Curriculum Vitae

Personal information

Name:	Jan-Pieter Dorsman, Ph. D.
Postal Address:	University of Amsterdam / KdVI
	P.O. Box 94248
	1090 GE Amsterdam
	The Netherlands
E-mail:	j.l.dorsman 'at' uva.nl
Date of birth:	March 31, 1987
Place of birth:	Amstelveen, the Netherlands
Nationality:	Dutch

Education

Sep 2010 - Feb 2015	Doctoral candidate in Mathematics. Eindhoven University of Technology and Centrum Wiskunde & Informatica.
Sep 2008 - Aug 2010	MSc. (**cum laude**) in Business Mathematics and Informatics (BMI). VU University Amsterdam.
Sep 2005 - Aug 2008	BSc. in Business Mathematics and Informatics (BMI). VU University Amsterdam.

Employment

Feb 2018 -	Assistant professor Korteweg-de Vries Institute for Mathematics, University of Amsterdam
Jan 2016 - Jan 2018	Postdoctoral researcher Korteweg-de Vries Institute for Mathematics, University of Amsterdam Postdoc project under supervision of Prof.dr. M.R.H. Mandjes.
Apr 2015 - Jun 2017	Postdoctoral researcher Mathematical Institute, Leiden University Postdoc project under supervision of dr. F.M. Spieksma.
Sep 2010 - Feb 2015	PhD Student Department of Mathematics and Computer Science, Eindhoven University of Technology and Research group Stochastics, Centrum Wiskunde & Informatica PhD project 'Multilayered queueing systems' under supervision of prof. dr. ir. O.J. Boxma, prof. dr. R.D. van der Mei and dr. M. Vlasiou. Date of promotion: February 17, 2015. Received half a year extension to perform additional teaching tasks.
Jan 2010 - Jun 2010	Research internship Research group Stochastics, Centrum Wiskunde & Informatica

	Research internship project 'Evaluation and optimization of polling systems' under supervision of prof. dr. R.D. van der Mei and dr. ir. E.M.M. Winands. Resulted in two publications in international journals.
Jul 2008 - Aug 2008, Jul 2009 - Aug 2009	Teaching assistant Faculty of Psychology and Education, VU University Amsterdam Summer courses in mathematics for upcoming 'Psychology' students and 'Education' students.
Sep 2007 - Dec 2009	Teaching assistant Faculty of Sciences, VU University Amsterdam Teaching assistant for several courses in the study program 'Business Mathematics & Informatics'.

Long-term research visits

Jan-Feb 2018, Sep-Oct 2018, Jan-Feb 2019, Jan 2020	IRIT-ENSEEIHT, Toulouse, France. Hosts: Urtzi Ayesta and Maaike Verloop
Jul-Aug 2016, Jun-Aug 2017	Carnegie Mellon University, Pittsburgh (PA), USA. Hosts: Mor Harchol-Balter and Alan Scheller-Wolf
Sep-Oct 2014, Jan 2015	Ghent University, Department of Telecommunications and Information Processing, Ghent, Belgium. Hosts: Dieter Claeys, Dieter Fiems and Joris Walraevens

Peer-reviewed publications

1. DORSMAN, J. L., MEI, R. D. VAN DER & WINANDS, E. M. M. (2011). A new method for deriving waiting-time approximations in polling systems with renewal arrivals. *Stochastic Models*, 27(2), 318-332.

2. DORSMAN, J. L., MEI, R. D. VAN DER & WINANDS, E. M. M. (2012). Polling systems with batch service. *OR Spectrum*, 34(3), 743-761.

3. DORSMAN, J. L., BOXMA, O. J. AND VLASIOU, M. (2013). Marginal queue length approximations for a two-layered network with correlated queues. *Queueing Systems: Theory and Applications*, 75(1), 29-63.

4. DORSMAN, J. L., MEI, R. D. VAN DER & VLASIOU, M. (2013). Analysis of a two-layered network by means of the power-series algorithm. *Performance Evaluation*, 70(12), 1072-1089.

5. PEREL, N., DORSMAN, J. L. & VLASIOU, M. (2013). Cyclic-type polling models with preparation times. Proceedings of the *2nd International Conference on Operations Research and Enterprise Systems (ICORES 2013)*, 14-23. **Received the Best Paper Award**.

6. BEKKER, R., DORSMAN, J. L., MEI, R. D. VAN DER, VIS, P. & WINANDS, E. M. M. (2013). Scheduling in polling systems in heavy traffic. *ACM SIGMETRICS Performance Evaluation Review*, 41, 41-43.

7. DORSMAN, J. L., VLASIOU, M. & ZWART, B. (2013). Parallel queueing networks with Markov-modulated service speeds in heavy traffic. *ACM SIGMETRICS Performance Evaluation Review*, 41, 47-49.

8. DORSMAN, J. L., BOXMA, O. J. & MEI, R. D. VAN DER. (2014). On two-queue Markovian polling systems with exhaustive service. *Queueing Systems: Theory and Applications*, 78(4), 287-311.

9. ROGIEST, W., DORSMAN, J. L. & FIEMS, D. (2014). Analysis of fibre-loop optical buffers with a void-avoiding schedule. Proceedings of the *8th International Conference on Performance Evaluation Methodologies and Tools (Valuetools 2014)*. pp. 122–128.

10. BEKKER, R., VIS, P., DORSMAN, J. L., MEI, R. D. VAN DER & WINANDS, E. M. M. (2015). The impact of scheduling policies on the waiting-time distributions in polling systems. *Queueing Systems: Theory and Applications*, 79(2), 145-172.

11. DORSMAN, J. L., BHULAI, S. & VLASIOU, M. (2015). Dynamic server assignment in an extended machine-repair model. *IIE Transactions*, 47(4), 392-413.

12. DORSMAN, J. L., BORST, S. C., BOXMA, O. J. & VLASIOU, M. (2015). Markovian polling systems with an application to wireless random-access networks. *Performance Evaluation*, 85-86, 33-51.

13. DORSMAN, J. L., VLASIOU, M. & ZWART, B. (2015). Heavy-traffic asymptotics for networks of parallel queues with Markov-modulated service speeds. *Queueing Systems: Theory and Applications*, 79(3-4), 293-319.

14. DORSMAN, J. L., PEREL, N. & VLASIOU, M. (2016). Server waiting times in infinite supply polling systems with preparation times. *Probability in the Engineering and Informational Sciences*, 30(2), 153–184.

15. FIEMS, D., DORSMAN, J. L. & ROGIEST, W. (2016). Analysing queueing behaviour in void-avoiding fibre-loop optical buffers. *Performance Evaluation*, 103, 23-40.

16. CLAEYS, D., DORSMAN, J. L., SAXENA, A., WALRAEVENS, J. AND BRUNEEL, H. (2017). A queueing-theoretic analysis of the threshold-based exhaustive data-backup scheduling policy. AIP Conference Proceedings 1863, 200002. (Proceedings of the *14th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2016)*). Extended abstract.

17. BERG, B. S., DORSMAN, J. L. AND HARCHOL-BALTER, M. (2017). Towards optimality in parallel job scheduling. *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, 1(2), 40.

18. BERG, B. S., DORSMAN, J. L. AND HARCHOL-BALTER, M. (2018). Towards optimality in parallel job scheduling. *ACM SIGMETRICS Performance Evaluation Review*, 46(1), 116–118.

19. ABIDINI, M. A., DORSMAN J. L. AND RESING, J. A. C. (2018). Heavy traffic analysis of a polling model with retrials and glue periods. *Stochastic Models*, 34(4), 464–503.

20. ZHOU, H., DORSMAN, J. L., SNELDER, M., ROMPH, E. DE AND MANDJES, M. R. H. (2019). GPU-based parallel computing for activity based travel-demand models. *Procedia Computer Science*, 151, 726–732.

21. SCULLY, Z., KREVELD, L. R. VAN, BOXMA, O. J., DORSMAN, J. L. AND WIERMAN, A. (2020). Characterizing policies with optimal response time tails under heavy-tailed job sizes. *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, 4(2), 30.

22. KREVELD, L. R. VAN, BOXMA, O.J., DORSMAN, J. L. AND MANDJES, M. R. H. (2020) Scaling analysis of an extended machine-repair model. Proceedings of the *13th EAI International Conference on Performance Evaluation Methodologies and Tools (Valuetools 2020)*. pp. 172–179.

23. SCULLY, Z., KREVELD, L. R. VAN, BOXMA, O.J., DORSMAN, J. L. AND WIERMAN, A. (2020). Characterizing policies with optimal response time tails under heavy-tailed

job sizes. *ACM SIGMETRICS Performance Evaluation Review*, 48(1), 35–36.

24. ZHOU, H., DORSMAN, J. L., SNELDER, M., MANDJES, M. R. H. AND ROMPH, E. DE (2020). Effective determination of MaaS trip modes in activity-based demand modelling. Accepted for publication in the proceedings of the *9th Symposium of the European Association for Research in Transportation (hEART 2020)*.

