Publications by Jens Ledet Jensen

Refereed Publications

1. On the hyperboloid distribution. *Scand. J. Statist.* **8**, 193-206, 1981.

2. Multivariate distributions of hyperbolic type. With P. Blaesild. *Statistical Distributions in Scientific Work, