).

- Ph.D. thesis committee member of
  - P.-T. de Boer (University of Twente; supervisors: I. Niemegeers and V.F. Nicola),
  - Q. Deng (Eindhoven University of Technology; supervisor: O.J. Boxma),
  - P. Lassila (Helsinki University of Technology; supervisor: J. Virtamo),
  - R. Litjens, M.Sc. (University of Twente; supervisors: W.H.M. Zijm and R.J. Boucherie),
  - M.F.M. Nuijens (Universiteit van Amsterdam; supervisors: M.S. Keane and A.A. Balkema),
  - H. Gautama (Technical University Delft; supervisors: A. van Gemund and H. Sips),
  - R. Groenevelt (Université de Nice/Sophia Antipolis; supervisor: P. Nain),
  - T.J.J. Denteneer (Eindhoven University of Technology; supervisor: O.J. Boxma),
  - R. Bekker (Eindhoven University of Technology; supervisors: O.J. Boxma and S.C. Borst),
  - L. Leskelä (Helsinki University of Technology; supervisors: I. Norros and E. Valkeila),
  - M.B. Vermaat (University of Amsterdam; supervisor: R.J.M.M. Does),
  - P. Mokveld (University of Amsterdam; supervisor: C.A.J. Klaassen),
  - H. de Koning (University of Amsterdam; supervisor: R.J.M.M. Does),
  - P. Zaręba (Vrije Universiteit Amsterdam; supervisors: A.W. van der Vaart, K.O. Dzhaparidze, and J.H. van Zanten),
  - T. Zaburnenko (University of Twente; supervisors: B.R.H.M. Haverkort and P.-T. de Boer),
  - S. Gugushvili (University of Amsterdam; supervisors: C.A.J. Klaassen, P.J.C. Spreij, and A.J. van Es),
  - M. Riaz (University of Amsterdam; supervisor: R.J.M.M. Does),
  - R. Haijema (University of Amsterdam; supervisors: N.M. van Dijk and J. van der Wal),
  - R. Egorova (Eindhoven University of Technology; supervisors: A.P. Zwart and S.C. Borst),

– W. van der Weij (Vrije Universiteit Amsterdam; supervisor: R.D. van der Mei),
– N.S. Walton (University of Cambridge; supervisor F.P. Kelly),
– K. Avrachenkov (*habilitation*; Université de Nice/Sophia Antipolis),
– A. Sperotto (University of Twente; supervisors: B.R.H.M. Haverkort and A. Pras),
– M. Dobrzyński (University of Amsterdam; supervisors: J. Verwer and H. Westerhof),
– B. Kauffmann (ENS Paris; supervisor: F. Baccelli),
– A. Marynych (University of Utrecht; supervisor: A. Gnedin),
– E. Veerman (University of Amsterdam; supervisors: C.A.J. Klaassen and P.J.C. Spreij),
– B. Kaynar (Vrije Universiteit Amsterdam; supervisors: A.A.N Ridder and H.C. Tijms),
– M. Harkema (University of Twente; supervisors: L.J.M. Nieuwenhuis and R.D. van der Mei),
– J. Bajars (University of Amsterdam; supervisor: J. Frank),
– F. Mata (Universidad Autónoma de Madrid; supervisor: J. Aracil),
– T.P. Erdmann (University of Amsterdam; supervisor: J. de Mast),
– A. De Larrard (Université Paris VI; supervisor: R. Cont),
– D. Reijsbergen (University of Twente; supervisors: R.J. Boucherie, B.R. Haverkort, P.-T. de Boer, and W.R.W. Scheinhardt),
– W. Volk-Makarewicsz (Vrije Universiteit Amsterdam; supervisor: B. Heidergott)
– P. den Iseger (Erasmus Universiteit Rotterdam; supervisor: R. Dekker),
– M. Frolkova (Vrije Universiteit Amsterdam; supervisors: A.P. Zwart and S. Foss),
– J. Bosman (Vrije Universiteit Amsterdam; supervisors: R.D. van der Mei and R. Núñez-Queija),
– H.Z. Nazir (University of Amsterdam; supervisor: R.J.M.M. Does),
– E. De Cuypere (University of Ghent; supervisors: D. Fiems and K. de Turck),
– M. Ruijter (Technical University Delft; supervisor: C. Oosterlee),
– S. Badila (Eindhoven University of Technology; supervisors: O.J. Boxma and J.A.C. Resing),
– W. Wadman (University of Amsterdam; supervisors: D.T. Crommelin and J.E. Frank),
– A. Zocca (Eindhoven University of Technology; supervisors: S.C. Borst and J.S.H. van Leeuwaarden),
– I. Zwetsloot (University of Amsterdam; supervisors: R.J.M.M. Does and M. Schoonhoven),
– P. Kovács (University of Amsterdam; supervisors: R. Núñez-Queija and N.S. Walton),
– J. de Zoete (University of Amsterdam; supervisors: M.J. Sjerps and R.W.J. Meester),
– N. Susyanto (University of Amsterdam; supervisors: C.A.J. Klaassen, R.N.J. Veldhuis and L.J. Spreeuwers),
– C. de Graaf (University of Amsterdam; supervisors: P.M.A. Sloot and D. Kandhai),
– P. Vis (Vrije Universiteit Amsterdam; supervisors: R.D. van der Mei and R. Bekker),
– A. Kirichenko (University of Amsterdam; supervisor: J.H. van Zanten),
– D. Bhaumik (University of Amsterdam; supervisors: D.T. Crommelin and A.P. Zwart),
– R. Goedhart (University of Amsterdam; supervisor: R.J.M.M. Does),
– J. Dean (University of Bristol; supervisor: A. Ganesh),
– A. Roccaverde (Leiden University; supervisor: W.Th.F. den Hollander),

- D. van Leeuwen (Vrije Universiteit Amsterdam; supervisors: R.D. van der Mei, R. Núñez-Queija, and S. Bhulai),
- M. Diko (University of Amsterdam; supervisor: R.J.M.M. Does),
- C. Comte (Télécom-Paristech; supervisors T. Bonald and F. Mathieu),
- J. Hartog (University of Amsterdam; supervisor: J.H. van Zanten),
- A. Buijsrogge (University of Twente; supervisors: R.J. Boucherie, B.R. Haverkort, P.-T. de Boer, and W.R.W. Scheinhardt),
- B. Chan (Eindhoven University of Technology; supervisors: A.P. Zwart and C.-H. Rhee),
- M. Saxena (Eindhoven University of Technology; supervisors: O. Boxma, R. Núñez-Queija, and S. Kapodistria),
- C. Wichelhaus (*habilitation*; Universität Darmstadt),
- V. Schamboeck (University of Amsterdam; supervisors: P. Iedema and I. Kryven),
- I. Anagnostou (University of Amsterdam; supervisors: D. Kandhai and A. Hoekstra),
- M. Sfragara (Leiden University; supervisors: W.Th.F. den Hollander and S.C. Borst),
- M. Bazhba (Eindhoven University of Technology; supervisors: A.P. Zwart and C.-H. Rhee),
- F. Stroh (University of Amsterdam; supervisors: V. Patel and J. Ellis-Monaghan),
- Q. Zhang (Leiden University; supervisor: D. Garlaschelli),
- S. Bongers (University of Amsterdam; supervisor: J. Mooij),
- S. Karbach (University of Amsterdam; supervisors: S. Cox and A. Khedher),
- S. Grazzi (Technical University Delft; supervisors: F.H. van der Meulen and G.N.J.C. Bierkens).

Teaching

In possession of diploma BKO (in Dutch: 'basis kwalificatie onderwijs'; $\sim$ 'university teaching qualification'), as of March 2015.

I taught (or contributed to) the following courses:

- 1993–1996: *Quantitative Methods*, for bachelor students in economics (Vrije Universiteit Amsterdam);
- 2001–2013: *Stochastic Models for Telecommunication Systems*, for master students in mathematics and PhD students in mathematics and/or operations research (University of Twente, LNMB – Dutch Network for the Mathematics of Operations Research);
- 2004–2011: *Markov Chains* (in Dutch the course is called *Kansrekening*), for bachelor students in mathematics (University of Amsterdam);
- 2009: *Mathematical Methods*, for bachelor students bèta-gamma (University of Amsterdam);
- 2006–2013: *Stochastics I* (elementary probability theory), for bachelor students in mathematics (University of Amsterdam);
- 2011–2021: *Lévy Fluctuation Theory, with applications in finance and OR*, for master students in mathematics (University of Amsterdam; in 2015–2016 *nationwide* through MasterMath);
- 2011: *Stochastic Integration*, for master students in mathematics (University of Amsterdam);
- 2012–2013, 2018–2022: *Topics in Stochastic Networks*, for master students in mathematics (University of Amsterdam);
- 2013–2018: *Operations & Process Management*, for bachelor students in business economics (University of Amsterdam);

- 2017–present: *Stochastic Simulation*, for master students in mathematics (University of Amsterdam);
- 2020–2021: *Complex Networks*, for master students in mathematics (*nationwide* through MasterMath);
- 2022–present: *Advanced Ruin Theory*, for master students in mathematics (University of Amsterdam).

Miscellaneous international scientific activities

- Author of book 'Large Deviations for Gaussian Queues' (Wiley, 2007).
- Author of book 'Lévy-driven Queues and Fluctuation Theory', with K. Dębicki (Springer, 2015).
- Author of book 'The Cramér-Lundberg model and its variants: a queueing perspective', with O. Boxma (Springer, 2023).
- Editor-in-Chief of the journal *Queueing Systems* (2022–...).
- Associate editor of the journals *Stochastic Models* (2003–...), *Queueing Systems* (2004–2021), *Stochastic Systems* (2009-...), the *Applied Probability Trust* journals (i.e., *Journal of Applied Probability* and *Advances in Applied Probability*; 2010-...), and *Indagationes Mathematicae* (2018–...).
- Guest editor of special issues of Queueing Systems (one with J. Blanchet, one with Z. Palmowski and S. Shneer, and one with P. Robert), Annals of Operations Research (with R. van der Mei and R. Núñez-Queija), and Journal of Statistical Physics (with F. den Hollander, D. Garlaschelli, and R. van der Hofstad).
- Program Committee Chair (with O.J. Boxma) of the INFORMS Applied Probability conference (Eindhoven, the Netherlands, 2007).

  Program Committee Chair (with S.C. Borst and M. Squillante) of the ITC (International Teletraffic Congress) 22 conference (Amsterdam, the Netherlands, 2010).

  Program Committee Chair (with O.J. Boxma and A.P. Zwart) of Stochastic Networks 2014 (Amsterdam, the Netherlands, 2014).

  Program Committee Chair (with J.S. Liu and D. Mitra) of Performance 2018 (Toulouse, France, 2018).

  Organizer (with S. Foss, G. Last, and B. Prabhakar) of workshop at Oberwolfach on Stochastic Networks (Oberwolfach, Germany, 2010).

  Organizer (with A.A.N. Ridder) of workshop RESIM 2014 on rare event simulation (Amsterdam, the Netherlands, 2014).

  Organizer (with A. Muntean, P.T. de Boer, and D.T. Crommelin) of workshop RESIM 2016 on rare event simulation (Eindhoven, the Netherlands, 2016).

  Organizer and Program Committee Chair of conference NETWORKS 2017 (Amsterdam, the Netherlands, 2017; with W.Th.F. den Hollander) and NETWORKS 2021 (Amsterdam, the Netherlands, 2021).

  Organizer of Workshop Data-driven Queueing Challenges (*Online*, 2021 and 2022; with N. Sonenberg and P. Taylor).
- Member of the Technical Programme Committee of ITC 17 (Salvador de Bahia, Brazil, 2001), 18 (Berlin, Germany, 2003), 19 (Beijing, China, 2005), 20 (Ottawa, Canada, 2007), 21 (Paris, France, 2009), and 23 (San Francisco, USA, 2011).

  Organizer of a session on Gaussian queues at INFORMS Applied Probability (Ottawa, Canada, 2005), a session on Lévy-driven queues at INFORMS Applied Probability (Stockholm, Sweden, 2011), a session on scaling limits for infinite-server queues (Evanston, USA, 2017), and a session on inverse problems for queues (Brisbane, Australia, 2019). Member of the Technical Programme Committee of INFORMS Applied Probability (Stockholm, Sweden, 2011; San Jose, Costa Rica, 2013).

Member of the Technical Programme Committee of ACM Sigmetrics/Performance (St. Malo, France, 2006), ACM Sigmetrics (New York, USA, 2010), and IFIP Performance (Namur, Belgium, 2010; Amsterdam, the Netherlands, 2011; Vienna, Austria, 2013; Torino, Italy, 2014; Sidney, Australia, 2015; New York, USA, 2017; Milan, Italy, 2020).

Member of the Technical Programme Committee of ValueTools (Pisa, Italy, 2006; Tsukuba, Japan, 2020; Guangzhou, China, 2021).

Member of the Technical Programme Committee of the European Meeting of Statisticians (EMS; Oslo, Norway, 2005); organizer of a special session on Applied Probability and Queues.

Member of the Technical Programme Committee of ITCOM, Conference on Internet Performance and Control (Orlando, FL, USA, 2001-2004).

Member of the Technical Programme Committee of ITC Specialist Seminars (Antwerp, Belgium, 2004; Berlin, Germany, 2008).

Member of the Technical Programme Committee of the 1st EURO-NGI Conference (Rome, Italy, 2005), the 2nd EURO-NGI Conference (Valencia, Spain, 2006), and the 3rd EURO-NGI Conference (Trondheim, Norway, 2007).

Member of the Technical Programme Committee of NET-COOP 2007 (Avignon, France, 2007), NET-COOP 2009 (Eindhoven, the Netherlands, 2009), NET-COOP 2010 (Ghent, Belgium, 2010), and NET-GCOOP 2011 (Paris, France, 2011).

Member of the Technical Programme Committee of RESIM 2008 (Rennes, France, 2008).

Member of the Technical Programme Committee of International Workshop on Computational Stochastics, part of the International Conference on Computational Science (Amsterdam, the Netherlands, 2010).

Member of the Technical Programme Committee of ACM Sigmetrics Workshop on MAthematical performance Modeling and Analysis (MAMA 2007–2021).

Member of the Programme Committee of Stochastic Networks 2012 (Boston, MA, United States, 2012).

Member of the Technical Programme Committee of the workshop on Stochastic Networks (Będlewo, Poland, 2018, 2022).

- Member of Evaluation Committee of INRIA, theme *Networks and Telecommunications*, 2021.
- Leader of Work Package 5.2 (jointly with O.J. Boxma) Network of Excellence EURO-NGI: 2003–2006.

  Leader of Work Package 5 Network of Excellence EURO-NGI: 2005–2006.
- Organizer of the workshop 'Rare events in communication networks' (jointly with O.J. Boxma), within the framework of EURO-NGI. Eindhoven, the Netherlands, 2005.

  Organizer of the 2nd Korean-Dutch workshop on queueing and its applications in telecommunications (jointly with H.C. Tijms). Amsterdam, the Netherlands, 2006.

  Organizer of the workshop 'Stochastic performance models for resource allocation in communication systems' (jointly with R.D. van der Mei and R. Núñez-Queija), within the framework of EURO-NGI. Amsterdam, the Netherlands, 2006.