25. COMTE, C. AND DORSMAN, J.L. (2021). Pass-and-swap queues. *Queueing Systems*: Theory and Applications, 98, 275-331.

26. KREVELD, L. R. VAN, BOXMA, O. J., DORSMAN J. L. AND MANDJES, M. R. H. (2021). Scaling limits for closed product-form queueing networks. *Performance Evaluation*, 151, 102220.

27. COMTE, C. AND DORSMAN, J.L. (2021). Performance Evaluation of Stochastic Bipartite Matching Models.*Springer Lecture Notes of Computer Science*, 13104, 425-440.

28. KREVELD, L.R. VAN, MANDJES, M.R.H. AND DORSMAN, J.L. (2022). Extreme value analysis for a Markov additive process driven by a non-irreducible background chain. *Stochastic Systems*, 12, 227-317.

29. AYESTA, U., BODAS, T., DORSMAN, J.L. AND VERLOOP, M. (2022). A token-based central queue with order-independent service rates. *Operations Research*, 70, 545-561.

30. ZHOU, H., DORSMAN, J.L., MANDJES, M.R.H. AND SNELDER, M. (2023). On the use of common random numbers in activity-based travel demand modeling for scenario comparison. To appear in *Transportation Planning and Technology*.

31. ZHOU, H., DORSMAN, J.L., MANDJES, M.R.H. AND SNELDER, M. (2023). Sustainable mobility strategies and their impact: a case study using a multimodal activity based model. Case Studies on Transport Policy, 11, 100945.

OTHER PUBLICATIONS

32. DORSMAN, J. L. (2015). Layered Queueing Networks: Performance Modelling, Analysis and Optimisation. PhD Thesis. Eindhoven University of Technology.

33. DORSMAN, J. L. (2016). Layered networks I: From manufacturing plants to queueing networks. The Network Pages. Accessible at https://www.networkpages.nl/from-manufacturing-plants-to-queueing-networks/.

34. DORSMAN, J. L. (2016). Layered networks II: The layered character of manufacturing plants. The Network Pages. Accessible at https://www.networkpages.nl/the-layered-character-of-manufacturing-plants/.

35. DORSMAN, J. L. (2016). Layered networks III: The math behind manufacturing plants design. The Network Pages. Accessible at https://www.networkpages.nl/layered-networks-iii-the-math-behind-manufacturing-plants-design/.

36. DORSMAN, J. L. (2017). Wachtrijnetwerken en gelaagdheid. STAtOR 18-1, 17–19. (Popular-scientific article in Dutch).

37. DORSMAN, J. L. (2020). How parallel computing can be inefficient. The Network Pages. Accessible at https://www.networkpages.nl/how-parallel-computing-can-be-inefficient/.

PRESENTATIONS

Conference and workshop presentations

Jul 2021	Product-form queues and the pass-and-swap mechanism. *31st European Conference on Operational Research (EURO)*, Athens, Greece. Invited presentation.
Jul 2019	A token-based central queue with order-independent service rates. *20th INFORMS Applied Probability Society Conference*, Brisbane, Australia. Invited presentation.
Jul 2019	Towards optimality in parallel job scheduling. *20th INFORMS Applied Probability Society Conference*, Brisbane, Australia. Invited presentation.
Jun 2018	Towards optimality in parallel job scheduling. *9th International Workshop on Applied Probability*, Budapest, Hungary.
Jul 2017	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *19th INFORMS Applied Probability Conference*, Chicago, IL, USA.
Jun 2017	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *1st NETWORKS conference*, Amsterdam, Netherlands. Invited presentation.
Jul 2015	Markovian polling systems with an application to wireless random-access networks. *18th INFORMS Applied Probability Conference*, Istanbul, Turkey. Invited presentation.
Aug 2014	Analysis and optimisation of polling systems with Markovian server routing. *1st European Conference on Queueing Theory*, Ghent, Belgium.
Oct 2013	Parallel queueing networks with Markov-modulated service speeds in heavy traffic. *IFIP WG 7.3 Performance conference*, Vienna, Austria.
Jan 2013	Evaluation and optimisation of an extended machine-repair model. *38th conference on 'The mathematics of operations research'*, Lunteren, The Netherlands.
Nov 2012	Dynamic repairman assignment in a layered queueing network with correlated queues. *6th Young European Queueing Theorists workshop*, Eindhoven, The Netherlands. Invited presentation.
Jun 2012	Queue length approximations for a layered queueing network with correlated queues. *7th International Workshop on Applied Probability*, Jerusalem, Israel.
Jan 2012	Queue length approximations for a layered queueing network with correlated queues. *37th conference on 'The mathematics of operations research'*, Lunteren, The Netherlands.
Jul 2011	An M/G/1 queue with one-dependent server vacations. *16th INFORMS Applied Probability Conference*, Stockholm, Sweden.
Apr 2011	Approximations for the waiting-time distribution in polling systems with renewal arrivals. *National Mathematical Congress*, Enschede, The Netherlands.

Oct 2010	Optimisation of polling systems with batch service. *4th Young European Queueing Theorists workshop*, Eindhoven, The Netherlands. Invited presentation.
Jun 2010	Approximations for the waiting time distribution in polling systems with renewal arrivals. *3rd Madrid Conference on Queueing Theory*, Toledo, Spain.

Invited seminar and other presentations

July 2021	Product-form queues and the pass-and-swap mechanism, *A&O Seminar*, VU University Amsterdam, Amsterdam.
May 2021	Product-form queues and the pass-and-swap mechanism, *NETWORKS seminar*, online.
Jun 2020	What is... a product form queue?, *'What is' seminar of the KdVI probability group*, online.
May 2019	A token-based central queue with order-independent service rates, *8th Networks training week*, Doorn.
Feb 2019	Towards optimality in parallel job scheduling, *Group seminar*, IRIT-ENSEEIHT, Toulouse, France. Hosts: Urtzi Ayesta and Maaike Verloop.
Dec 2018	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *MIPS seminar*, Leiden University, Leiden. Host: Conrado da Costa.
Oct 2018	Towards optimality in parallel job scheduling, *7th Networks training week*, Asperen.
Jan 2018	Interpolation approximations of layered queueing networks, *Group seminar*, IRIT-ENSEEIHT, Toulouse, France. Hosts: Urtzi Ayesta and Maaike Verloop
Jun 2016	Analysis of a fibre-loop optical buffer with a void-avoiding schedule. *OR Seminar*, Tinbergen Institute, VU University Amsterdam, Amsterdam.
Apr 2016	Networks of parallel queues with Markov-modulated service speeds. *Networks Day*, Utrecht.
Apr 2016	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *General colloquium Korteweg-de Vries Instituut*, University of Amsterdam, Amsterdam.
Oct 2015	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *Theory Lunch Seminar*, Carnegie Mellon University, Pittsburgh (PA), USA. Host: Mor Harchol-Balter.
Oct 2015	Performance analysis of layered queueing networks. *SQUALL meeting*, Carnegie Mellon University, Pittsburgh (PA), USA. Hosts: Mor Harchol-Balter and Alan Scheller-Wolf.
Jun 2015	Performance analysis of layered queueing networks. *MIPS seminar*, Leiden University, Leiden.

JUN 2015	Analysis of a fibre-loop optical buffer with a void-avoiding schedule. *OBP Seminar*, VU University Amsterdam, Amsterdam.
JUN 2015	Analysis of fibre-loop optical buffers with a void-avoiding schedule. *Stochastics Colloquium*, Eindhoven University of Technology, Eindhoven.
APR 2015	Analysis and optimisation of polling systems with Markovian server routing. *SOR department seminar*, University of Twente, Enschede.
APR 2015	Performance analysis of layered queueing networks. *Queueing Colloquium*, Centrum Wiskunde & Informatica, Amsterdam.
SEP 2014	Evaluation and optimisation of an extended machine-repair problem. *Department seminar*, Ghent University, Ghent, Belgium. Hosts: Dieter Claeys and Joris Walraevens.
MAR 2014	Evaluation and optimisation of an extended machine-repair problem. *Group seminar*, Centrum Wiskunde & Informatica, Amsterdam.
APR 2012	Power series approximations for a layered queueing network with correlated queues. *OBP Seminar*, VU University Amsterdam, Amsterdam.
DEC 2011	Layered queueing networks: marginal queue length approximations and light traffic behaviour. *STAR-workshop*, Centrum Wiskunde & Informatica, Amsterdam.
DEC 2010	Polling systems and layered queueing networks. *STAR anniversary*, Eurandom, Eindhoven.
MAY 2010	Approximations for the waiting time distribution in polling systems with renewal arrivals. *OBP Seminar*, VU University Amsterdam, Amsterdam.

