

Short Curriculum Vitæ for Peter Jagers

Professor at the Department of Mathematical Sciences, Chalmers University of Technology and University of Gothenburg, Gothenburg, Sweden.

Personal

- Born 1941, in Gothenburg, Sweden.
- Electronic mail: jagers@chalmers.se
Homepage: <http://www.math.chalmers.se/~jagers>
- Undergraduate studies in the Arts, Mathematics, Mathematical Statistics, and Physics 1960-64 and in Probability Theory at the Moscow University 1966.
- Ph.D, Gothenburg University 1968. "Docent" the same year.
- Assistant Professor, Stanford University 1970-71.
- Professor in Mathematical Statistics at the Chalmers University of Technology and University of Gothenburg since 1974.

Research

- Applied probability, mainly branching processes and their applications (stochastic population dynamics), point processes, and a little statistical inference

Honours

- (Elected) Member of the International Statistical Institute (ISI) 1976.
- Fellow of the Institute of Mathematical Statistics (IMS) 1984.
- Fellow of the Royal Swedish Academy of Sciences since 1989.
- *Doctor Honoris Causa* with the Bulgarian Academy of Sciences 2000.
- Fellow of the European Academy of Science since 2001.
- Recipient of King Carl XVI Gustaf's Gold Medal for "services to mathematics in Sweden and internationally" 2006.

Service to the Academic Community

- Together with many good colleagues: the building of today's Department of Mathematical Statistics at Chalmers and the Gothenburg University and of the Gothenburg Stochastic Centre.

- Department Head until 2006.
- Deputy member of the Swedish Natural Sciences Research Council and Member of the Committee on Physics and Mathematics during two three year periods in the late 70's and early 80's
- Member of the Council for Thematic Research. Linköping University, during build-up of the research organisation in the 70's and during one three-year period later.
- Dean of the School of Mathematical and Computing Sciences, Chalmers University of Technology and Gothenburg University, 1977-80 and 1984-87.
- Vice-Dean, Faculty of Science, University of Gothenburg, 1980-83.
- Member of the Board of the University of Gothenburg, 1981-84
- Chairman of the Committee for Conferences on Stochastic Processes and their Applications 1983-87.
- Chairman of the European Regional Committee of the Bernoulli Society 1990-92.
- Main Organiser or Programme Committee Chair of some twenty major scientific events ranging from the 14th Conference on Stochastic Processes and their Applications 1984 to the 10th Vilnius Conference on Probability Theory and Mathematical Statistics 2010 and the 73rd Annual Meeting of the Institute of Mathematical Statistics 2010.
- Member of the Scientific Council of Statistics Sweden 1985 -2005.
- Member of the Committee on Law, Political Science, and Statistics of the Bank of Sweden Tercentenary Foundation 1989-1995.
- President of the Faculty Senate, Chalmers University of Technology, 1993-2002
- Member of the Board of Chalmers University of Technology, 1994-2004
- Member of the Scientific Council of the Swedish Work Environment Authority 1995- 2004.
- Member of the Scientific Council of EURANDOM, a European Institute for Statistics, Probability, Operations Research and their Applications, Eindhoven, 1997-2004.
- Chairman Folkuniversitetet vid Göteborgs universitet 1998- .
- Member, Academy of Finland Panel for Assessment of Finnish Mathematics, 2000.

- Member of the Board of SWEGENE, a postgenomic research effort financed by the Wallenberg Foundation, 2000 - 2005.
- Chair of the Fraunhofer-Chalmers Research Centre in Industrial Mathematics 2001- .
- Member of the Fraunhofer Gesellschaft and Vice-Chair of the Curatorium of the Fraunhofer Institute ITWM, Kaiserslautern, 2002- .
- Initiator and first Programme Director of Chalmers's International Master's Programme in Bioinformatics, 2000 - 2002.
- Recipient of a Knut and Alice Wallenberg grant of 5 MSEK/year for 4 years to develop the Gothenburg "Stochastic Centre", 2001.
- Chairman Swedish National Centre for Mathematics Education, 2003 - 2008.
- External Assessor, Australian National University Quality Review 2004.
- Recipient of a Swedish Research Council grant to "strong research environments" 2005 - 2010.
- Member, Committee for Evaluation of the Mathematics Research Programs of Universities in the Netherlands 2009-10.
- President of the Bernoulli Society 2005-07.
- Chair of the organising Committee for the 73rd Annual Meeting of the Institute for Mathematical Statistics, Gothenburg August 8-13, 2010.
- First Vice-President of the Royal Swedish Academy of Sciences 2007 - 2010.
- Reviewer for the Austrian Science Fund (FWF) 2011.
- Member of the Royal Netherlands Academy of Arts and Sciences (KNAW) International Assessment Committees for Academy Professorships 2011-12.
- Board Member European Society for Mathematical and Theoretical Biology 2008 - 2014.
- President The Royal Gothenburg Society of Arts and Science 2012.