  Organizer 'Back to school'-day on the operations-research aspects of networks (jointly with G. Brandt), LNMB-NGB, Lunteren, the Netherlands, 2016.
- Advisor EURANDOM, Eindhoven, the Netherlands; theme Queueing and Performance Evaluation; 2004–present.
- Member advisory board ACEMS (ARC Centre of Excellence for Mathematical & Statistical Frontiers), with X. Lin, R. Williams, H. Spohn, T. Tao, I. Johnstone and L. Chen, Australia; 2023–2021.
- Member evaluation committee INRIA, France; 2021.
- Coordinator of theme 'Stochastic Networks', NWO Mathematics cluster STAR; 2007–2013.
- Guest Researcher CWI (PNA2, Stochastics); 2006–present.

- Referee for ACM Transactions on Modeling and Computer Simulation, Advances in Applied Probability, Annals of Applied Probability, Annals of Operations Research, Computer Networks, IEEE Infocom, IEEE/ACM Transactions on Networking, IEEE Communications Letters, Journal of Applied Probability, Mathematical Methods of Operations Research, Mathematics of Operations Research, Operations Research, Methodology and Computing in Applied Probability, Performance Evaluation, Probability in the Engineering and Informational Sciences, Queueing Systems, Stochastic Models, Stochastic Systems, Telecommunication Systems.

Miscellaneous national scientific activities

- Member project steering committee EQUANET (funded by Dutch Ministry of Economic Affairs through its agency SENTER/Novem; partners: CWI, Lucent Technologies, TNO Telecom, TU/e, UT; 2002–2005).
- Member Evaluation Committee VIDI awards, Netherlands Organization for Scientific Research *NWO* (2005, 2006, 2007).
- Member Evaluation Committee VICI awards, Netherlands Organization for Scientific Research *NWO* (2011, 2017).
- Member board Stieltjes Institute (representing CWI), and project leader Stieltjes programme 4.2 *Stochastic Operations Research* (jointly with G.M. Koole): 2004–2006.
- Member advisory group *Voorverkenning ICT*, Royal Dutch Academy of Sciences *KNAW* (2004).
- 'Commissaris' (member of the supervisory board) of IBIS UvA BV: 2007-2009.
- Member 'Commissie Onderzoek', Platform Wiskunde Nederland: 2010–2014, and again as of 2017.
- Member of Scientific Advisory Council, faculty of Mathematics and Computer Science, Eindhoven University of Technology (as of 2014).
- Guest editor special issue *Nieuw Archief voor Wiskunde* on networks (jointly with J.S.H. van Leeuwaarden).
- 'Associate' of Institute for Advanced Study, University of Amsterdam: 2017–present.
- Organizer theme evenings for broad audience at KNAW (2014, 2018; jointly with W.Th.F. den Hollander).
- 'Kinderlezing' (public lecture for children) at Science Museum NEMO (2008, 2009, 2012, 2018).

Grants, funded projects, and awards

- 1994: Master thesis *Large deviations: theoretical results and queueing applications*, written under supervision of H.C. Tijms, A.A.N. Ridder, and P.J. Holewijn, was awarded the Dutch Operations Research Prize (NGB – Netherlands Operations Research Association), and runner up in the VVS competition (VVS – Dutch Association for Statistics);
- 1999: Marcel F. Neuts award for the paper 'Rare event analysis of the state frequencies of a large number of Markov chains', for the best paper in the journal *Stochastic Models* in 1999.
- 2001: Burgen Scholarship of Academia Europaea.
- 2002: nomination for best-paper award Infocom 2002 for the paper 'Generalized Processor Sharing queues with heterogeneous traffic classes', coauthored by S. Borst and M. van Uitert.
- 2013: Grant from University of Amsterdam to visit New York University during the academic year 2013–2014.
- 2012–2016: Australian Research Council (ARC) Discovery Grant (with L. Andrew, S. Low, Y. Nazarathy, and H. Vu).

- 2018–2020: Australian Research Council (ARC) Discovery Grant (with V. Borkar, J. Filar, Y. Nazarathy, and T. Taimre).

- NWO (Netherlands Organization for Scientific Research):

  2001: EQUIP (CWI; two PhD students, with V.F. Nicola); rare-event simulation.

  2005: LOGICA (UvA; one PhD student, with P.J.C. Spreij); Gaussian queues.

  2006: QNIS (CWI; one post-doc, with R.J. Boucherie, O.J. Boxma, R.D. van der Mei); Queueing Networks of Interacting Servers.

  2008: SQALP (UvA/EURANDOM; one PhD student, with O.J. Boxma); Lévy-driven queues.

  2010: STAR (CWI/TUE/UvA/UL/VU; two-year funding for two assistant professors at UvA; two-year funding for a PhD student). Travel grants for K. Dębicki, O. Kella, P. Glynn, S. Juneja, J. Blanchet, Y. Nazarathy, G. Weiss, A. Proutière.

  2013: 2QR (UvA/CWI/TUE: two PhD students, with O.J. Boxma, R. Núñez-Queija, A.P. Zwart): multidimensional queueing and risk problems.

  2014: Mathematics for Planet Earth (UvA/CWI: one PhD student, with D. Crommelin and J.H. van Zanten): rare-event simulation.

- 2014–2024: NWO *Gravitation* Programme. Project 'NETWORKS', consortium of UvA with CWI, UL, and TUE.

  Mandjes acting as the main applicant and project leader; other applicants M.T. de Berg, S.C. Borst, O.J. Boxma, H.M. Buhrman, R.W. van der Hofstad, W.Th.F. den Hollander, A.M.J. Koonen, J.S.H. van Leeuwaarden, A. Schrijver, G.J. Woeginger (who have become the programme's PIs). In 2017 N. Bansal succeeded G.J. Woeginger as a PI; in 2019 L. Stougie succeeded A. Schrijver as a PI; in 2019 F. Spieksma succeeded N. Bansal as a PI; in 2020 N. Litvak succeeded J.S.H. van Leeuwaarden as a PI.

  Consists of 7 tenure-track positions, 25 postdoc positions, 40 PhD students; total grant is M€ 23 (M€ 29 with matching).

- SENTER/Novem (Dutch Ministry of Economic Affairs), Agentschap NL:

  2003: EQUANET (CWI; with Lucent Technologies, TNO ICT, University of Twente, Eindhoven University of Technology); end-to-end QoS in IP networks.

  2011–2012: CAD (UvA; with TNO and UT); anomaly detection.

- ICES-KIS:

  2004: BRICKS (CWI; with several partners from industry and academia); resource allocation, processor sharing, fluid queues.

- Telematica Instituut:

  2002: M2C-QoS (CWI; with R. van de Meent and A. Pras); traffic measurements, provisioning.

- Industry:

  2001: consultancy project at UuNet/WorldCom (CWI).

  2005–2010: Ph.D. project V.J.G. Leijdekker at ABN Amro (UvA; with P.J.C. Spreij).

  2005–2008: Ph.D. project R. Malhotra at Lucent Technologies (UT; with J.L. van den Berg — supported by an NWO-Casimir grant).

  2006: consultancy project at EMC (UvA; with P.M.D. Lieshout).

  2007–2009: Ph.D. project F. Roijers at TNO ICT (UvA; with J.L. van den Berg).

  2010–2013: consultancy project at SURFnet (UvA; with P. Żuraniewski and A. den Boer).

  2012–2015: Ph.D. project W. Ellens at TNO ICT (UvA; with J.L. van den Berg).

2013–2019: Ph.D. project M. van Beek at Rabobank & BlackRock (UvA; with E.M.M. Winands and P.J.C. Spreij).

2016–2021: Ph.D. project G. Delsing at Rabobank (UvA; with E.M.M. Winands and P.J.C. Spreij).

2016–2021: Ph.D. project J. He at ABN AMRO (UvA; with A. Khedher and P.J.C. Spreij).

2018–2021: Ph.D. project H. Zhou at TNO (UvA; with J.L. Dorsman).

2019–2024: Ph.D. project D. Chan at Transtrend (UvA).

- Europe:
  - 2008–2011: COST TMA. Short-Term Scientific Mission P. Żuraniewski (2009). Short-Term Scientific Mission F. Mata (2010).
  - 2020–2024: NETWORKS-COFUND. M.T. de Berg acting as the main applicant and project leader; other applicants M. Mandjes, S.C. Borst, R.W. van der Hofstad, W.Th.F. den Hollander, L. Stougie.

    Consists of 7 PhD students; total grant is M€ 1.5.
  - 2021–2025: NETWORKS-COFUND. W.Th.F. den Hollander acting as the main applicant and project leader; other applicants M. Mandjes, S.C. Borst, R.W. van der Hofstad, M.T. de Berg, L. Stougie.

    Consists of 7 postdocs (2 years each); total grant is M€ 1.2.

(Long-term) visits

- 2002: INRIA-Rocquencourt, France (Ph. Robert);
- 2002: Microsoft Research, Cambridge, UK (P. Key, L. Massoulié);
- 2002: VTT, Espoo, Finland (I. Norros, P. Mannersalo);
- 2003, 2007, 2009, 2019: University of Wrocław, Poland (K. Dębicki, T. Rolski);
- 2004: invited guest at the special program on Applied Probability and Performance Evaluation at the Mittag-Leffler Institute, Djursholm, Sweden (I. Kaj);
- 2006: University of Melbourne, Australia (P. Taylor);
- 2007: Universiteit van Stellenbosch, South Africa (A.E. Krzesinski);
- 2008: *sabbatical* at Stanford University, US (P. Glynn, B. Prabhakar);
- 2009: Stanford University, US (P. Glynn, N. Bambos);
- 2010: invited guest at the special program on Stochastic Networks at the Newton Institute, University of Cambridge, UK (S. Foss *et al.*);
- 2011, 2018: Tata Institute for Fundamental Research, Mumbai, India (S. Juneja);
- 2011: Columbia University, US (J. Blanchet);
- 2012, 2015: Hebrew University, Jerusalem, Israel (O. Kella);
- 2013: Swinburne University/University of Melbourne/University of Queensland, Australia (L. Andrew, Y. Nazarathy, P. Taylor);
- 2013–2017: New York University, US (M. Armony, M. Pinedo, J. Reed);
- 2014: University of Lausanne, Switzerland (J. Ivanovs, H. Albrecher);
- 2015: University of Queensland/University of Melbourne/Swinburne University, Australia (T. Taimre, Y. Nazarathy, P. Taylor, H. Vu);
- 2017: Columbia University, US (A. Zeevi);
- 2017: University of Melbourne, Australia (P. Taylor);
- 2018: University of Bristol (A. Ganesh);

- 2018, 2020: University of Liverpool (C. Constantinescu, L. Rojas-Nandayapa);
- 2019: Hebrew University/University of Haifa, Israel (O. Kella, A. Goldenshluger);
- 2019: University of Queensland/University of Melbourne, Australia (T. Taimre, J. Filar, M. Jansen, S. Moka, P. Taylor, S. Hautphenne);
- 2022: Hebrew University/Tel Aviv University/University of Haifa, Israel (L. Ravner, R. Hassin, O. Kella, A. Goldenshluger);
- 2023: Waseda University, Japan (H. Toyoizumi).

Invited talks

- 1997: Invited talk Workshop on Stochastic Networks, Cambridge, UK ("Optimal trajectory to overflow in a queue fed by a large number of sources"; organizers: R. Gibbens and F. Kelly)
- 1998: Invited talk INRIA Queueing Seminar (projet MISTRAL), Sophia-Antipolis, France ("Optimal trajectory to overflow in a queue fed by a large number of sources"; organizer: Ph. Nain)
- 1998: Invited lecture Nederlands Wiskundig Congres, Enschede, the Netherlands ("Connection Admission Control for integrated real-time and non-real-time traffic in ATM networks")
- 1999: Plenary talk ITC (International Teletraffic Congress) 16, Edinburgh, UK ("Aspects of pricing in an integrated services network")
- 1999: Invited talk Workshop on Internet Quality Economics, MIT, Cambridge, MA, USA ("Pricing of Variable Bit Rate services based on trace-based leaky bucket parameter estimation"; organizer: J. Bailey)
- 2000: Invited talk Workshop on Stochastic Networks, Cambridge, UK ("An analysis of the phase transition phenomenon in packet networks"; organizers: R.J. Gibbens and F.P. Kelly)
- 2001: Invited talk on Stochastic Networks at the Conference on Stochastic Processes and their Applications (Bernoulli Society), 27, Cambridge, UK ("An analysis of the phase transition phenomenon in packet networks"; organizers: J. Norris, F.P. Kelly *et al.*)
- 2002: Invited talk Microsoft Research, seminar on networking, Cambridge, UK ("Models for TCP performance analysis"; organizer: P. Key)
- 2002: Invited talk INRIA Queueing Seminar (projet RAP), Rocquencourt, France ("Feedback fluid queues"; organizer: Ph. Robert)
- 2002: Invited talk LMS/ICMS meeting on Modern Problems in Applied Probability, Edinburgh, UK ("Traffic with an FBM limit: convergence of the workload process"; organizers: S. Foss and S. Zachary)
- 2003: Invited talk Benelux workshop on Performance Analysis of Communication Systems, Eindhoven, the Netherlands ("Queues with Gaussian inputs: modeling of traffic correlations, quality of service, and network design"; organizers: C. Blondia, S. Borst, and O. Boxma)
- 2003: Invited talk Meeting on Applied Probability and Advanced Communication Networks, Bedlewo, Poland ("Sample-path large deviations for tandem and priority queues with many Gaussian inputs"; organizers: T. Rolski and R. Szekli)
- 2004: Invited talk Workshop on Quantitative Models for Production and Communication Networks, Eindhoven, the Netherlands ("Large Deviations of Sojourn Times in PS Queues"; organizers: T. de Kok and O. Boxma)
- 2004: Invited talk Workshop "A Mathematical Perspective on Queueing and Teletraffic Modeling", Institut Mittag-Leffler, the Royal Swedish Academy of Sciences, Djursholm, Sweden ("Processor sharing queues with light-tailed input"; organizer: I. Kaj)

- 2005: Invited talk Conference European Meeting of Statisticians (EMS 2005), Oslo, Norway ("Large deviations of infinite intersections"; organizers: A. van der Vaart *et al.*)
- 2006: Invited talk Postgraduate Workshop on Stochastic Processes, Melbourne, Australia ("Large deviations of Gaussian queues"; organizers: A. Motyer *et al.*)
- 2006: Invited talk Workshop "New Directions in Applied Probability: Stochastic Networks and beyond", Edinburgh, UK ("A fluid system with coupled input and output, and its application to bottlenecks in ad hoc networks"; organizers: S. Foss, T. Konstantopoulos, and S. Zachary)
- 2007: Invited talk Workshop on Rare Event Simulation, Nice, France ("Reflected fractional Brownian motion: Fast simulation, convergence to stationarity, and correlation structure"; organizers: B. Tuffin and G. Rubino)
- 2007: Invited talk Meeting on Stochastic Networks, Będlewo, Poland ("Reflected fractional Brownian motion: convergence to stationarity and correlation structure"; organizers: T. Rolski, Z. Palmowski, K. Dębicki, and R. Szekli)
- 2007: Key note London Mathematical Society; Workshop on Mathematical Foundations for the Internet, London, UK ("Gaussian models for the Internet"; organizers: R. Gibbens and P. Key)
- 2008: Invited talk ICME seminar, Stanford, US ("Convergence to stationarity of reflected fractional Brownian motion"; organizer: P. Glynn)
- 2008: Invited talk OR seminar, Stanford, US ("Convergence to stationarity of reflected fractional Brownian motion"; organizer: R. Johari)
- 2008: Invited talk Stochastic Networks 2008, Paris, France ("Convergence to stationarity of reflected fractional Brownian motion"; organizers: F. Baccelli and J. Mairesse)
- 2008: Invited talk OR seminar, Stanford, US ("Transient analysis of reflected Lévy processes"; organizer: R. Johari)
- 2008: Invited talk networking/communications/signal processing seminar, Berkeley, US ("Research dimensioning through buffer sampling"; organizer: V. Anantharam)
- 2008: Invited talk workshop on Stochastic Networks, University of Wrocław ("Transient analysis of reflected Lévy processes"; organizers: K. Dębicki, Z. Palmowski, R. Szekli, T. Rolski)
- 2008: Key note workshop Young European Queueing Theorists, Eindhoven, the Netherlands ("Transient analysis of reflected Lévy processes"; organizers: M. Jonkheere, M. Lelarge, and S. Shneer)
- 2009: Invited talk Meeting on Stochastic Networks, Będlewo, Poland ("On the correlation function of reflected Lévy processes"; organizers: T. Rolski, Z. Palmowski, K. Dębicki, and R. Szekli)
- 2009: Invited talk Cisco Research, San Jose, USA ("Research dimensioning through buffer sampling"; organizer: A. Clemm)
- 2009: Invited talk mathematical seminar, University of Clausthal, Germany ("On the correlation function of reflected Lévy processes"; organizer: W. Sandmann)
- 2009: Key note TMA workshop, Aachen, Germany ("Traffic models, and their use in provisioning and traffic management"; organizers: M. Papadopouli, P. Owezarski, and A. Pras)
- 2009: Invited talk Bristol Maths department, University of Bristol, UK ("On the correlation function of reflected Lévy processes"; organizers: J. Cruise and A. Ganesh)
- 2010: Invited talk Newton Institute, Cambridge, UK ("Simulation-based computation of the correlation function of reflected Lévy processes"; organizer: S. Foss)
- 2010: Invited talk Nederlands Wiskundig Congres, Utrecht, the Netherlands ("On the correlation function of reflected Lévy processes"; organizer: A. Gnedin)

- 2010: Invited talk Israeli-Dutch workshop on queueing, Eindhoven, the Netherlands ("Appointment scheduling"; organizers: I. Adan, O. Boxma, and G.-J. van Houtum)
- 2010: Invited mini-course Fields-MITACS workshop on approximations, asymptotics and resource management for stochastic networks, Ottawa, Canada ("Lévy-driven queues"; organizers: M. Huang and Y. Zhao)
- 2010: Invited talk workshop on rare event simulation RESIM 2010, Cambridge, UK ("Simulation-based computation of the correlation function of reflected Lévy processes"; organizers: P. Glynn *et al.*)
- 2011: Invited talk seminar Tata Institute for Fundamental Research, Mumbai, India ("Simulation-based computation of the correlation function of reflected Lévy processes"; organizer: S. Juneja)
- 2011: Invited talk seminar Indian Institute of Technology — Perwez Shahabuddin Memorial Lecture ("New trends in rare-event simulation"; organizers: S. Juneja and K. Seth)
- 2011: Invited talk Meeting on Stochastic Networks, Będlewo, Poland ("Generalized birthday problems"; organizers: T. Rolski, Z. Palmowski, K. Dębicki, and R. Szekli)
- 2011: Invited talk workshop on the occasion of F. Kelly's honorary doctorate, Eindhoven University of Technology ("Generalized birthday problems"; organizers: S. Borst and O. Boxma)
- 2011: Invited talk Heriot-Watt University, Edinburgh, UK ("Generalized birthday problems"; organizer: S. Foss)
- 2011: Invited talk INRIA, Paris, France ("Research dimensioning through buffer sampling"; organizer: F. Baccelli)
- 2011: Invited talk INRIA, Paris, France ("Generalized birthday problems"; organizer: F. Baccelli)
- 2012: Invited talk Stochastic Networks 2012, Boston, USA ("Transient analysis of Lévy-driven queues"; organizers: J. Tsitsiklis, D. Shah, and D. Gamarnik)
- 2012: Invited talk 'Academia meets Industry', Eindhoven, the Netherlands ("Optimized appointment scheduling"; organizer: O. Boxma)
- 2013: Invited talk Swinburne University, Melbourne, Australia ("Reflected and Markov-modulated Lévy processes"; organizer: L. Andrew)
- 2013: Invited talk University of Queensland, Brisbane, Australia ("Reflected and Markov-modulated Lévy processes"; organizer: Y. Nazarathy)
- 2013: Invited talk workshop on large deviations in finance, Imperial College, London ("Reflected and Markov-modulated Lévy processes"; organizers: M. Davis, N. Pham, and A. Jacquier)
- 2013: Invited talk workshop 'Modern probabilistic techniques for design and analysis of stochastic systems and networks', Cambridge, UK ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizers: V. Anantharam, F. Baccelli, S. Foss, and P. Glynn)
- 2014: Invited talk seminar Business Analytics, Vrije Universiteit, Amsterdam, the Netherlands ("Optimized appointment scheduling"; organizer: G. Koole)
- 2014: Invited talk math seminar, IBM Yorktown Heights, US ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizers: M. Squillante and B. Zhang)
- 2014: Opening address "NETWORKS", Amsterdam, the Netherlands
- 2014: Key note European Conference on Queueing Theory, Ghent, Belgium ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizers: S. Wittewrongel, H. Bruneel, O. Boxma, and J. Walraevens)

- 2014: Invited talk University of Lausanne, Switzerland ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizers: J. Ivanovs and H. Albrecher)
- 2014: Invited talk Royal Dutch Academy of Sciences, Amsterdam, the Netherlands ("NETWORKS: een multidisciplinair project", in Dutch; organizer: J. Bergstra)
- 2014: Invited talk Spui25, Amsterdam, the Netherlands ("Stand van de Wetenschap: wiskunde", with J.K. Lenstra, in Dutch; organizer: M. Ester)
- 2015: Key note Dutch Mathematical Congress (NMC), Leiden, the Netherlands ("Scaling limits for stochastic networks"; organizers: E. Verbitskiy and R. van Luijk)
- 2015: Invited talk University of Melbourne, Australia ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizer: P. Taylor)
- 2016: Opening address 'Scaling limits for stochastic networks', 'Back to School'-day of LNMB-NGB, Lunteren, the Netherlands
- 2016: Invited talk General Mathematics Colloquium, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands ("Time scaling results for Markov-modulated infinite-server systems and OU processes"; organizer: R. de Jeu)
- 2016: Invited talk Meeting on Stochastic Networks, Będlewo, Poland ("Markov-modulated Erlang systems"; organizers: T. Rolski, Z. Palmowski, K. Dębicki, and R. Szekli)
- 2017: Invited talk seminar Columbia University, New York, US ("Stationary appointment schedules"; organizer: A. Zeevi)
- 2017: Invited talk Dutch-Israeli Queueing Meeting, Eindhoven, the Netherlands ("On a class of reflected AR(1) processes"; organizer: O. Boxma)
- 2017: Invited talk University of Melbourne, Australia ("Appointment schedules"; organizer: P. Taylor)
- 2017: Key note ACEMS annual retreat, Gold Coast, Australia ("Queueing processes on dynamically evolving graphs"; organizer: P. Taylor)
- 2018: Invited talk seminar Tata Institute for Fundamental Research, Mumbai, India ("Overdispersion and multi-timescale models: exact asymptotics"; organizer: S. Juneja)
- 2018: Invited mini-course TIFR/IIT colloquium, Mumbai, India ("Population processes on randomly evolving graphs"; organizer: S. Juneja)
- 2018: Invited talk ISI-NETWORKS Conference in Probability, Kolkata, India ("Population processes on randomly evolving graphs"; organizers: A. Bose, R. Hazra, K. Maulik, A. Chakrabarty, P. Roy)
- 2018: Invited talk seminar Leiden University ("Overdispersion and multi-timescale models: exact asymptotics"; organizer: H. Guldas and F. den Hollander)
- 2018: Invited talk Meeting on Stochastic Networks, Będlewo, Poland ("Overdispersion and multi-timescale models: exact asymptotics"; organizers: T. Rolski, P. Lorek, K. Dębicki, and R. Szekli)
- 2018: Invited talk Symposium on Optimal Stopping, In Memory of Larry Shepp, Houston, US ("Overdispersion and multi-timescale models: exact asymptotics"; organizer: Philip Ernst)
- 2018: Invited talk seminar University of Bristol, UK ("Overdispersion and multi-timescale models: exact asymptotics"; organizer: A. Ganesh)
- 2018: Invited talk seminar University of Liverpool, UK ("Models for overdispersion, and applications"; organizer: C. Constantinescu)
- 2019: Invited talk seminar Tel Aviv University ("Models for overdispersion, and applications"; organizer: R. Snitkovsky)
- 2019: Invited talk workshop Honouring Prof. Peter Taylor, Eagle Heights, Australia ("Estimating the input of a Lévy-driven queue by Poisson sampling of the workload process"; organizers: A. Asanjarani, S. Hautphenne, M. Fackrell, S. Vaisman, and I. Ziedins.)

- 2019: Invited talk University of Queensland, Brisbane, Australia ("Simulation-based assessment of the stationary tail distribution of a stochastic differential equation"; organizer: T. Taimre)
- 2019: Key note YEQT XIII, Eindhoven, the Netherlands ("The workload correlation function is positive, decreasing and convex"; organizers: M. van der Boor, C. Drent, and L. Ravner)
- 2019: Invited talk LCN2, Leiden, the Netherlands ("Road traffic dynamics as a complex network"; organizer: F. Takes)
- 2021: Invited talk IMT School for Advanced Studies, Lucca, Italy (virtual) ("Road traffic dynamics as a complex network"; organizer: D. Garlaschelli and F. Saracco)
- 2021: Tutorial Conference of Data-driven Queueing Challenges (virtual) ("Data-driven Queueing Challenges", organizers: M. Mandjes, N. Sonenberg, and P. Taylor)
- 2021: Invited talk Workshop Road Traffic Flow: Analysis, Optimization and Control, Eindhoven, the Netherlands ("A diffusion-based analysis of a multi-class road traffic network"; organizers: M. Boon, J. Storm, and R. Timmerman)
- 2022: Invited talk University of Leeds, UK (virtual) ("Multivariate risk: Gerber-Shiu metrics"; organizer: Lanpeng Ji)
- 2022: Invited talk seminar University of Haifa, Israel ("A decomposition for Lévy processes inspected at Poisson moments"; organzer: B. Vakulenko-Lagun)
- 2022: Invited talk seminar Tel Aviv University, Israel ("A decomposition for Lévy processes inspected at Poisson moments"; organizer: M. Benelli)
- 2022: Invited talk International Symposium on Probability and Statistics, Calcutta Statistical Association, Kolkata, India (virtual) ("A decomposition for Lévy processes inspected at Poisson moments"; organizer: A. Sengupta)
- 2023: Invited talk Workshop on Probabilistic Methods in Statistical Mechanics of Random Media and Random Fields, Fukuoka, Japan ("General Multivariate Hawkes Processes and Induced Population Processes: exact results and large deviations"; organizer: T. Shirai)
- 2023: Invited talk Waseda University, Tokyo, Japan ("General Multivariate Hawkes Processes and Induced Population Processes: exact results and large deviations"; organizer: H. Toyoizumi)
- 2023: Invited talk Queueing Symposium, Tokyo, Japan ("Hawkes Processes and Queues"; organizer: Y. Inoue);
- 2023: Invited talk SNAPP seminar (virtual) ("General Multivariate Hawkes Processes and Induced Population Processes: exact results and large deviations"; organizers: Y. Zhong, R. Ibrahim, C.-H. Rhee, V. Shneer, and K. Xu)
- 2023: Invited Talk Conference 100 years of Reflected Brownian Motion, Roscoff, France ("The workload correlation function is positive, decreasing and convex"; organizers: S. Franceschi, H. Guérin and K. Raschel)
- 2023: Meeting on Stochastic Networks, Będlewo, Poland ("General Multivariate Hawkes Processes and Induced Population Processes: exact results and large deviations"; organizers: T. Rolski, P. Lorek, K. Dębicki, and R. Szekli)

Thesis

M. Mandjes (1996). *Rare event analysis of communication networks.* Vrije Universiteit Amsterdam.

Books

M. Mandjes. *Large deviations for Gaussian queues.* Wiley, Chichester, UK, 2007.

K. Dębicki and M. Mandjes. *Queues and Lévy fluctuation theory.* Springer, New York, USA, 2015.

M. Mandjes and O. Boxma. *The Cramér-Lundberg model and its variants: a queueing perspective.* Springer, New York, USA, $\geqslant$ 2023.

List of refereed publications

1993-2000:

(1) M. Mandjes (1993). Large deviations and queueing applications. *Operations Research Proceedings DGOR/NSOR*, Amsterdam, the Netherlands, pp. 35-41.

(2) M. Mandjes and A. Ridder (1995). Finding the conjugate of Markov fluid processes. *Probability in the Engineering and Informational Sciences,* Vol. 9, pp. 297-315.

(3) M. Mandjes (1995). Overflow asymptotics for large communication systems with general Markov fluid sources. *Probability in the Engineering and Informational Sciences,* Vol. 10, pp. 501-518.

(4) M. Mandjes (1996). Rare event analysis of batch-arrival queues. *Telecommunication Systems,* Vol. 6, pp. 161-180.

(5) M. Mandjes (1997). Fast simulation of blocking probabilities in loss networks. *European Journal of Operational Research,* Vol. 101, pp. 393-405.

(6) M. Mandjes and H. van den Berg (1997). Some new techniques for resource allocation in single- and multi-link ATM systems. *Proceedings ITC 15,* Washington DC, USA, pp. 1257-1268.

(7) P. Tran-Gia and M. Mandjes (1997). Modeling of customer retrial phenomenon in cellular mobile networks. *IEEE Journal on Selected Areas in Communications,* Vol. 15, pp. 1406-1414.

(8) K. van der Wal, M. Mandjes, and H. Bastiaansen (1997). Delay performance of the new Internet service with guaranteed QoS compared to ATM. *Proceedings IEEE ATM Workshop,* Lisbon, Portugal.

(9) K. van der Wal, M. Mandjes, and H. Bastiaansen (1997). Delay performance of the new Internet service with guaranteed QoS. *Proceedings ISS Conference*, Toronto, Canada, pp. 135-148.

(10) K. van der Wal, M. Mandjes, and H. Bastiaansen (1997). Delay performance analysis of the new Internet services with guaranteed QoS. *Proceedings of the IEEE,* Vol. 85, pp. 1947-1957.

(11) M. Mandjes (1997). Performance of queues with 'worst case input'. *CWI Tract*, Vol. 122, pp. 171-178.

(12) K. van der Wal, M. Mandjes, and H. Bastiaansen (1997). Delay performance analysis of the new Internet services with guaranteed QoS. *The Internet and Telecommunications: Architectures, Technologies, and Business Developments.* Ed. L. Farnsworth.

(13) R. Boucherie and M. Mandjes (1998). Computation of performance measures for product form cellular mobile communication networks. *Telecommunication Systems,* Vol. 10, pp. 321-354.

(14) M. Mandjes (1998). Asymptotically optimal importance sampling for tandem queues with Markov fluid input. *AEÜ International Journal on Electronics and Communications,* Vol. 52, pp. 152-161.

(15) M. Mandjes and A. Ridder (1999). Optimal trajectory to overflow in a queue fed by a large number of sources. *Queueing Systems*, Vol. 31, pp. 137-170.

(16) R. Núñez-Queija, H. van den Berg, and M. Mandjes (1999). Performance evaluation of strategies for integration of elastic and stream flows. *Proceedings ITC 16,* Edinburgh, UK, pp. 1039-1050.

(17) H. van den Berg and M. Mandjes (1999). CAC for integrated real-time and non-real-time traffic. *Nieuw Archief voor de Wiskunde*, Series 4, Vol. 17, pp. 125-133.

(18) M. Mandjes and N. van Foreest (1999). Aspects of pricing in an integrated services network. *Proceedings ITC 16,* pp. 1331-1340.

(19) M. Mandjes (1999). Rare event analysis of the state frequencies of a large number of Markov chains. *Stochastic Models,* Vol. 15, pp. 577-592.

(20) H. Bastiaansen, K. van der Wal, R. Kooij, and M. Mandjes (1999). How real-time can real-time be in a large-scale IP network? End-to-end delay assessment. *Proceedings IEEE RTAS Workshop on QoS for real-time Internet Applications*, pp. 77-84.

(21) M. Mandjes, K. van der Wal, R. Kooij, and H. Bastiaansen (1999). End-to-end delay models for interactive services on a large-scale IP network. *Proceedings 7th IFIP workshop modeling and evaluation of ATM/IP networks.*

(22) S. Verwijmeren, M. Mandjes, and R. Boucherie (2000). Asymptotic evaluation of blocking probabilities in a hierarchical cellular mobile network. *Probability in the Engineering and Informational Sciences,* Vol. 14, pp. 81-99.

(23) M. Mandjes and M. van Uitert (2000). Transient analysis of traffic generated by bursty sources, and its application to measurement-based admission control. *Telecommunication Systems*, Vol. 15, pp. 273-293.

(24) M. Mandjes and J.H. Kim (2000). Large deviations for small buffers: an insensitivity result. *Proceedings 37th Allerton Conference*, pp. 1105-1112.

(25) M. Mandjes and S. Borst (2000). Overflow behavior in queues with many long-tailed inputs. *Advances in Applied Probability*, Vol. 32, pp. 1150-1167.

(26) M. Mandjes, I. Saniee, and A. Stolyar (2000). Load characterization, overload prediction, and load anomaly detection for voice over IP traffic. *Proceedings 37th Allerton Conference,* pp. 567-576.

2001:

(27) M. Mandjes and J.H. Kim (2001). Large deviations for small buffers: an insensitivity result. *Queueing Systems*, Vol. 37, pp. 349-362.

(28) M. Mandjes and J.H. Kim (2001). An analysis of the phase transition phenomenon in packet networks. *Advances in Applied Probability,* Vol. 33, pp. 360-280.

(29) K. Kumaran, M. Mandjes, D. Mitra, and I. Saniee (2001). Resource usage and charging in a multi-service multi-QoS packet network. *Proceedings MIT/Tufts Workshop on Internet Service Qualities and Economics*, Cambridge, US.

(30) H. van den Berg and M. Mandjes (2001). Admission control in integrated networks: overview and evaluation. *Proceedings 8th International Conference on Telecommunication Systems*, Nashville, US, pp. 132-151.

(31) K. Kumaran and M. Mandjes (2001). The buffer-bandwidth trade-off curve is convex. *Queueing Systems*, Vol. 38, pp. 471-483.

(32) M. Mandjes (2001). A note on queues with M/G/∞ input. *Operations Research Letters*, Vol. 28, pp. 233-242.

(33) B. Zwart, S. Borst, and M. Mandjes (2001). Exact queueing asymptotics multiple heavy-tailed on-off flows. *Proceedings Infocom 2001*, Anchorage, US, pp. 279-288.

(34) M. Mandjes and A. Ridder (2001). A large deviations approach to the transient of the Erlang loss model. *Performance Evaluation*, Vol. 43, pp. 181-198.

(35) K. Kumaran and M. Mandjes (2001). Multiplexing regulated traffic streams: design and performance. *Proceedings Infocom 2001*, Anchorage, US, pp. 527-536.

(36) M. Mandjes, I. Saniee, and A. Stolyar (2001). Load characterization, overload prediction, and load anomaly detection for voice over IP traffic. *Proceedings ACM Sigmetrics*, Boston, US, pp. 326-327.

(37) S. Borst, M. Mandjes, and M. van Uitert (2001). Generalized Processor Sharing queues with heterogeneous traffic classes. *Performance Evaluation Review,* Vol. 29, pp. 40-42.

2002:

(38) M. Mandjes and A. Ridder (2002). A large deviations analysis of the transient of a queue with many Markov fluid inputs: approximations and fast simulation. *ACM Transactions on Modeling and Computer Simulation,* Vol. 12, pp. 1-26.

(39) M. Mandjes, D. Mitra, and W. Scheinhardt (2002). A simple model of network access: feedback adaptation of rates and admission control. *Proceedings Infocom 2002,* New York, US, pp. 3-12.

(40) N.K. Boots and M. Mandjes (2002). Fast simulation of a queue fed by a superposition of many heavy-tailed sources. *Probability in the Engineering and Informational Sciences,* Vol. 16, pp. 205-232.

(41) S. Borst, M. Mandjes, and M. van Uitert (2002). Generalized Processor Sharing queues with heterogeneous traffic classes. *Proceedings Infocom 2002*, New York, US, pp. 74-83.

2003:

(42) M. Mandjes, D. Mitra, and W. Scheinhardt (2003). A simple model of network access: feedback adaptation of rates and admission control. *Computer Networks*, Vol. 41, pp. 489-504.

(43) M. Mandjes, D. Mitra, and W. Scheinhardt (2003). Models of network access using feedback fluid queues. *Queueing Systems,* Vol. 44, pp. 365-398.

(44) T. Dieker and M. Mandjes (2003). On spectral simulation of fractional Brownian motion. *Probability in the Engineering and Informational Sciences,* Vol. 17, pp. 417-434.

(45) K. Kumaran, M. Mandjes, and A. Stolyar (2003). Convexity properties of loss and overflow functions. *Operations Research Letters,* Vol. 31, pp. 95-100.

(46) K. Dębicki and M. Mandjes (2003). Exact overflow asymptotics for queues with many Gaussian inputs. *Journal of Applied Probability,* Vol. 40, pp. 704-720.

(47) M. Mandjes and M. van Uitert (2003). Sample-path large deviations for tandem queues with Gaussian inputs. *Proceedings ITC 18*, Berlin, Germany, pp. 521-530.

(48) S. Borst, M. Mandjes, and M. van Uitert (2003). Generalized Processor Sharing queues with light-tailed and heavy-tailed input. *IEEE/ACM Transactions on Networking*, Vol. 11, pp. 821-834.

(49) S. Borst, M. Mandjes, and M. van Uitert (2003). Generalized Processor Sharing queues with heterogeneous traffic classes. *Advances in Applied Probability,* Vol. 35, pp. 806-845.

(50) N. van Foreest, M. Mandjes, and W. Scheinhardt (2003). Analysis of a feedback fluid model for TCP with heterogeneous sources. *Stochastic Models*, Vol. 19, pp. 299-324.

(51) N. van Foreest, M. Mandjes, and W. Scheinhardt (2003). Modeling and fairness aspects of asymmetric TCP sources. *Proceedings ITC 18,* Berlin, Germany, pp. 631-640.

(52) P. Lassila, H. van den Berg, M. Mandjes, and R. Kooij (2003). An integrated packet/flow model for TCP performance analysis. *Proceedings ITC 18*, Berlin, Germany, pp. 651-660.

(53) R. van de Meent, A. Pras, M. Mandjes, H. van den Berg, and L. Nieuwenhuis (2003). Traffic measurements for link dimensioning - a case study. In: M. Brunner and A. Keller (eds.): *Self-managing distributed systems*. 14th IFIP/IEEE International Workshop on Distributed Systems Operations and Management, DSOM 2003. Heidelberg, Germany, October 2003. Lecture Notes in Computer Science (LNCS) Series, 2867, pp. 106-117.

(54) M. Mandjes (2003). Pricing strategies under heterogeneous service requirements. *Computer Networks*, Vol. 42, pp. 231-249.

(55) M. Mandjes (2003). Pricing strategies under heterogeneous service requirements. *Proceedings Infocom 2003*, San Francisco, US.

2004:

(56) B. Zwart, S. Borst, and M. Mandjes (2004). Exact asymptotics for fluid queues fed by multiple heavy-tailed on-off sources. *Annals of Applied Probability*, Vol. 14, pp. 903-957.

(57) K. Dębicki and M. Mandjes (2004). Traffic with an fBm limit: convergence of the stationary workload process. *Queueing Systems,* Vol. 46, pp. 113-127.

(58) M. Mandjes (2004). A note on the benefits of buffering. *Stochastic Models*, Vol. 20, pp. 43-54.

(59) M. Mandjes and N.K. Boots (2004). The shape of the loss curve, and the impact of long-range dependence on network performance. *AEÜ International Journal on Electronics and Communications,* Vol. 58, pp. 101-117.

(60) M. Mandjes (2004). Pricing strategies and service differentiation. *Netnomics,* Vol. 6, pp. 59-81.

(61) M. Mandjes (2004). Packet models revisited: tandem and priority systems. *Queueing Systems*, Vol. 47, pp. 363-377.

(62) P. Lassila and M. Mandjes (2004). A multi-level TCP model with heterogeneous RTTs. In: N. Mitrou, K. Kontovasilis, G. Rouskas, I. Iliadis, L. Merakos (eds.): *Networking Technologies, Services, and Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communications.* Third International IFIP-TC6 Networking Conference (Networking 2004), Athens, Greece. Lecture Notes in Computer Science (LNCS) Series, 3042, pp. 52-63.

(63) R. van de Meent, A. Pras, M. Mandjes, H. van den Berg, F. Roijers, P. Venemans, and L. Nieuwenhuis (2004). Burstiness predictions based on rough network traffic measurements. *Proceedings WTC/ISS 2004*, Seoul, South Korea.

2005:

(64) D. Abendroth, H. van den Berg, and M. Mandjes (2005). A multiple time-scale model for TCP bandwidth sharing under user heterogeneity. In: R. Boutaba et al. (eds.): *Networking Technologies, Services, and Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communication Systems.* Fourth International IFIP-TC6 Networking Conference (Networking 2005), Waterloo, Canada. Lecture Notes in Computer Science (LNCS) Series, 3462, pp. 561-573.

(65) M. Mandjes and R. van de Meent (2005). Inferring traffic burstiness by sampling the buffer occupancy. In: R. Boutaba et al. (eds.): *Networking Technologies, Services, and Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communication Systems.* Fourth International IFIP-TC6 Networking Conference (Networking 2005), Waterloo, Canada. Lecture Notes in Computer Science (LNCS) Series, 3462, pp. 303-315.

(66) R. van de Meent and M. Mandjes (2005). Evaluation of 'user-oriented' and 'black-box' traffic models for link provisioning. *Proceedings 1st EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering*, Rome, Italy.

(67) R. Malhotra, R. van Haalen, M. Mandjes, and R. Núñez-Queija (2005). Modeling the interaction of IEEE 802.3x hop-by-hop flow control with TCP end-to-end flow control. *Proceedings 1st EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering*, Rome, Italy.

(68) N. van Foreest, M. Mandjes, J.C. van Ommeren, and W. Scheinhardt (2005). A tandem network with server slow-down and blocking. *Stochastic Models*, Vol. 21, pp. 695-724.

(69) W. Scheinhardt, N. van Foreest, and M. Mandjes (2005). Continuous feedback fluid queues. *Operations Research Letters*, Vol. 33, pp. 551-559.

(70) T. Dieker and M. Mandjes (2005). On asymptotically efficient simulation of large deviation probabilities. *Advances in Applied Probability*, Vol. 37, pp. 539-552.

(71) M. Mandjes and M. Nuyens (2005). Sojourn times in the M/G/1 FB queue with light-tailed service times. *Probability in the Engineering and Informational Sciences*, Vol. 19, pp. 351-361.

(72) M. Mandjes and M. van Uitert (2005). Sample-path large deviations for tandem and priority queues with Gaussian inputs. *Annals of Applied Probability,* Vol. 15, pp. 1193-1226.

(73) M. Mandjes and M. van Uitert (2005). Sample-path large deviations for Generalized Processor Sharing queues with Gaussian inputs. *Performance Evaluation,* Vol. 61, pp. 225-256.

(74) A. Pras, R. van de Meent, and M. Mandjes (2005). QoS in hybrid networks: an operator's perspective. In: H. de Meer and N. Bhatti (eds.). Proceedings IW-QoS workshop 2005. Passau, Germany. Lecture Notes in Computer Science (LNCS) Series, 3552, pp. 388-391.

(75) M. Mandjes, I. Saniee, and A. Stolyar (2005). Load characterization, overload prediction, and load anomaly detection for voice over IP traffic. *IEEE Transactions on Neural Networks*, Vol. 16, pp. 1019-1028.

(76) M. Mandjes, P. Mannersalo, and I. Norros (2005). Priority queues with Gaussian input: a path-space approach to loss and delay asymptotics. *Proceedings ITC 19*, Beijing, China, pp. 1135-1144.

(77) D. Abendroth, H. van den Berg, and M. Mandjes (2005). A versatile model for TCP bandwidth sharing in networks with user heterogeneity. In: B.D. Choi (ed.): Proceedings Korea-Netherlands Joint Conference on Queueing Theory and its Applications to Telecommunication Systems, Seoul, South Korea, pp. 173-188.

2006:

(78) M. Mandjes (2006). Large deviations for complex buffer architectures: the short-range dependent case. *Stochastic Models*, Vol. 22, pp. 99-128.

(79) M. Mandjes and B. Zwart (2006). Large deviations for sojourn times in processor sharing queues. *Queueing Systems*, Vol. 52, pp. 237-250.

(80) H. van den Berg, M. Mandjes, R. van de Meent, A. Pras, F. Roijers, and P. Venemans (2006). QoS-aware bandwidth provisioning of IP links. *Computer Networks*, Vol. 50, pp. 631-647.

(81) D. Abendroth, H. van den Berg, and M. Mandjes (2006). A versatile model for TCP bandwidth sharing in networks with heterogeneous users. *AEÜ International Journal on Electronics and Communications*, Vol. 60, pp. 267-278.

(82) M. Mandjes, P. Mannersalo, I. Norros, and M. van Uitert (2006). Large deviations of infinite intersections of events in Gaussian processes. *Stochastic Processes and their Applications*, Vol. 116, pp. 1269-1293.

(83) O. Kella, O. Boxma, and M. Mandjes (2006). A Lévy process reflected at a Poisson age process. *Journal of Applied Probability*, Vol. 43, pp. 221-230.

(84) M. Mandjes and P. Mannersalo (2006). Queueing systems fed by many exponential on-off sources: an infinite-intersection approach. *Queueing Systems,* Vol. 54, pp. 5-20.

(85) T. Dieker and M. Mandjes (2006). Fast simulation of overflow probabilities in a queue with Gaussian input. *ACM Transactions on Modeling and Computer Simulation*, Vol. 16, pp. 119-151.

(86) T. Dieker and M. Mandjes (2006). Efficient simulation of random walks exceeding a nonlinear boundary. *Stochastic Models*, Vol. 22, pp. 459-481.

(87) P. Lieshout, M. Mandjes, and S. Borst (2006). GPS scheduling: Selection of optimal weights and comparison with strict priorities. *Proceedings ACM Sigmetrics/Performance. Performance Evaluation Review*, Vol. 34, pp. 75-86.

(88) R. van de Meent, M. Mandjes, and A. Pras (2006). Gaussian traffic everywhere? *Proceedings IEEE International Conference on Communications,* Istanbul, Turkey, pp. 573-578.

(89) H. van den Berg, M. Mandjes, and F. Roijers (2006). Performance modeling of a bottleneck node in an IEEE 802.11 ad-hoc network. In: T. Kunz and S.S. Ravi (eds.): *Ad Hoc Now 2006*. 5th International Conference on Ad hoc Networks & Wireless 'Ad Hoc Now', Ottawa, Canada. Lecture Notes in Computer Science (LNCS) Series, 4104, pp. 321-336.

(90) N. Degrande, D. De Vleeschauwer, R. Kooij, and M. Mandjes (2006). Modeling ping times in first person shooter games. *Proceedings ACM CoNEXT '06*, Lisbon, Portugal, pp. 162-170.

(91) P. Lieshout, S. Borst, and M. Mandjes (2006). Heavy-traffic approximations for linear networks operating under alpha-fair bandwidth-sharing policies. *Proceedings ValueTools*, Pisa, Italy.

(92) H. van den Berg, M. Mandjes, and F. Roijers (2006). Performance modeling of a bottleneck node in an IEEE 802.11 ad-hoc network. In: M. Mandjes, A. Ridder, and H. Tijms (eds.): *Proceedings second Korea-Netherlands Joint Conference on Queueing Theory and its Applications to Telecommunication Systems,* Amsterdam, the Netherlands, pp. 1-15.

(93) O. Boxma, M. Mandjes, and O. Kella (2006). On a queueing model with service interruptions. In: M. Mandjes, A. Ridder, and H. Tijms (eds.): *Proceedings second Korea-Netherlands Joint Conference on Queueing Theory and its Applications to Telecommunication Systems,* Amsterdam, the Netherlands, pp. 33-43.

(94) M. Mandjes and F. Roijers (2006). A fluid system with coupled input and output, and its application to bottlenecks in ad hoc networks. In: M. Mandjes, A. Ridder, and H. Tijms (eds.): *Proceedings second Korea-Netherlands Joint Conference on Queueing Theory and its Applications to Telecommunication Systems,* Amsterdam, the Netherlands, pp. 186-206.

(95) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2006). Efficient simulation of a tandem queue with server slowdown. *Proceedings 6th International Workshop on Rare Event Simulation*, Bamberg, Germany, pp. 132-143.

2007:

(96) R. Egorova, M. Mandjes, and B. Zwart (2007). Sojourn-time asymptotics in processor-sharing queues with varying service rate. *Queueing Systems*, Vol. 56, pp. 169-181.

(97) M. Mandjes and F. Roijers (2007). A fluid system with coupled input and output, and its application to bottlenecks in ad hoc networks. *Queueing Systems,* Vol. 56, pp. 79-92.

(98) R. van de Meent, M. Mandjes, and A. Pras (2007). Smart dimensioning of IP network links. Smart dimensioning of IP network links. In: A. Clemm, G. Zambenedetti, and R. Stadler (eds.): *Managing Virtualization of Networks and Services. 18th IFIP-IEEE International Workshop on Distributed Systems: Operations and Management,* DSOM 2007. San Jose, US. Lecture Notes in Computer Science (LNCS) Series, 4785, pp. 86-97.

(99) M. Mandjes and J. Timmer (2007). A duopoly model with heterogeneous congestion-sensitive customers. *European Journal of Operational Research*, Vol. 176. pp. 445-467.

(100) M. Mandjes, P. Mannersalo, and I. Norros (2007). Gaussian tandem queues with an application to dimensioning of switch fabrics. *Computer Networks*, Vol. 51, pp. 781-797.

(101) M. Mandjes (2007). Analysis of jitter due to call-level fluctuations. *European Transactions on Telecommunications*, Vol. 18, pp. 97-108.

(102) K. Dębicki, M. Mandjes, and M. van Uitert (2007). A tandem queue with Lévy input: a new representation of the downstream queue length. *Probability in the Engineering and Informational Sciences*, Vol. 21, pp. 83-107.

(103) N. van Foreest, B. Haverkort, M. Mandjes, and W. Scheinhardt (2007). Versatile Markovian models for networks of asymmetric TCP sources. *Performance Evaluation*, Vol. 64, pp. 507-523.

(104) H. van den Berg, M. Mandjes, and R. Núñez-Queija (2007). Pricing and distributed Quality of Service control for elastic traffic. *Operations Research Letters*, Vol. 35, pp. 297-307.

(105) F. Roijers, M. Mandjes, and H. van den Berg (2007). Analysis of congestion periods in an M/M/∞ queue. *Performance Evaluation*, Vol. 64, pp. 737-754.

(106) F. Roijers, H.van den Berg, and M. Mandjes (2007). Fluid-flow modeling of a relay node in an IEEE 802.11 wireless ad hoc network. In: L. Mason, T. Drwiega, and J. Yan (eds.): *Proceedings ITC 20,* Ottawa, Canada. Lecture Notes in Computer Science (LNCS) Series, 4516, pp. 321-334.

(107) K. Dębicki and M. Mandjes (2007). A note on large buffer asymptotics for generalized processor sharing queues with Gaussian inputs. *Queueing Systems,* Vol. 55, pp. 251-254.

(108) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2007). Tandem queue with server slowdown. *Performance Evaluation Review*, Vol. 35, pp. 51-52.

(109) J. Blanchet and M. Mandjes (2007). Rare-event simulation for queues – editorial. *Queueing Systems*, Vol. 57, pp. 57-59.

(110) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2007). Efficient simulation of a tandem queue with server slowdown. *Simulation*, Vol. 83, pp. 751-767.

(111) P. Lieshout and M. Mandjes (2007). Brownian tandem queues. *Mathematical Methods of Operations Research*, Vol. 66, pp. 275-298.

(112) P. Lieshout and M. Mandjes (2007). Importance sampling in rate-sharing networks. *Proceedings SIMUTools,* Marseille, France.

(113) J. Göbel, A. Krzesinski, and M. Mandjes (2007). Analysis of an ad hoc network with autonomously moving nodes. *Proceedings Australasian Telecommunication Networks and Applications Conference* "ATNAC" 2007, Christchurch, New Zealand, pp. 41-46.

2008:

(114) M. Mandjes and M. Ramakrishnan (2008). Bandwidth trading under misaligned objectives: decentralized, measurement-based control. *Computer Networks*, Vol. 52, pp. 475-492.

(115) P. Lieshout and M. Mandjes (2008). A note on the delay distribution in Generalized Processor Sharing. *Operations Research Letters*, Vol. 36, pp. 117-122.

(116) P. Lieshout and M. Mandjes (2008). Generalized Processor Sharing: Characterization of the admissible region and selection of optimal weights. *Computers and Operations Research*, Vol. 35, pp. 2497-2519.

(117) M. Mandjes and W. Scheinhardt (2008). A fluid model for a relay node in an ad hoc network: evaluation of resource sharing policies. *Journal of Applied Mathematics and Stochastic Analysis.* Available online.

(118) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2008). State-dependent importance sampling for a slowdown tandem queue. *Proceedings 7th International Workshop on Rare Event Simulation,* Rennes, France.

(119) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2008). Simulation of a Jackson tandem network using state-dependent importance sampling. *Proceedings SMCTools,* Athens, Greece.

(120) O. Boxma, M. Mandjes, and O. Kella. On a queueing model with service interruptions. *Probability in the Engineering and Informational Sciences*, Vol. 22. pp. 537-555.

(121) P. Lieshout and M. Mandjes (2008). Asymptotic analysis of Lévy-driven tandem queues. *Queueing Systems*, Vol. 60, pp. 203-226.

2009:

(122) I. Adan, M. Mandjes, W. Scheinhardt, and E. Tzenova. On a generic class of two-node queueing systems (2008). *Queueing Systems*, Vol. 61, pp. 37-63.

(123) R. Malhotra, M. Mandjes, W. Scheinhardt, and H. van den Berg (2009). A feedback fluid queue with two congestion control thresholds. *Mathematical Methods of Operations Research*, Vol. 70, pp. 149-169.

(124) A. Es-Saghouani and M. Mandjes (2009). On the correlation structure of a Lévy-driven queue. *Journal of Applied Probability,* Vol. 45, pp. 940-952.

(125) U. Ayesta and M. Mandjes (2009). Bandwidth sharing networks under a diffusion scaling. *Annals of Operations Research,* Vol. 170, pp. 41-58.

(126) J. Timmer and M. Mandjes (2009). Efficiency of repeated network interactions. *AEÜ International Journal on Electronics on Communications,* Vol. 63, pp. 271-278.

(127) M. Mandjes, I. Norros, and P. Glynn (2009). On convergence to stationarity of fractional Brownian storage. *Annals of Applied Probability*, Vol. 18, pp. 1385-1403.

(128) M. Mandjes and J. Blanchet (2009). Rare-event simulation for queues. In: G. Rubino and B. Tuffin (eds.): *Rare Event Simulation Using Monte Carlo Methods,* Wiley, Chichester, pp. 87-124.

(129) P. L'Ecuyer, M. Mandjes, and B. Tuffin (2009). Importance sampling and rare-event simulation. In: G. Rubino and B. Tuffin (eds.): *Rare Event Simulation Using Monte Carlo Methods,* Wiley, Chichester, pp. 17-38.

(130) K. Dębicki, A. Es-Saghouani, and M. Mandjes (2009). Transient characteristics of Gaussian queues. *Queueing Systems*, Vol. 62, pp. 383-409.

(131) A. Pras, R. van de Meent, M. Mandjes, and L. Nieuwenhuis (2009). Dimensioning network links: a new look at equivalent bandwidth. *IEEE Network*, Vol. 23-2, pp. 5-10.

(132) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2009). An efficient multilevel splitting scheme. *Proceedings Sixth St. Petersburg Workshop on Simulation*, St. Petersburg, Russia, pp. 909-914.

(133) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2009). Backpressure-based control protocols: design and computational aspects. *Proceedings ITC 21,* Paris, France, pp. 1-8.

(134) P. Glynn and M. Mandjes (2009). Simulation-based computation of the workload correlation function in a Lévy-driven queue. In: M. Rosseni, R. Hill, B. Johansson, A. Dunkin, and R.G. Ingalls (eds.): *Proceedings of the 2009 Winter Simulation Conference*. Austin, US, pp. 1155-1166.

(135) M. Mandjes and P. Żuraniewski (2009). A queueing-based approach to overload detection. In: R. Núñez-Queija and J. Resing (eds.): *Network control and optimization.* Proceedings of NET-COOP 2009. Eindhoven, the Netherlands. Lecture Notes in Computer Science (LNCS) Series, 5894, Springer, pp. 91-106.

(136) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2009). Rare-event simulation for tandem queues: a simple and efficient importance sampling scheme. In: R. Núñez-Queija and J. Resing (eds.): *Network control and optimization.* Proceedings of NET-COOP 2009. Eindhoven, the Netherlands. Lecture Notes in Computer Science (LNCS) Series, 5894, Springer, pp. 107-120.

(137) M. Mandjes, R. van der Mei, and R. Núñez-Queija (2009). Note from the editors. *Annals of Operations Research*, Vol. 170, pp. 1-2.

(138) A. Es-Saghouani and M. Mandjes (2009). On the dependence structure of Gaussian queues. *Stochastic Models*, Vol. 25, pp. 221-247.

(139) M. Mandjes and R. van de Meent (2009). Resource dimensioning through buffer sampling. *IEEE/ACM Transactions on Networking*, Vol. 17, pp. 1631-1644.

(140) L.N. Andersen and M. Mandjes (2009). Structural properties of reflected Lévy processes. *Queueing Systems*, Vol. 63, pp. 301-322.

(141) R. Bekker and M. Mandjes (2009). A fluid model for a relay node in an ad-hoc network: the case of heavy-tailed input. *Mathematical Methods of Operations Research*, Vol. 70, pp. 357-384.

(142) A. Es-Saghouani and M. Mandjes (2009). Transient analysis of Markov fluid driven queues. *TOP – Journal of the Spanish Society of Statistics and Operations Research.* Available online.

(143) J. Göbel, A. Krzesinski, and M. Mandjes (2009). Incentive-based control of ad-hoc networks: a performance study. *Computer Networks*, Vol. 53, pp. 2427-2443.

(144) M. Mandjes and F. Roijers (2009). M/M/∞ transience: tail asymptotics of congestion periods. *Stochastic Models,* Vol. 25, pp. 614-647.

2010:

(145) J. Ivanovs, O. Boxma, and M. Mandjes (2010). Singularities of the matrix exponent of a Markov additive process with one-sided jumps. *Stochastic Processes and their Applications*, Vol. 120, pp. 1776-1794.

(146) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2010). State-dependent importance sampling for a Jackson tandem network. *ACM Transactions on Modeling and Computer Simulation*, Vol. 20, pp. 15:1-15:26.

(147) M. Mandjes (2010). Queueing networks with Gaussian inputs. In: R. Boucherie and N. van Dijk (eds.): *Queueing Networks: a fundamental approach*, Springer, New York, pp. 531-560.

(148) B. Kemper, J. de Mast, and M. Mandjes (2010). Modeling process flow using diagrams. *Quality and Reliability Engineering International*, Vol. 26, pp. 341-349.

(149) O. Boxma, O. Kella, and M. Mandjes (2010). On a generic class of Lévy-driven vacation models. *Probability in the Engineering and Informational Sciences*, Vol. 24, pp. 1-12.

(150) R. Malhotra, M. Mandjes, W. Scheinhardt, and H. van den Berg (2010). Design issues of a backpressure-based congestion control mechanism. *AEÜ International Journal on Electronics on Communications*, Vol. 64, pp. 717-728.

(151) K. Dębicki, A. Es-Saghouani, and M. Mandjes (2010). Transient asymptotics of Levy-driven queues. *Journal of Applied Probability*, Vol. 47, pp. 109-129.

(152) J. Ivanovs and M. Mandjes (2010). On the first passage process of time-reversible spectrally-negative Markov additive processes. *Operations Research Letters,* Vol. 38, pp. 77-81.

(153) F. Roijers, H. van den Berg, and M. Mandjes (2010). Performance analysis of differentiated resource sharing in a wireless ad hoc network. *Performance Evaluation*, Vol. 67, pp. 528-547.

(154) O. Boxma, O. Kella, and M. Mandjes (2010). On Lévy-driven vacation models with correlated busy periods and service interruptions. *Queueing Systems*, Vol. 64, pp. 359-382.

(155) K. Dębicki, K. Kosiński, M. Mandjes, and T. Rolski (2010). Extremes of multidimensional Gaussian processes. *Stochastic Processes and their Applications*, Vol. 120, pp. 2289-2301.