AWARDS AND PRICES

- Winner 'Gouden Krijtje' at the Korteweg-De Vries Institute for Mathematics (UvA) 2022. (Award for best teacher in the institute in the academic year 2021/2022)
- Runner-up Willem R. van Zwet Award 2015 (Award for best PhD dissertation in statistics and operations research in the Netherlands).
- Best paper award. International Conference on Operations Research and Enterprise Systems – ICORES 2013.

TEACHING EXPERIENCE

Courses taught

- *Probability Theory.* University of Amsterdam, 2019/20-2022/23. Lecturer.
- *Queueing Theory.* Mastermath; Utrecht University, 2018/19, 2020/21, 2022/23. Lecturer.
- *Markov Chains.* University of Amsterdam, 2018/19-2020/21. Lecturer.
- *Stochastic Simulation.* University of Amsterdam, 2017/18-2020/21. Lecturer.
- *Linear Algebra.* Amsterdam University College, 2015/16-2017/18, 2019/20. Lecturer.

- *Stochastic Operations Research (Besliskunde A).* Leiden University, 2015/16-2016/17. Lecturer.
- *Stochastic Operations Research (2DI60).* Eindhoven University of Techology, 2013/14. Lecturer.
- *Stochastic Processes (2WB20).* Eindhoven University of Technology, 2013/14. Instructor.
- *Mathematics 2 (2DD50).* Eindhoven University of Technology, 2013/14. Instructor.
- *Calculus A (2WAB0).* Eindhoven University of Technology, 2013/14. Instructor.
- *Calculus B (2WBB0).* Eindhoven University of Technology, 2013/14. Instructor.
- *Verification & Performance Analysis for Communicating Systems (5CC80).* Eindhoven University of Technology, 2011/12-2013/14. Instructor.
- *Linear Algebra (2DD12).* Eindhoven University of Technology, 2011/12-2012/13. Instructor.
- *Calculus B for Chemical Engineering (2DS07).* Eindhoven University of Technology, 2011/12-2012/13. Instructor.
- *Stochastic Operations Research (2DD27).* Eindhoven University of Technology, 2010/11-2012/13. Instructor.
- *Statistical Data Analysis.* VU University Amsterdam, 2008/09-2009/10. Teaching assistant.
- *Summer course Mathematics for Psychology.* VU University Amsterdam, 2008/09-2009/10. Teaching assistant.
- *Statistics for Business Mathematics & Informatics.* VU University Amsterdam, 2007/08-2008/09. Teaching assistant.
- *Introduction to Operations Research.* VU University Amsterdam, 2007/08. Teaching assistant.
- *Basic Mathematics.* VU University Amsterdam, 2007/08. Teaching assistant.

Other

- Recipient of a University Teaching Qualification (BKO) diploma, Leiden University, 2017.
- Co-advisor of PhD projects of
  - Lucas van Kreveld. 2018 - . Co-advising with O. J. Boxma (TU/e) and M. R. H. Mandjes (UvA)
  - Han Zhou. 2018 - 2023. Thesis title: *Impact assessment of new mobility services using accelerated activity-based demand modeling.* Co-advising with M. R. H. Mandjes (UvA), and M. Snelder (TUD/TNO).

ACADEMIC SERVICE

- Referee for the journals *4OR*, *ACM Transactions on Modeling and Performance Evaluation of Computing Systems*, *Applied Mathematical Modelling*, *Annals of Operations Research*, *Discrete Event Dynamic Systems*, *European Journal of Operations Research*, *IEEE Transactions on Parallel and Distributed Systems*, *IEEE Transactions on Networking*, *IISE Transactions*, *Internet Mathematics*, *Journal of Applied Probability*, *Mathematical Methods of Operations Research*, *Open Mathematics*, *Operational Research*, *Performance Evaluation*, *Probability in the Engineering and Informational Sciences*, *Quality*

Technology & Quantitative Management, Queueing Systems, RAIRO - Operations Research and *TOP*.

– TPC member of the *32nd annual European Simulation and Modelling Conference*, Ghent, Belgium, 2018.

– Organiser of the *10th Young European Queueing Theorists workshop*, Eindhoven, Nov 2016.

– Organiser of the *General Mathematics Colloquium*, University of Amsterdam, 2018-2021.

– General Board member of the *Dutch Network on the Mathematics of Operations Research*, 2020-.

Language skills

Dutch:	Mother tongue
English:	Fluent, level C1 in terms of the Common European Framework of Reference for Language (certificate from Academic Language Centre of Leiden University)
French:	Elementary level
German:	Elementary level