Editorship

- Associate Editor of the *Scandinavian Journal of Statistics* 1974 - 88.
- Associate Editor of the *Stochastic Processes and their Applications* 1984 - 89 and 1994 - 99.

- Editor-in-Chief of the *Stochastic Processes and their Applications* 1989 - 94.
- Associate Editor of the *Annals of Applied Probability* 1991 - 1997 and 2000 - 2005.
- Associate Editor of the *Statistical Sciences* 1995 - 98.
- Editorial Board, *Journal of Applied Probability/Advances in Applied Probability* 2000 - .
- Editor, Springer-Verlag series Probability and Its Applications 2004 - .
- Associate Editor *Mathematical Population Studies* 2005 - .
- Associate Editor *Biology-Direct* 2006 -
- Coordinating Editor, *Journal of Applied Probability/Advances in Applied Probability* 2007 - .
- Associate Editor *Serdica* 2008 - .

Books

1. *Branching Processes with Biological Applications*. John Wiley & Sons, 1975.
2. *Om stickprovsundersökningars matematiska statistik* (On the Mathematical Statistics of Sampling). Lecture Notes. Matematisk statistik, Chalmers tekniska högskola och Göteborgs universitet, 1984.
3. *Statistisk slutledning* (Statistical Inference). With Sture Holm and Olle Nerman. Matematisk statistik, Chalmers tekniska högskola och Göteborgs universitet. ISBN 91-7032-499-2, 1989.
4. *Classical and Modern Branching Processes*. With K. B. Athreya (eds.) Springer-Verlag, 1997.
5. *Branching Processes: Variation, Growth, and Extinction*. With Patsy Haccou, Vladimir Vatutin *et al.* Cambridge University Press (2005).

Some papers since the 80's:

1. Invariance in the linear model - an argument for χ^2 and F in nonnormal situations. *Math. Operationsforsch. Statist. Ser. Statist.* 11, 455-464 (1980).
2. How probable is it to be first born? and other branching process applications to kinship problems. *Math. Biosci.* 59, 1-15 (1982)
3. The stable doubly infinite pedigree process of supercritical branching processes. *Z. Wahrscheinlichkeitstheorie verw. Geb.* 65, 445-460 (1984). With Olle Nerman.
4. The growth and composition of branching populations. *Adv. Appl. Prob.* 16, 221-59 (1984). With Olle Nerman.
5. Post-stratification against bias in sampling. *Int. Statist. Rev.* 54, 159-67 (1986).
6. General branching processes as Markov fields. *Stoch. Proc. Appl.* 32, 183-212 (1989).
7. The growth and stabilization of of populations. With discussion. *Statistical Science* 6, 269-283, (1991).
8. Stabilities and instabilities in population dynamics. *J. Appl. Prob.* 29 (1992).
9. The asymptotic composition of supercritical multi-type branching populations. With O. Nerman. In: J. Azéma, M. Emery, and M. Yor (ed.), *Séminaire de Probabilités XXX* (Dedicated to P.-A. Meyer and J. Neveu on the occasion of their 60th birthdays), Springer Lecture Notes in Mathematics 1626, 40-54 (1996).
10. Coupling and population dependence in branching processes. *Ann. Appl. Prob.* 7, 281-298 (1997).
11. Branching processes with dependence but homogeneous growth. *Ann. Appl. Prob.* 9, 1160-1174 (1999).
12. Population-size-dependent and age-dependent branching processes. With F. Klebaner. *Stoch. Proc. Appl.* 87, 235-254 (2000).
13. The growth of general population-size-dependent branching processes year by year. With S. Sagitov. *J. Appl. Probab.* 37, 1-14 (2000).
14. Stochastic Population Theory. Article in *Encyclopedia of Social Sciences*. (2001).
15. Den osannolika slumpen (The improbable chance). *Forskning och Framsteg* 3/01, 32-37 (2001).