(156) P. Żuraniewski, M. Mandjes, and M. Mellia (2010). Empirical assessment of VoIP overload detection tests. *Proceedings 6th EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering*, Paris, France.

(157) B. D'Auria, J. Ivanovs, O. Kella, and M. Mandjes (2010). First passage of a Markov additive process and generalized Jordan chains. *Journal of Applied Probability*, Vol. 47, pp. 1048-1057.

2011:

(158) T. Dieker and M. Mandjes (2011). Extremes of Markov-additive processes with one-sided jumps, with queueing applications. *Methodology and Computing in Applied Probability*, Vol. 13, pp. 221-267.

(159) M. Mandjes and P. Żuraniewski (2011). M/G/∞ transience, and its applications to overload detection. *Performance Evaluation*, Vol. 68, pp. 507-527.

(160) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2011). State-dependent importance sampling for a slow-down tandem queue. *Annals of Operations Research,* Vol. 189, pp. 299-329.

(161) J. Blom and M. Mandjes (2011). Traffic generated by a semi-Markov Additive Process. *Probability in the Engineering and Informational Sciences*, Vol. 25, pp. 21-27.

(162) M. Mandjes and P. Żuraniewski (2011). Tail asymptotics of the M/G/∞ model. *Stochastic Models*, Vol. 27, pp. 77-93.

(163) P. Glynn and M. Mandjes (2011). Simulation-based computation of the workload correlation function in a Lévy-driven queue. *Journal of Applied Probability*, Vol. 48, pp. 114-130.

(164) A. Al Hanbali, M. Mandjes, Y. Nazarathy, and W. Whitt (2011). The asymptotic variance of departures in critically loaded queues. *Advances in Applied Probability*, Vol. 43, pp. 243-263.

(165) M. Koot, G. van 't Noordende, M. Mandjes, and C. de Laat (2011). Efficient probabilistic estimation of quasi-identifier uniqueness (conference version). *Proc. ICT.OPEN ASCI-IPA-SIKS 2011 Conference*, Veldhoven, the Netherlands, pp. 119-126.

(166) J. de Mast, B. Kemper, R. Does, M. Mandjes, and Y. van der Bijl (2011). Process improvement in healthcare: a model for overall resource efficiency. *Quality and Reliability Engineering International*, Vol. 27, pp. 1095-1106.

(167) S. Lilienthal and M. Mandjes (2011). Flow-level models for multipath routing. *Performance Evaluation*, Vol. 68, pp. 551-574.

(168) M. Mandjes, Z. Palmowski, and V. Shneer (2011). Editorial special issue on open problems. *Queueing Systems,* Vol. 68, pp. 217-220.

(169) N. Walton and M. Mandjes (2011). A stability conjecture on bandwidth sharing networks. *Queueing Systems,* Vol. 68, pp. 237-250.

(170) K. Dębicki and M. Mandjes (2011). Open problems in Gaussian fluid queueing theory. *Queueing Systems,* Vol. 68, pp. 267-273.

(171) O. Boxma, J. Ivanovs, K. Kosiński, and M. Mandjes (2011). Lévy driven polling systems and continuous-time branching processes. *Stochastic Systems*, Vol. 1, pp. 411-436.

(172) V. Leijdekker, M. Mandjes, and P. Spreij (2011). Sample-path large deviations in credit risk. *Journal of Applied Mathematics*, paper no. 354171.

2012:

(173) K. Dębicki and M. Mandjes (2012). Lévy-driven queues. *Surveys in Operations Research and Management Science*, Vol. 17, pp. 15-37.

(174) K. Dębicki, K. Kosiński, and M. Mandjes (2012). On the infimum attained by a reflected Lévy process. *Queueing Systems*, Vol. 70, pp. 23-35.

(175) A. Sperotto, M. Mandjes, R. Sadre, P.-T. de Boer, and A. Pras (2012). Autonomic parameter tuning of anomaly-based IDSs: an SSH case study. *IEEE Transactions on Network and Service Management*, Vol. 9, pp. 128-141.

(176) B. D'Auria, J. Ivanovs, O. Kella, and M. Mandjes (2012). Two-sided reflection of Markov-modulated Brownian motion. *Stochastic Models*, Vol. 28, pp. 316-332.

(177) M. Koot and M. Mandjes (2012). The analysis of singletons in generalized birthday problems. *Probability in the Engineering and Informational Sciences,* Vol. 26, pp. 245-262.

(178) B. Kemper and M. Mandjes (2012). Mean sojourn times in two-queue fork-join systems: bounds and approximations. *OR Spectrum,* Vol. 34, pp. 723-742.

(179) T. Hellings, M. Mandjes, and J. Blom (2012). Semi-Markov-modulated infinite-server queues: approximations by time-scaling. *Stochastic Models,* Vol. 28, pp. 452-477.

(180) M. Mandjes, Z. Palmowski, and T. Rolski (2012). Quasi-stationary workload in a Lévy-driven storage system. *Stochastic Models,* Vol. 28, pp. 413-432.

(181) K. Dębicki, K. Kosiński, and M. Mandjes (2012). Gaussian queues in light and heavy traffic. *Queueing Systems*, Vol. 71, pp. 137-149.

(182) F. Mata, P. Żuraniewski, M. Mandjes, and M. Mellia (2012). Anomaly detection in VoIP traffic with trends. *Proceedings ITC 24*, Kraków, Poland.

2013:

(183) D. Miretskiy, W. Scheinhardt, and M. Mandjes (2013). On efficiency of multilevel splitting. *Communications in Statistics — Simulation and Computation*, Vol. 41, pp. 890-904.

(184) J. Blom and M. Mandjes (2013). A large-deviations analysis of Markov-modulated inifinite-server queues. *Operations Research Letters*, Vol. 41, pp. 220-225.

(185) B. Kaynar and M. Mandjes (2013). Estimation of the workload correlation in a Markov fluid queue. *Queueing Systems,* Vol. 73, pp. 407-424.

(186) J. Blom, M. Mandjes, and H. Thorsdottir (2013). Time-scaling limits for Markov-modulated infinite-server queues. *Stochastic Models*, Vol. 29, pp. 112-127.

(187) C. Callegari, A. Coluccia, A. D'Alconzo, W. Ellens, S. Giordano, M. Mandjes, M. Pagano, T. Pepe, F. Ricciato, and P. Żuraniewski (2013). A methodological overview on anomaly detection. In: E. Biersack, C. Callegari, M. Matijasević (eds.): *Data Traffic Monitoring and Analysis: From measurement, classification and anomaly detection to Quality of Experience*. Final report COST action TMA. Lecture Notes in Computer Science (LNCS) Series, 7754, pp. 148-183.

(188) M. Mandjes and P. Żuraniewski (2013). Changepoint detection techniques for VoIP traffic. In: E. Biersack, C. Callegari, M. Matijasević (eds.): *Data Traffic Monitoring and Analysis: From measurement, classification and anomaly detection to Quality of Experience*. Final report COST action TMA. Lecture Notes in Computer Science (LNCS) Series, 7754, 184-201.

(189) W. Ellens, P. Żuraniewski, H. Schotanus, H. Meeuwissen, A. Sperotto, and M. Mandjes (2013). Flow-based detection of DNS tunnels. In: G. Doyen, M. Waldburger, P. Čeleda, A. Sperotto, B. Stiller (eds.): *Emerging Management Mechanisms for the Future Internet*, AIMS 2013. Barcelona, Spain. Lecture Notes in Computer Science (LNCS) Series, 7943, pp. 124-135.

(190) P. Żuraniewski, H. van den Berg, R. Malhotra, and M. Mandjes (2013). Resource allocation issues for a multiple-priority buffered link. In: A. Dudin, K. de Turck (eds.): *Proceedings ASMTA 2013*, Ghent, Belgium. Lecture Notes in Computer Science (LNCS) Series, 7984, pp. 457-471.

(191) J. Blom, K. de Turck, and M. Mandjes (2013). A central limit theorem for Markov-modulated infinite-server queues. In: A. Dudin, K. de Turck (eds.): *Proceedings ASMTA 2013*, Ghent, Belgium. Lecture Notes in Computer Science (LNCS) Series, 7984, pp. 81-95.

(192) K. Dębicki, M. Mandjes, and I. Sierpińska-Tułacz (2013). Transient analysis of Lévy-driven tandem queues. *Statistics and Probability Letters,* Vol. 83, pp. 1776-1781.

(193) P. Gruntjes, P. den Iseger, and M. Mandjes (2013). A Wiener-Hopf based approach to numerical computations in fluctuation theory for Lévy processes. *Mathematical Methods of Operations Research,* Vol. 78, pp. 101-118.

(194) O. Kella and M. Mandjes (2013). Transient analysis of reflected Lévy processes. *Statistics and Probability Letters,* Vol. 83, pp. 2308-2315.

(195) S. Juneja and M. Mandjes (2013). Overlap problems on the circle. *Advances in Applied Probability*, Vol. 45, pp. 773-790.

(196) M. Koot, M. Mandjes, G. van 't Noordende, and C. de Laat (2013). A probabilistic perspective on re-identifiability. *Mathematical Population Studies*, Vol. 20, pp. 155-171.

(197) N. Asghari, M. Mandjes, and A. Walid (2013). Modeling and optimization of energy management in multi-core servers. *Performance Evaluation Review,* Vol. 41, pp. 38-40.

(198) J. Blom, K. de Turck, and M. Mandjes (2013). Rare-event analysis of Markov-modulated infinite-server queues: a Poisson limit. *Stochastic Models,* Vol. 29, pp. 463-474.

(199) A. Es-Saghouani and M. Mandjes (2013). Exact multivariate workload asymptotics. *Mathematical Methods of Operations Research*, Vol. 78, pp. 405-415.

(200) J. Blanchet and M. Mandjes (2013). Asymptotics of the area under the Lévy-driven storage graph. *Operations Research Letters*, Vol. 41, pp. 730-736.

2014:

(201) N. Asghari, M. Mandjes, and A. Walid (2014). Energy-efficient scheduling in multi-core servers. *Computer Networks*, Vol. 59, pp. 33-43.

(202) G. Huang, M. Mandjes, and P. Spreij (2014). Weak convergence of Markov-modulated diffusion processes with rapid switching. *Statistics and Probability Letters,* Vol. 86, pp. 74-79.

(203) N. Asghari, P. den Iseger, and M. Mandjes (2014). Numerical techniques in Lévy fluctuation theory. *Methodology and Computing in Applied Probability,* Vol. 16, pp. 31-52.

(204) M. Mandjes (2014). Generalized birthday problems in the large-deviations regime. *Probability in the Engineering and Informational Sciences,* Vol. 28, pp. 83-99.

(205) G. Huang, M. Mandjes, and P. Spreij (2014). Limit theorems for reflected Ornstein-Uhlenbeck processes. *Statistica Neerlandica,* Vol. 68, pp. 25-42.

(206) M. Arendarczyk, K. Dębicki, and M. Mandjes (2014). On the tail asymptotics of the area swept under the Brownian storage graph. *Bernoulli*, Vol. 20, pp. 395-415.

(207) J. Blom, O. Kella, M. Mandjes, and H. Thorsdottir (2014). Markov-modulated infinite-server queues with general service times. *Queueing Systems*, Vol. 76, pp. 403-424.

(208) J. Kuhn, W. Ellens, and M. Mandjes (2014). Detecting changes in the scale of dependent Gaussian processes: a large deviations approach. In: B. Sericola, M. Telek, H. Gábor (eds.): *Proceedings ASMTA 2014*, Budapest, Hungary. Lecture Notes in Computer Science (LNCS) Series, 8499, pp. 170-184.

(209) K. de Turck and M. Mandjes (2014). Large deviations of an infinite-server system with linearly scaled background process. *Performance Evaluation*, Vol. 75, pp. 36-49.

(210) F. Mata, P. Żuraniewski, M. Mandjes, and M. Mellia (2014). Anomaly detection in diurnal data. *Computer Networks,* Vol. 60, pp. 187-200.

(211) W. Ellens, M. Mandjes, D. Worm, and H. van den Berg (2014). The effectiveness of throughput sampling for capacity management: a queueing approach. *Proceedings IEEE ICC 2014 – Communication QoS, Reliability and Modeling Symposium*, Sydney, Australia, pp. 1197-1203.

(212) M. van Beek, M. Mandjes, P. Spreij, and E. Winands (2014). Markov switching affine processes and applications to pricing. In: G. Deelstra, A. De Schepper, J. Dhaene, W. Schoutens, S. Vanduffel, M. Vanmaele, D. Vyncke (eds.): *Actuarial and Financial Mathematics Conference. Interplay between Finance and Insurance,* Brussels, Belgium, pp. 97-102.

(213) J. Blom, O. Kella, M. Mandjes, and K. de Turck (2014). Tail asymptotics of a Markov-modulated infinite-server queue. *Queueing Systems*, Vol. 78, pp. 337-357.

(214) B. Kemper, C. Klaassen, and M. Mandjes (2014). Optimized appointment scheduling. *European Journal of Operational Research*, Vol. 239, pp. 243-255.

(215) J. Kuhn, M. Mandjes, and Y. Nazarathy (2014). Exploration vs. exploitation with partially observable Gaussian autoregressive arms. *Proceedings ValueTools*, Bratislava, Slovakia, pp. 209-216.

2015:

(216) N. Asghari, K. Dębicki, and M. Mandjes (2015). Exact tail asymptotics of the supremum attained by a Lévy process. *Statistics and Probability Letters*, Vol. 96, pp. 180-184.

(217) A. Kuiper, B. Kemper, and M. Mandjes (2015). A computational approach to optimized appointment scheduling. *Queueing Systems*, Vol. 79, pp. 5-36.

(218) H.M. Jansen, M. Mandjes, K. de Turck, and S. Wittevrongel (2015). On the upper bound in Varadhan's Lemma. *Statistics and Probability Letters*, Vol. 103, pp. 24-29.

(219) K. Kosiński and M. Mandjes (2015). Logarithmic asymptotics for multidimensional extremes under non-linear scalings. *Journal of Applied Probability,* Vol. 52, pp. 68-81.

(220) J. Blom, K. de Turck, and M. Mandjes (2015). Analysis of Markov-modulated infinite-server queues in the central-limit regime. *Probability in the Engineering and Informational Sciences,* Vol. 29, pp. 433-459.

(221) P. Gruntjes and M. Mandjes (2015). A correlated overflow model with a view towards applications in credit risk. *International Journal of Operational Research,* Vol. 24, pp. 121-131.

(222) M. Panda, H. Vu, M. Mandjes, and S. Pokhrel (2015). Performance analysis of TCP NewReno over a cellular last-mile: buffer and channel losses. *IEEE Transactions on Mobile Computing,* Vol. 14, pp. 1629 - 1643.

(223) A. Kuiper and M. Mandjes (2015). Appointment scheduling in tandem-type service systems. *Omega*, Vol. 57, pp. 145-156.

(224) S. Foss, S. Juneja, M. Mandjes, and S.B. Moka (2015). Dynamic spatial loss systems - exact simulation and large deviations of stationary probabilities. *Performance Evaluation Review*, Vol. 43, pp. 3-6.

(225) A. Kuiper and M. Mandjes (2015). Practical principles in appointment scheduling. *Quality and Reliability Engineering International*, Vol. 31, pp. 1127-1135.

(226) J. Ivanovs and M. Mandjes (2015). Transient analysis of a stationary Lévy-driven queue. *Statistics and Probability Letters*, Vol. 107, pp. 341-347.

