

Judith Lok, PhD

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Place of Birth: Utrecht, The Netherlands
Citizenship: Dutch

Education

- 1995–2001 PhD in Mathematics. Specialization area: Statistics.
Free University of Amsterdam.
Thesis title: “Statistical modelling of causal effects in time”. My dissertation studies the mathematical foundation behind Structural Nested Distribution Models in continuous time, and proves that, if there is no censoring, the resulting estimators are consistent and asymptotically normal. It also includes a general introduction to these models. Advisors: Prof. R.D. Gill (Utrecht University) and Prof. A.W. van der Vaart (Free University of Amsterdam).
- 1992–1993 Certificate in Probability and Statistics, an international Master’s program.
Universities of Groningen, Nijmegen, and Utrecht.
For advanced masters students and masters graduates.
- 1989–1994 Doctoral examination (equivalent to MSc) in Mathematics with minors in
Physics and Econometrics (cum laude). Specialization area: Statistics.
Utrecht University.
Masters thesis title: “The NPMLE of the orientation distribution and a comparison of estimators of the length distribution in the line segment problem.”
Distribution functions are estimated on the basis of doubly-censored data.
This method can be applied, for example, to waiting times in hospitals.
- 1988–1989 Qualifying examination in Mathematics with minor in Physics (cum laude).
Utrecht University.

Awards

- 2005 “Talent”-fellowship of the Netherlands Organization for Scientific Research (Dutch National Science Foundation) for a stay of fifteen months starting August 2005 at the Department of Biostatistics at the Harvard School of Public Health, Boston.
- 2001,03,05 Invited and received travel grants from Oslo University to present in the workshops “Event History Analysis”, “Causality” and “Statistical analysis of complex event history data” in Oslo, Norway.
- 1995–2001 Graduate studies fellowship. Free University of Amsterdam, The Netherlands.
- 2001 Invited and received travel grant to present at the multidisciplinary workshop “Causal Inference” in Gent, Belgium.
- 2001 Invited and received travel grant to present at the multidisciplinary workshop “Causal Inference” in Snowbird, Utah.
- 1997 Travel grant of the Netherlands Organization for Scientific Research to visit the University of California at Berkeley.
- 1997 Invited and received travel grant from the Santa Fe Institute to attend the multidisciplinary workshop “Inferential problems in the analysis of treatment effects” in Santa Fe, New Mexico.

Professional Experience

- 2006– Assistant Professor in Biostatistics at the Harvard School of Public Health, Boston.
- 2005–2006 Visiting Scholar at the Department of Epidemiology and Biostatistics at the Harvard School of Public Health, Boston, on a “Talent”-scholarship from the Netherlands Organization for Scientific Research (Dutch National Science Foundation).
- 2004–2005 Visiting Scholar at the Department of Mathematics, Utrecht University, The Netherlands (part-time).
- 2001–2003 Postdoctoral fellow in Medical Statistics. Leiden University Medical Center, The Netherlands.
 Primary responsibility: statistical consultant for physicians in medical studies. E.g., a project to rank all Dutch midwives (430) as to how often they refer pregnant women to a gynecologist, taking into account the characteristics of their population; a project to compare two palliative radiotherapy treatments in patients with disseminated cancer; a project to compare physiotherapy once-daily versus twice-daily after CABG-surgery, etc.
 Secondary responsibility: teaching; course instructor for second-year Biomedical Science college students and various computer lab sessions.
- 1995–2001 Teaching Assistant. Free University of Amsterdam. Held review sessions and office hours for Introduction to Statistics, Mathematical Statistics, Probability Theory and Mathematics for Chemistry for undergraduate students.
- 1998–1999 Mentor for first year mathematics college students. Free University of Amsterdam.
- 1997–1998 Member of the Employee’s Committee of the Department of Mathematics and Computer Science. Free University of Amsterdam.
- 1994–1995 Full-time Researcher. Academic Medical Center (AMC) in Amsterdam.
 Primary responsibilities: (i) writing the analysis plan and the statistical report of a multi-center clinical trial for FDA-registration of a new medicine for thrombosis; (ii) writing the computer programs necessary for that, and leading the validation of those programs.
 Secondary responsibilities: teaching, writing Standard Operating Procedures (ISO 9000) and statistical consultation for physicians.
- 1993 Teaching Assistant. Utrecht University. Held office hours and review sessions for Linear Algebra for first year college students.
- 1993 Research Assistant. Academic Computer Center Utrecht. Implementation of a standard set of basic routines for Fourier transforms.
- 1991–1992 Teaching Assistant. Utrecht University. Held office hours and review sessions for Differential Equations and Analysis for second year college students.
- 1990–1993 Student-member of the Mathematics Program Committee (consultative body for the university’s mathematics education program). Utrecht University.
- 1989–1990 Student-member of the Faculty’s Committee of Mathematics and Computer Science (general consultative body). Utrecht University.

Journal Publications

- 2007 **Lok, J.J.** Statistical modeling of causal effects in continuous time. Accepted for publication in the *Annals of Statistics*.
- 2007 **Lok, J.J.** Structural nested models and standard software: a mathematical foundation through partial likelihood. *Scandinavian Journal of Statistics* 34 (1), 186–206.
- 2004 **Lok, J.J.**, A.W. van der Vaart, R.D. Gill, A.W. van der Vaart, J.M. Robins, Estimating the causal effect of a time-varying treatment on time-to-event using structural nested failure time models. *Statistica Neerlandica* 58 (3), 271–295.
- 2004 Van der Linden, Y.M., P.D.S. Dijkstra, H.M. Kroon, **J.J. Lok**, E.M. Noordijk, J.W.H. Leer, C.A.M. Marijnen, Comparative analysis of risk factors for pathological fracture with femoral metastases - Results based on a randomised trial of radiotherapy. *Journal of Bone and Joint Surgery (Br)* 86B (4), 566–573.
- 2004 Van der Linden, Y.M., **J.J. Lok**, E. Steenland, H. Martijn, H. van Houwelingen, C.A.M. Marijnen, J.W.H. Leer, Dutch Bone Metastasis Study Group, Single fraction radiotherapy is efficacious: A further analysis of the dutch bone metastasis study controlling for the influence of retreatment. *International Journal of Radiation Oncology Biology Physics* 59 (2), 528–537.
- 2004 Van der Peijl, I.D., T.P.M. Vlieland, M.I.M. Versteegh, **J.J. Lok**, M. Munneke, R.A.E. Dion, Exercise therapy after coronary artery bypass graft surgery: A randomized comparison of a high and low frequency exercise therapy program. *Annals of Thoracic Surgery* 77 (5), 1535–1541.
- 2003 Van der Linden, Y.M., H.M. Kroon, S.P.D.S. Dijkstra, **J.J. Lok**, E.M. Noordijk, J.W.H. Leer, C.A.M. Marijnen, Dutch Bone Metastasis Study Group, Simple radiographic parameter predicts fracturing in metastatic femoral bone lesions: results from a randomised trial. *Radiotherapy and Oncology* 69 (1), 21–31.
- 1998 Hettiarachi, R.J.K., **J.J. Lok**, M.H. Prins, H.R. Büller and P. Prandoni, Undiagnosed malignancy in patients with deep vein thrombosis – Incidence, risk indicators, and diagnosis. *Cancer* 83 (1), 180–185.
- 1996 Mol, B.W.J., **J.J. Lok**, W. Voorn, E. Pajkrt, J. van Lith and J. van der Meulen, The diagnostic value of the triple test in the diagnosis of Down's syndrome. *Early human development* 45: Suppl S, S55–S58.

Other Writings

- 2002 Report on National study for the palliative effect of radiation with different radiation schemes for non-small-cell bronchus carcinoma. With J.C. van Houwelingen, G.W.P.M. Kramer, J.W.H. Leer et al.
- 2002 Obstetrical Mutual Quality Mirroring in primary care. Final report of the feasibility study methodology development (in Dutch). M.P. Amelink, **J.J. Lok**, P.M. Elferink-Stinkens, R. Brand. TNO-Report PG/JGD 2002.038.
- 2002 Normal size for labia minora? Research protocol, in Dutch. With J. de Waard, Th.M. Weijnenborg, F.W. Jansen and M.M. ter Kuile.
- 2001 PhD-thesis: Statistical modelling of causal effects in time.

Work in Progress

Lok, J.J., M.A. Hernán and J.M. Robins. Optimal start of HAART treatment in HIV positive patients.

Lok, J.J., V. DeGruttola. The impact of time of initiation of HAART following HIV infection on the amount of immune reconstitution.

Lok, J.J., R.J. Bosch and M.D. Hughes. Long term CD4 in HIV positive patients.

Lok, J.J. Mimicking counterfactual outcomes to estimate causal effects.

Lok, J.J. and Y.M. van der Linden. Competing risks: estimation and testing of subdistributions if all censoring times are known.

Lok, J.J. Identification of treatment effect in structural nested models in continuous time. Based on chapter 6 of my PhD dissertation.

Lok, J.J. Statistical modelling of causal effects with a time-dependent Cox model for treatment changes.

Lok, J.J. Asymptotic equivalence of confidence regions with an application to structural nested models.