16. Branching processes with deteriorating random environments. With Lu Zhun-wei. *J. Appl. Prob.* 38, 395-401 (2002).
17. Random variation and concentration effects in PCR. With F. C. Klebaner. *J. Theoret. Biol.* 224, 299-304 (2003).
18. Convergence to the coalescent in populations of substantially varying size. With S. Sagitov *J. Appl. Prob.* 41, 368-378 (2004).
19. Branching processes in near-critical random environments. With F. C. Klebaner. *Stochastic Methods and their Applications*. Papers in Honour of Chris Heyde. *J. Appl. Prob.* 41A, 17-23 (2004).
20. Modelling the PCR amplification process by a size-dependent branching process and estimation of the efficiency. With N. Lalam and C. Jacob. *Adv. Appl. Prob.* 36, 602-615 (2004).
21. Stochastic fixed points for the maximum. With Uwe Rösler. *Trends in Mathematics*, Birkhäuser Verlag, Basel (2004).
22. The coalescent efficient size of age-structured populations. With Serik Sagitov. *Ann. Appl. Probab.* 15, 1778-1797 (2005).
23. On the path to extinction. With F. C. Klebaner and S. Sagitov. *Proc. Nat. Acad. Sci.* 104:15, 6107-6111 (2007).
24. Markovian paths to extinction. With F. C. Klebaner and S. Sagitov. *Adv. Appl. Prob.* 39:2, 569-587 (2007)
25. General branching processes in discrete time as random trees. (With Serik Sagitov) *Bernoulli* 14:4, 949-962 (2008).
26. General branching processes conditioned on extinction are still branching processes (With Andreas N. Lageras) *Elect. Comm. Probab.* 13:51 (2008).
27. The mixing advantage is less than 2 (With Kais Hamza, Aidan Sudbury, and Daniel Tokarev) *Extremes* 12, 19-31 (2009).
28. Extinction. Editorial *Math. Pop. Studies* 16:3, 175-176 (2009).
29. Viability of small populations experiencing recurring catastrophes. (With Karin C. Harding) *Math. Pop. Studies* 16:3, 177-198 (2009)
30. Matematikens ord. *LexicoNordica* 16, 315-318 (2009).
31. Some notes on the history of branching processes, from a personal perspective. After dinner speech, Oberwolfach 2009, published in *ECMTB Communications*, 12, 34-39 (2010).
32. A plea for stochastic population dynamics. *J. Math. Biol.* 60, 761-764. (2010).

33. Coalescent approximation for structured populations in a stationary random environment. With S. Sagitov and V. Vatutin. *Theoret. Pop. Biol.* 78, 192-199 (2010).
34. Nuclear Energy. With K. Grandin and S Kullander. *Ambio* 39, suppl. 1, 26-30 (2010).
35. Extinction, persistence, and evolution. In: *The Mathematics of Darwin's Legacy* (F. Chalub and J. F. Rodrigues, eds.). Birkhäuser, Basel (2011)
36. Stochasticity in the adaptive dynamics of evolution: the bare bones. (With F. C. Klebaner, S. Sagitov, V. Vatutin, and P. Haccou) Invited submission to *J. Biol. Dyn.* 5, 147-162 (2011).
37. Population size dependent, age structured branching processes linger around their carrying capacity. With F. C. Klebaner. *J. Appl. Prob.* 48A, 249-260 (2011).
38. Dependence and interaction in branching processes. With F. C. Klebaner. Festschrift for Yu. V. Prohorov, ed. Albert Shiryaev, Springer To appear (2012).

Some invited, plenary or special, lectures during the last 20 years.