(227) W. Ellens, M. Mandjes, H. van den Berg, D. Worm, and S. Błaszczuk (2015). Performance evaluation using periodic system-state measurements. *Performance Evaluation,* Vol. 93, pp. 27-46.

(228) M. van Beek, M. Mandjes, P. Spreij, and E. Winands (2015). Regime switching affine processes and applications in finance. *Prodeedings Stochastic & Computational Finance 2015 — From Academia to Industry.*

(229) J. Kuhn, M. Mandjes, and T. Taimre (2015). Mean shift detection for state space models. In: R. Anderssen, T. Weber, and M. McPhee (eds.): *Proceedings International Congress on Modelling and Simulation (MODSIM2015)*, Gold Coast, Australia, pp. 1703-1709.

(230) Z. Botev, M. Mandjes, and A. Ridder (2015). Tail distribution of the maximum of correlated Gaussian random variables. In: L. Yilmaz, W. Chan, I. Moon, T. Roeder, C. Macal, and M. Rossetti (eds.): *Proceedings of the 2015 Winter Simulation Conference*. Huntington Beach, US, pp. 633-642.

2016:

(231) H.M. Jansen, M. Mandjes, K. de Turck, and S. Wittevrongel (2016). A large deviations principle for infinite-server queues in a random environment. *Queueing Systems,* Vol. 82, pp. 192-235.

(232) D. Anderson, J. Blom, M. Mandjes, H. Thorsdottir, and K. de Turck (2016). A functional central limit theorem for a Markov-modulated infinite-server queue. *Methodology and Computing in Applied Probability,* Vol. 18, pp. 153-168.

(233) G. Huang, H.M. Jansen, M. Mandjes, P. Spreij, and K. de Turck (2016). Markov-modulated Ornstein-Uhlenbeck processes. *Advances in Applied Probability,* Vol. 48, pp. 235-254.

(234) G. Huang, M. Mandjes, and P. Spreij (2016). Large deviations for Markov-modulated diffusion processes with rapid switching. *Stochastic Processes and their Applications,* Vol. 126, pp. 1785-1818.

(235) J. Blom, K. de Turck, and M. Mandjes (2016). Functional central limit theorems for Markov-modulated infinite-server systems. *Mathematical Methods of Operations Research*, Vol. 83, pp. 351-372.

(236) S. Pokhrel, M. Panda, H. Vu, and M. Mandjes (2016). TCP Performance over Wi-Fi: Joint impact of buffer and channel losses. *IEEE Transactions on Mobile Computing,* Vol. 15, pp. 1279-1291.

(237) M. Mandjes and P. Taylor (2016). The running maximum of a level-dependent quasi-birth-death process. *Probability in the Engineering and Informational Sciences*, Vol. 30, pp. 212-223.

(238) M. Mandjes and K. de Turck (2016). Markov-modulated infinite-server queues driven by a common background process. *Stochastic Models*, Vol. 32, pp. 206-232.

(239) Abhishek, M. Boon, M. Mandjes, and R. Núñez-Queija (2016). Congestion analysis of unsignalized intersections. *Proceedings COMSNETS 2016 – ITS Workshop*, Bangalore, India.

(240) N. Starreveld, R. Bekker, and M. Mandjes (2016). Transient analysis of one-sided Lévy-driven queues. *Stochastic Models,* Vol. 32, pp. 481-512.

(241) N. Asghari and M. Mandjes (2016). Transform-based evaluation of prices and Greeks of lookback options driven by Lévy processes. *Journal of Computational Finance*, Vol. 20, pp. 67-100.

(242) J. Kuhn, M. Mandjes, and T. Taimre (2016). Anomaly identification with limited sampling budget. *Proceedings ITW 2016 – IEEE Information Theory Workshop,* Cambridge, UK, pp. 216-220.

(243) O. Boxma, M. Mandjes, and J. Reed (2016). On a class of reflected AR(1) processes. *Journal of Applied Probability,* Vol. 53, pp. 818-832.

(244) D. Koops, O. Boxma, and M. Mandjes (2016). A tandem fluid network with Lévy input in heavy traffic. *Queueing Systems,* Vol. 84, pp. 355-379.

(245) H. Lu, G. Pang, and M. Mandjes (2016). A functional central limit theorem for Markov additive arrival processes and its applications to queueing systems. *Queueing Systems,* Vol. 84, pp. 381-406.

(246) M. Mandjes and P. Spreij (2016). Explicit computations for some Markov modulated counting processes. In: J. Kallsen and A. Papapantoleon (eds.): *Advanced Modeling in Mathematical Finance*, Festschrift in honor of Ernst Eberlein, pp. 63-92.

2017:

(247) A. den Boer and M. Mandjes (2017). Convergence rates of Laplace-transform based estimators. *Bernoulli*, Vol. 23, pp. 2533-2557.

(248) K. Dębicki, P. Liu, M. Mandjes, and I. Sierpińska-Tułacz (2017). Lévy-driven GPS queues with heavy-tailed input. *Queueing Systems,* Vol. 85, pp. 249-267.

(249) E. Cahen, M. Mandjes, and B. Zwart (2017). Rare event analysis and efficient simulation for a multi-dimensional ruin problem. *Probability in the Engineering and Informational Sciences,* Vol. 31, pp. 265-283.

(250) J. Blom, K. de Turck, and M. Mandjes (2017). Refined large deviations asymptotics for Markov-modulated infinite-server systems. *European Journal of Operational Research,* Vol. 259, pp. 1036-1044.

(251) M. Heemskerk, J. van Leeuwaarden, and M. Mandjes (2017). Scaling limits for infinite-server systems in a random environment. *Stochastic Systems*, Vol. 7, pp. 1-31.

(252) H.M. Jansen, M. Mandjes, K. de Turck, and S. Wittevrongel (2017). Rare-event analysis of modulated Ornstein-Uhlenbeck processes. *Performance Evaluation*, Vol. 112, pp. 1-14.

(253) M. Heemskerk, J. Kuhn, and M. Mandjes (2017). Rare-event analysis of mixed Poisson random variables, and applications in staffing. *Performance Evaluation,* Vol. 114, pp. 56-77.

(254) D. Koops, O. Boxma, and M. Mandjes (2017). Networks of $\cdot/\mathrm{G}/\infty$ queues with shot-noise-driven arrival intensities. *Queueing Systems,* Vol. 86, pp. 301-325.

(255) A. Kuiper, M. Mandjes, and J. de Mast (2017). Optimal stationary appointment schedules. *Operations Research Letters,* Vol. 45, pp. 549-555.

(256) M. Mandjes and P. Spreij (2017). A note on the central limit theorem for the idleness process in a one-sided reflected Ornstein-Uhlenbeck model. *Statistica Neerlandica,* Vol. 71, pp. 225-235.

(257) H. Leahu, M. Mandjes, and A. Oprescu (2017). A numerical approach to stability of multiclass queueing networks. *IEEE Transactions on Automatic Control,* Vol. 62, pp. 5478-5484.

(258) M. Mandjes, P. Taylor, and K. de Turck (2017). The Markov-modulated Erlang loss system. *Performance Evaluation,* Vol. 116, pp. 53-69.

(259) M. Mandjes, B. Patch, and N. Walton (2017). Detecting Markov chain instability: a Monte Carlo approach. *Stochastic Systems*, Vol. 7, pp. 289-314.

(260) P. Serra and M. Mandjes (2017). Dimension estimation in random connection models. *Journal of Machine Learning Research,* Vol. 18, paper no. 138.

(261) S. Juneja, M. Mandjes, and S.B. Moka (2017). Analysis of perfect sampling methods for hard-sphere model. *Performance Evaluation Review*, Vol. 45, pp. 69-75.

2018:

(262) J. Kuhn, M. Mandjes, and T. Taimre (2018). Exact asymptotics of sample-mean related rare-event probabilities. *Probability in the Engineering and Informational Sciences,* Vol. 32, pp. 207-228.

(263) F. den Hollander, M. Mandjes, A. Roccaverde, and N. Starreveld (2018). Ensemble equivalence for dense graphs. *Electronic Journal of Probability*, Vol. 23, paper no. 12.

(264) E. Cahen, M. Mandjes, and B. Zwart (2018). Estimating large delay probabilities in two correlated queues. *ACM Transactions on Modeling and Computer Simulation*, Vol. 28, paper no. 2.

(265) D. Fiems, M. Mandjes, and B. Patch (2018). A network of infinite-server queues with multiplicative transitions. *Performance Evaluation*, Vol. 123-124, pp. 35-49.

(266) K. Bisewski, D. Crommelin, and M. Mandjes (2018). Controlling the time discretization bias for the supremum of Brownian motion. *ACM Transactions on Modeling and Computer Simulation*, Vol. 28, paper no. 24.

(267) N. Starreveld, R. Bekker, and M. Mandjes (2018). Occupation times for the finite buffer queue with phase type jumps. *Operations Research Letters,* Vol. 46, pp. 27-32.

(268) J. Kuhn and M. Mandjes. Efficient simulation of tail probabilities in a queueing model with heterogeneous servers. *Stochastic Models,* Vol. 34, pp. 239-267.

(269) D. Koops, M. Saxena, O. Boxma, and M. Mandjes (2018). Infinite-server queues with Hawkes input. *Journal of Applied Probability,* Vol. 55, pp. 920-943.

(270) D. Garlaschelli, R. van der Hofstad, F. den Hollander, and M. Mandjes (2018). Special issue of *Journal of Statistical Physics* devoted to complex networks — editorial. *Journal of Statistical Physics*, Vol. 173, pp. 439-447.

(271) N. Starreveld, R. Bekker, and M. Mandjes (2018). Occupation times of alternating renewal processes with Lévy applications. *Journal of Applied Probability,* Vol. 55, pp. 1287-1308.

(272) N. Starreveld, R. Bekker, and M. Mandjes (2018). Queues on a dynamically evolving graph. *Journal of Statistical Physics.* Vol. 173, pp. 1124-1148.

(273) K. Bisewski, D. Crommelin, and M. Mandjes (2018). Simulation-based assessment of the stationary tail distribution of a stochastic differential equation. In: M. Rabe, A. Skoogh, N. Mustafee, A. Juan (eds.): *Proceedings of the 2018 Winter Simulation Conference*. Gothenburg, Sweden, pp. 1742-1753.

2019:

(274) Abhishek, M. Boon, M. Mandjes, and R. Núñez-Queija (2019). Congestion analysis of unsignalized intersections: The impact of impatience and Markov platooning. *European Journal of Operational Research,* Vol. 273, pp. 1026-1035.

(275) G. Delsing, M. Mandjes, P. Spreij, and E. Winands (2019). An optimization approach to adaptive multi-dimensional capital management. *Insurance: Mathematics and Economics,* Vol. 84, pp. 87-97

(276) H. Zhou, J.-P. Dorsman, M. Snelder, E. de Romph, and M. Mandjes (2019). GPU-based parallel computing for activity-based travel demand models. *Proceedings of the International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications.* Leuven, Belgium, pp. 726-732.

(277) O. Boxma, E. Cahen, D. Koops, and M. Mandjes (2019). Linear stochastic fluid networks: rare-event simulation and Markov modulation. *Methodology and Computing in Applied Probability,* Vol. 21, 125-153.

(278) J. Kuhn, M. Mandjes, and T. Taimre (2019). Practical aspects of false alarm control for change point detection: Beyond average run length. *Methodology and Computing in Applied Probability,* Vol. 21, pp. 25-42.

(279) M. Mandjes and P. Robert (2019). Introduction to special issue: the IFIP Performance 2018 Conference — editorial. *Queueing Systems,* Vol. 9, pp. 205-206.

(280) M. Frolkova and M. Mandjes (2019). A Bitcoin-inspired infinite-server model with a random fluid limit. *Stochastic Models*, Vol. 35, pp. 1-32.

(281) K. Bisewski, D. Crommelin, and M. Mandjes (2019). Rare event simulation for steady-state probabilities via recurrency cycles. *Chaos, an International Journal on Nonlinear Science*, Vol. 29, 033131.

(282) H. Leahu and M. Mandjes (2019). A unified Markovian model for multi-class queueing networks and related monotonicity aspects. *Stochastic Systems*, Vol. 9, pp. 141-154.

(283) M. de Gunst, B. Knapik, M. Mandjes, and B. Sollie (2019). Parameter estimation for discretely observed infinite-server queues with Markov-modulated input. *Computational Statistics and Data Analysis,* Vol. 140, pp. 88-103.

(284) Abhishek, M. Boon, and M. Mandjes (2019). Generalized gap acceptance models for unsignalized intersections. *Mathematical Methods of Operations Research,* Vol. 89, pp. 385-409.

(285) O. Boxma, O. Kella, and M. Mandjes (2019). Infinite-server systems with Coxian arrivals. *Queueing Systems,* Vol. 92, pp. 233-255.

(286) A. Malsagov and M. Mandjes (2019). Approximations for reflected fractional Brownian motion. *Physical Review E,* Vol. 100, paper no. 032120.

(287) M. Heemskerk and M. Mandjes (2019). Exact asymptotics in an infinite-server system with overdispersed input. *Operations Research Letters*, Vol. 47, pp. 513-520.

(288) L. Ravner, O. Boxma, and M. Mandjes (2019). Estimating the input of a Lévy-driven queue by Poisson sampling of the workload process. *Bernoulli*, Vol. 25, pp. 3734-3761. *Winner Rothblum prize of ORSIS (Operations Research Society of Israel).*

(289) H.M. Jansen, M. Mandjes, K. de Turck, and S. Wittevrongel (2019). Diffusion limits for networks of Markov-modulated infinite-server queues. *Performance Evaluation*, Vol. 135, paper no. 102039.

(290) M. Heemskerk and M. Mandjes (2019). Exact asymptotics for a multi-timescale model, with applications in modeling overdispersed customer streams. *Stochastic Systems*, Vol. 9, pp. 208-230.

(291) S. Pokhrel and M. Mandjes (2019). Improving multipath TCP performance over WiFi and cellular networks: an analytical approach. *IEEE Transactions on Mobile Computing,* Vol. 18, pp. 2562-2576.

(292) M. Mandjes, N. Starreveld, P. Spreij, and R. Bekker (2019). Dynamic Erdős-Rényi graphs. In: B. Steffen and G. Woeginger (eds): Computing and Software Science: State of the Art and Perspectives. Lecture Notes in Computer Science (LNCS) Series, 10 000, Springer, pp. 123-140.

(293) M. de Berg, C.J. Carstens, and M. Mandjes (2019). Throughput and packet displacements of dynamic broadcasting algorithms. In: F. Dressler and C. Scheideler (eds.): ALGOSENSORS: International Symposium on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics. Lecture Notes in Computer Science (LNCS) Series, 11931, pp. 158-174.

2020:

(294) W. Berkelmans, A. Cichocka, and M. Mandjes (2020). The correlation function of a queue with Lévy and Markov additive input. *Stochastic Processes and their Applications,* Vol. 130, pp. 1713-1734.

(295) P.J. Storm, S. Bhulai, W. Kager, and M. Mandjes (2020). Roundabout model with on-ramp queues: exact results and scaling approximations. *Physical Review E*, Vol. 101, paper no. 012311.

(296) P. Serra and M. Mandjes (2020). Estimation of local degree distributions via local weighted averaging and Monte Carlo cross-validation. *Computational Statistics and Data Analysis,* Vol. 144, paper no. 106886.