Presentations

- Jul 2007 Joint Statistical Meetings, Salt Lake City. “Optimal start of treatment based on time-dependent covariates” (invited).
- Jun 2007 Workshop Challenges in Dynamic Treatment Regimes and Multistage Decision-Making , SAMSI, North Carolina. “Statistical modelling of causal effects in continuous time” (invited poster).
- Jul 2006 International Biometrics Conference, Montreal. “Statistical modelling of causal effects in continuous time”.
- Apr 2006 Department of Ambulatory Care and Prevention, Harvard University. “Statistical modeling of causal effects in continuous time”.
- Mar 2006 Channing Laboratory, Harvard University. “Statistical modeling of causal effects in continuous time”.
- Jan 2006 Biostatistics colloquium, Harvard School of Public Health. “Statistical modeling of causal effects in continuous time”.
- Jan 2006 Mathematics colloquium, Northeastern University, Boston. “Statistical modeling and estimation of causal effects in continuous time”.
- Sept 2005 Workshop “Statistical analysis of complex event history data”, Oslo, Norway. “Structural nested models and standard software: a mathematical foundation through partial likelihood” (invited).
- Nov 2003 Research Kitchen “Causality”, Oslo, Norway. “Counterfactual models and counting processes” (invited).
- Nov 2002 Conference of the Dutch Organization for Medical Education. Dekker, FW, JJ Lok, H Putter and F Sman-de Beer. “Individual biostatistical computer exercises for large groups of students” (poster).
- Jul 2002 International Biometrics Conference, Freiburg, Germany. “Statistical modelling of causal effects in time” (invited).
- Apr 2002 The Netherlands Mathematics Conference. “Does treatment affect the outcome or did the physicians know more than we?” (invited).
- Apr 2002 Medical Statistics, Leiden University. “Inverse probability weighting”.
- Feb 2002 Stochastics colloquium, Utrecht University. “Statistical modelling of causal effects in time”.
- Oct 2002 Medical Statistics, Leiden University. “Equivalence studies”.
- Nov 2001 Workshop “Event History Analysis”, Oslo, Norway. “Event history analysis: causal effects in time” (invited).
- Mar 2001 Medical Statistics, Leiden University. “Statistical modelling of causal effects in time”.

Presentations: continuation

- Aug 2001 Workshop “Causal Inference”, Utah. “Statistical modelling of causal effects in time” (invited).
- Jun 2001 Workshop “Causal Inference”, Gent, Belgium. “Statistical modelling of causal effects in time” (invited).
- May 2001 Stochastics colloquium, University of Amsterdam. “Statistical modelling of causal effects in time”.
- Aug 1999 European Young Statisticians Meeting, Paris, France. “Treatment effect in the presence of time-varying covariates which predict treatment” (invited).
- Aug 1998 22nd European Meeting of Statisticians, Vilnius, Lithuania. “Estimation of treatment effect in the presence of time-varying covariates which predict treatment”.
- Apr 1998 Stochastics colloquium, Technical University Delft. “Estimation of treatment effect in the presence of time-varying covariates which predict treatment”.
- 1995–2001 Statistics colloquium, Free University of Amsterdam; yearly presentations.
- 1995–2001 PhD-colloquium, Free University of Amsterdam; yearly presentations.
- Mar 1995 AMC hospital, “Analysis of the Tasman study”.
- Sept 1994 Reading seminar at the AMC hospital on Medical Epidemiology.
- Dec 1994 Reading seminar at the AMC hospital on Analysis of Repeated Measures.

Non-degree Courses Taken

2005	PhD course Advanced Epidemiologic Methods.
1995–1999	Various PhD courses in Statistics and Probability. Topics included Nonparametric Kernel Curve Estimation, Semiparametrics, Optimal Stopping, Large Deviations, Time Series Analysis, Medical Statistics, Markov Point Processes and Applications, Inverse Problems in Statistics, and Ergodic Theory.
May 1999	Workshop on Graphical Markov Models: their Role in Statistics.
Jun 1998	Workshop on Monte Carlo Markov Chains.
Jun 1996	Workshop on Wavelets and Approximation of Statistical Experiments.
1994–1995	Reading seminars at the AMC hospital on Clinical Decision Analysis, Medical Epidemiology and Analysis of Repeated Measures.
May 1995	Design and Analysis of Follow-up Studies: Structural Nested Failure Time Models. Three-day course for epidemiologists.
Nov 1994	Generalised Linear Models and GLIM4, three-day course.
Aug 1994	Multiple, Logistic and Cox Regression, three-day course.

Computer Skills

Statistics	SPSS, S-plus, SAS.
Mathematics	Mathematica, Mathcad, Maple, Matlab.
Text	Latex, Word, Emacs.
Languages	Pascal and Fortran 77.

Languages Dutch (native), English (fluent), German (fluent), French (conversational), Spanish (conversational).

Hobbies Jogging, hiking, badminton and making jewelry.

References

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