1. Closing Lecture at the 18th European Meeting of Statisticians, Berlin 1988
2. Special Invited Lecture at the 213th Meeting of the Institute of Mathematical Statistics, Baltimore 1990
3. Final lecture at the 13th Nordic Conference in Mathematical Statistics, Odense 1990
4. Opening lecture at the 3rd International Conference on Mathematical Population Dynamics, Pau 1992
5. Opening Kolmogorov Lecture at 3rd Bernoulli World Congress on Mathematical Statistics and Probability Theory and 57th Annual Meeting of the IMS, Chapel Hill, 1994
6. Invited lecture. 3rd European Conference on Mathematics Applied to Biology and Medicine, Heidelberg 6-10 October 1996.
7. Invited lecture at "State of the Art in Probability and Statistics", conference in honour of W. van Zwet, 23 - 27 March, 1999
8. Invited lecture at the Joint Statistical Meeting of the International Indian Statistical Association, Delhi 30 December 2000 - 2 January 2001.
9. Visiting Research Scholar at The University of Melbourne, February 2002.

10. Guest lecture, Humboldt-Universität, Berlin, 30 October, 2002.
11. Visiting Scientist at Monash University, Melbourne, January 2003.
12. Erwin Schrödinger Institute for Theoretical Physics, Vienna, February 2003.
13. Plenary Lecture. VII:th International Conference on Computational and Mathematical Biology. Trento, June, 2004.
14. Main lecturer, Banff International Research Station for Mathematical Innovation and Discovery (BIRS) workshop, Stochastic processes in evolutionary and disease genetics, August, 2004.
15. Invited speaker. Royal Society of Edinburgh Symposium on Mathematical Biology, November 2004.
16. Visiting scientist Monash University, February - March 2005 and February 2007.
17. Invited speaker "Microscopic stochastic dynamics in biology and chemistry" Bielefeld, 17-19 August 2005
18. Invited speaker at the workshop "New themes and techniques in complex systems", University of Nottingham, 30 August - 2 September 2005.
19. Invited Lecture, 26th European Meeting of Statisticians, Torun, Poland 24-28 July 2006
20. Plenary Lecture, Second Congress of the Mathematical Society of South-eastern Europe, 31 May - 4 June, 2006
21. Invited participant, Stochastic modelling in population dynamics, C.I.R.M. (Centre International de Rencontres Mathématiques), Marseille-Luminy, 10 -13 April, 2007.
22. Director and main lecturer, Advanced School and Conference on Statistics and Applied Probability in Life Sciences, Abdus Salam International Centre for Theoretical Physics, Trieste, 24 September - 12 October, 2007.
23. Seminars at Stanford University and UCSB, January 2008.
24. Guest Professor, Beijing Normal University, October 2008.
25. Oberwolfach week on Random Trees, January 2009.
26. International Symposium on Probability Theory, Cochin University, 6 - 9 February, 2009.
27. Guest scholar Monash University, Melbourne, Australia, February - March 2009, April 2010, February 2011.

28. C.I.R.M. (Centre International de Rencontres Mathematiques), Marseille-Luminy, Modèles probabilistes de l'évolution du vivant, 25 - 29 May, 2009.
29. Statistical Modeling for Biological Systems, University of Rochester, N. Y., 8 - 9 June, 2009.
30. European Meeting of Statisticians, Toulouse, 20 - 24 July, 2009.
31. The Mathematics of Darwin's Legacy, Lisbon, 23-24 November, 2009.
32. 10th Anniversary of COMBI, Helsinki University, Turku, 18 december, 2009.
33. Conference of Academy Presidents on the occasion of the 50th Anniversary of the Israel Academy of Sciences and Humanities, Jerusalem 14-18 March, 2010.
34. 10th International Vilnius Conference 28 June - 2 July 2010.
35. Workshop on Branching Processes and Coalescent Processes, Beijing Normal University, Beijing, China, 18-22 April, 2011.
36. CIRM: Branching Processes: Theory and Applications. Marseille, France, 25-30 April, 2011.
37. Finnish Probability Summer School, School, Säkämäkki, Finland, 6 -10 June, 2011.
38. Distinguished lecture, 8th European Conference on Mathematical and Theoretical Biology, Cracow, 28 June -2 July 2, 2011
39. Frontiers of Applied Probability. Sandbjerg, Danmark, 1-5 August 2011.
40. Royal Swedish Academy of Sciences Delegate,30th General Asembly, International Council for Science (ICSU), Rome, 28 -30 September, 2011.,
41. Workshop Stochastic Processes in Cell and Population Biology, Mathematical Biosciences Institute, Columbus, Ohio, USA, October 24-28, 2011.
42. Guest Lecture, Department of Mathematics, University of Vienna, 4 October 2011.
43. Visiting Scholar Monash University 1 February - 10 March, 2012