(297) M. van Beek, M. Mandjes, P. Spreij, and E. Winands (2020). Regime switching affine processes and applications to pricing. *Finance & Stochastics*, Vol 24, pp. 309-333.

(298) C. Constantinescu, G. Delsing, M. Mandjes, and L. Rojas-Nandayapa (2020). A ruin model with a resampled environment. *Scandinavian Actuarial Journal*, Vol. 2020, pp. 323-341.

(299) M. Mandjes and P.J. Storm (2020). Road traffic network design and control using a multi-class diffusion model. *Proceedings Transportation Science and Logistics Society Conference,* Arlington, US, paper no. TSL.2020.048.

(300) L. van Kreveld, O. Boxma, J. Dorsman, and M. Mandjes (2020). Scaling analysis of an extended machine-repair model. *Proceedings ValueTools*, Tsukuba, Japan, pp. 172-179.

(301) O. Boxma, A. Löpker, and M. Mandjes (2020). On two classes of reflected autoregressive processes. *Journal of Applied Probability.* Vol. 57, pp. 657–678.

(302) M. Saxena, O. Boxma, and M. Mandjes (2020). An infinite-server system with Lévy shot-noise modulation: moments and asymptotics. *Markov Processes and Related Fields,* Vol. 26, pp. 757-778.

(303) G. Delsing, M. Mandjes, P. Spreij, and E. Winands (2020). Asymptotics and approximations of ruin probabilities for multivariate risk processes in a Markovian environment. *Methodology and Computing in Applied Probability,* Vol. 22, pp. 927-948.

2021:

(304) A. Kuiper, J. de Mast, and M. Mandjes (2021). The problem of appointment scheduling in outpatient clinics: A multiple case study of clinical practice. *Omega,* Vol. 98, paper no. 102122.

(305) M. Mandjes and L. Ravner (2021). Hypothesis testing for a Lévy-driven storage system by Poisson sampling. *Stochastic Processes and their Applications,* Vol. 133, pp. 41-73.

(306) M. de Gunst, S. Hautphenne, M. Mandjes, and B. Sollie (2021). Parameter estimation for multivariate population processes: a saddlepoint approach. *Stochastic Models,* Vol. 37, pp. 168-196.

(307) O. Boxma, M. Heemskerk, and M. Mandjes (2021). Single-server queues under overdispersion in the heavy-traffic regime. *Stochastic Models,* Vol. 37, pp. 197-230.

(308) H. Zhou, J. Dorsman, M. Snelder, M. Mandjes, and E. de Romph (2021). Effective determination of MaaS trip modes in activity-based demand modelling. *Proceedings hEART 2020*, Lyon, France, paper no. 15.

(309) K. Bisewski, K, Dębicki, and M. Mandjes (2021). Bounds for expected supremum of fractional Brownian motion with drift. *Journal of Applied Probability,* Vol. 58, pp. 411-427.

(310) O. Boxma, A. Löpker, M. Mandjes, and Z. Palmowski (2021). A multiplicative version of the Lindley recursion. *Queueing Systems*, Vol. 98, pp. 225-245.

(311) M. Zubeldia and M. Mandjes (2021). Large deviations for acyclic networks of queues with correlated Gaussian inputs. *Queueing Systems,* Vol. 98, pp. 333-371.

(312) G. Delsing and M. Mandjes (2021). A transient Cramér-Lundberg model with applications to credit risk. *Journal of Applied Probability*, Vol. 58, pp. pp. 721-745.

(313) S.B. Moka, S. Juneja, and M. Mandjes (2021). Rejection and importance sampling based perfect simulation for Gibbs processes with a focus on hard-sphere models. *Advances in Applied Probability,* Vol. 53, pp. 839-885.

(314) M. Zubeldia and M. Mandjes (2021). Learning traffic correlations in multi-class queueing systems by sampling queue lengths, with routing applications. *Performance Evaluation,* Vol. 152, paper no. 102243.

(315) O. Boxma and M. Mandjes (2021). Shot-noise queueing models. *Queueing Systems,* Vol. 99, pp. 121-159.

(316) L. van Kreveld, O. Boxma, J. Dorsman, and M. Mandjes (2021). Scaling limits for closed product-form queueing networks. *Performance Evaluation*, Vol. 151, paper no. 102220.

(317) O. Boxma and M. Mandjes (2021). Affine storage and insurance risk models. *Mathematics of Operations Research*, Vol. 46, pp. 1282-1302.

(318) P. Dionigi, F. den Hollander, D. Garlaschelli, and M. Mandjes (2021). A spectral signature of breaking of ensemble equivalence for constrained random graphs. *Electronic Communications in Probability,* Vol. 26, paper no. 67.

(319) M. de Kemp, M. Mandjes, and N. Olver (2021). Performance of the smallest-variance-first rule in appointment sequencing. *Operations Research*, Vol. 69, pp. 1909-1935.

(320) M. Mandjes and P.J. Storm (2021). A diffusion-based analysis of a multiclass road traffic network. *Stochastic Systems*, Vol. 11, pp. 60-81.

2022:

(321) G. Delsing, M. Mandjes, P. Spreij, and E. Winands (2022). On capital allocation for a risk measure derived from ruin theory. *Insurance: Mathematics and Economics,* Vol. 104, pages 76-98.

(322) M. Mandjes (2022). Introductory editorial. *Queueing Systems,* Vol. 100, pages 5-6.

(323) N. Levering, M. Boon, M. Mandjes, and R. Núñez-Queija (2022). A framework for efficient dynamic routing under stochastically varying conditions. *Transportation Research Part B,* Vol. 160, pp. 97-124.

(324) M. de Gunst, M. Mandjes, and B. Sollie (2022). Statistical inference for a Quasi Birth-Death model of RNA transcription. *BMC Bioinformatics*, Vol. 23, paper no. 105.

(325) M. Mandjes (2022). Multivariate M/G/1 systems with coupled input and parallel service. *Queueing Systems*, Vol. 100, pp. 309-311.

(326) M. Mandjes and B. Sollie (2022). A numerical approach to evaluating the transient distribution of a quasi birth-death process. *Methodology and Computing in Applied Probability,* Vol. 24, pp. 1693-1715.

(327) M. Heemskerk, M. Mandjes, and B. Mathijsen (2022). Staffing for many-server systems facing non-standard arrival processes. *European Journal of Operational Research,* Vol. 296, pp. 900-913.

(328) P.J. Storm, M. Mandjes, and B. van Arem (2022). Efficient evaluation of stochastic traffic flow models using Gaussian process approximation. *Transportation Research Part B,* Vol 164, pp. 126-144.

(329) L. van Kreveld, M. Mandjes, and J. Dorsman (2022). Extreme value analysis for a Markov additive process driven by a nonirreducible background chain. *Stochastic Systems,* Vol. 12, pp. 293-317.

(330) Y. Peeters, A. den Boer, and M. Mandjes (2022). Continuous assortment optimization with logit choice probabilities under incomplete information. *Operations Research*, Vol. 70, pp. 1613-1628.

2023:

(331) O. Kella and M. Mandjes (2023). From reflected Lévy processes to stochastically monotone Markov processes via generalized inverses and supermodularity. *Journal of Applied Probability,* Vol. 60, pp. 68-84.

(332) A. Kuiper, M. Mandjes, J. de Mast, and R. Brokkelkamp (2023). A flexible and optimal approach for appointment scheduling in healthcare. *Decision Sciences Journal,* Vol. 54, pp. 85-100.

(333) H. Zhou, J. Dorsman, M. Snelder, and M. Mandjes (2023). Sustainable mobility strategies and their impact: a case study using a multimodal activity based model. *Case Studies on Transport Policy*, Vol. 11, paper no. 100945.

(334) O. Boxma and M. Mandjes (2023). A decomposition for Lévy processes inspected at Poisson moments. *Journal of Applied Probability*, Vol. 60, pp. 557-569.

(335) S. Pokhrel and M. Mandjes (2023). Internet of drones: Intelligent multi-connectivity over WiFi with federated multi-armed bandits. *Drones,* Vol. 7, paper no. 30.

(336) P. Dionigi, D. Garlaschelli, R. Hazra, F. den Hollander, and M. Mandjes (2023). Central limit theorem for the principal eigenvalue and eigenvector of Chung-Lu random graphs. *Journal of Physics: Complexity*, Vol. 4, paper no. 015008.

(337) P. Braunsteins and M. Mandjes (2023). The Cramér-Lundberg model with a fluctuating number of clients. *Insurance: Mathematics and Economics,* Vol. 112, pp. 1-22.

(338) H. Zhou, J. Dorsman, M. Snelder, and M. Mandjes (2023). On the use of common random numbers in activity-based travel demand modeling for scenario comparison. *Transportation Planning and Technology*, Vol. 46, pp. 359-379.

(339) L. Ravner, Y. Inoue, and M. Mandjes (2023). Estimating customer impatience in a service system with balking. *Stochastic Systems,* Vol. 13, pp. 181-210.

To appear:

(340) P. Braunsteins, F. den Hollander, and M. Mandjes ($\geqslant$ 2023). A sample-path large deviation principle for dynamic Erdős-Rényi random graph. *Annals of Applied Probability.*

(341) D. Chan, R. Duivenvoorden, A. Flache, and M. Mandjes ($\geqslant$ 2023). A relative approach to opinion formation. *Journal of Mathematical Sociology.*

(342) H.M. Jansen, M. Mandjes, and T. Taimre ($\geqslant$ 2023). Rare-event simulation techniques for structured fisheries models. *Environmental Modeling & Assessment.*

(343) K. Henshaw, M. Mandjes, and C. Constantinescu ($\geqslant$ 2023). A stochastic model of group wealth responses to insurance mechanisms in low-income communities. *Scandinavian Actuarial Journal.*

(344) D. Chan and M. Mandjes ($\geqslant$ 2023). A versatile stochastic dissemination model. *Methodology and Computing in Applied Probability.*

(345) A.V. Mahes, M. Mandjes, M. Boon, and P. Taylor ($\geqslant$ 2023). Adaptive scheduling in service systems: a dynamic programming approach. *European Journal of Operational Research.*

(346) L. van Kreveld, M. Mandjes, and J. Dorsman ($\geqslant$ 2023). Cramér-Lundberg asymptotics for spectrally positive Markov additive processes. *Scandinavian Actuarial Journal.*

(347) O. Boxma, O. Kella, and M. Mandjes ($\geqslant$ 2023). On fluctuation-theoretic decompositions via Lindley-type recursions. *Stochastic Processes and their Applications.*

(348) N. Levering, M. Boon, and M. Mandjes ($\geqslant$ 2023). Estimating probability distributions of travel times by fitting a Markovian velocity model. *IEEE Transactions on Intelligent Transportation Systems.*

(349) R. Jacobovic and M. Mandjes ($\geqslant$ 2023). Externalities in queues as stochastic processes: the case of FCFS M/G/1. *Stochastic Systems.*

Submitted papers

(1) H. Leahu and M. Mandjes. Stability and subcriticality for multiclass queueing networks.

(2) D. Nieman, L. Ravner, and M. Mandjes. Input estimation from discrete workload observations in a Lévy-driven storage system.

(3) F. den Hollander, M. Mandjes, A. Roccaverde, and N. Starreveld. Breaking of ensemble equivalence for perturbed Erdős-Rényi random graphs.

(4) E. Cahen, M. Mandjes, and B. Zwart. Efficient and unbiased simulation for the stationary limit of a multidimensional stochastic recursion.

(5) P.J. Storm, W. Kager, M. Mandjes, and S. Borst. Stability of a stochastic ring network.

(6) R. Kamphuis, M. Mandjes, and P. Serra. Road traffic estimation and distribution-based route selection.

(7) R. Karim, R. Laeven, and M. Mandjes. Exact and asymptotic analysis of general multivariate Hawkes processes and induced population processes.

(8) H. Zhou, J. Dorsman, M. Mandjes, and M. Snelder. A tour-based multimodal mode choice model for impact assessment of new mobility concepts and mobility as a service.

Contributions to books

(1) J. Roberts, U. Mocci, and J. Virtamo, eds. (1996). *Broadband network teletraffic.* Final report of action COST 242. Springer Verlag.

(2) D. Songhurst, ed. (1999). *Charging communication networks. From theory to practice.* Cambridge University Press.

(3) G. Rubino and B. Tuffin, eds. (2009). *Rare event simulation using Monte Carlo methods*. Wiley.

(4) R. Boucherie and N. van Dijk, eds. (2010). *Queueing Networks: a fundamental approach*. Springer Verlag.

Other publications

(1) A. Ridder and M. Mandjes (1995). Fast simulation of Markov modulated fluid models. *B-ISDN Teletraffic Modelling Symposium, Antwerp, Belgium.*

(2) M. Mandjes and H. van den Berg (1995). A new approach to buffer and bandwidth allocation in single- and multi-link ATM systems. *COST 242*, TD(95) 51.

(3) M. Mandjes and K. Tutschku (1996). Efficient call handling procedures in cellular mobile networks. *Forschungsreihe Nr. 144, Universität Würzburg, Institut für Informatik.*

(4) M. de Graaf, M. Mandjes, and H. van den Berg (1997). On the efficiency of EMW's Connection Admission Control algorithm. *COST 257*, TD(97) 34.

(5) M. Mandjes and H. van den Berg (1997). CAC for integrated real-time and non-real-time traffic. *COST 257*, TD(97) 55.

(6) M. Mandjes (1997). Asymptotically optimal importance sampling for tandem queues with Markov fluid input. *Proceedings 1st International Workshop on Rare Event Simulation,* Aachen, Germany.

(7) M. Mandjes and A. Weiss (1999). Sample path large deviations of a multiple time-scale queueing model. *Bell Labs, Lucent Technologies*, internal report.

(8) F. Brichet, M. Mandjes, and M. Sánchez-Cañabate (1999). COST 257 Mid-term seminar interim report on admission control.

Popular (some in Dutch)

(1) M. Mandjes and I. Smeets (2005). Apen, typemachines en abracadabra. *Kennislink.*

(2) J. van Praag and M. Mandjes (2007). Kansen en overlapgetallen. *Pythagoras.*

(3) M. Mandjes (2007). Nieuwe Kansen. *Nieuw Archief voor Wiskunde.*

(4) O. Boxma, S. Kapodistria, and M. Mandjes (2015). Performance analysis of stochastic networks. *Nieuw Archief voor Wiskunde.*

(5) J. van Leeuwaarden and M. Mandjes (2015). NETWORKS. *Nieuw Archief voor Wiskunde.*

(6) M. Mandjes and B. van Wayenburg (2017). Script for clip 'The Time Wasting Shortcut'. `https://brunovanwayenburg.nl/brunovanwayenburg.nl/de-tijdverspillende-snelweg/`

Patents

(1) J. van Lierop, M. Mandjes, and K. van der Wal (1999). System for charging the use of a packet-based telecommunication network. Date of filing: June 7, 1999. Patent Nr: 99927918.5-2216. Granted for the Netherlands under Nr: 1009987. Granted for Europe [AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE] under Nr: EP1086549.

(2) K. Kumaran and M. Mandjes (2006). Method and apparatus for processing of regulated connections in a communication network. Date of filing: October 31, 2001. Granted for the US under Nr: 7,136,352.

Update: June 19, 2023.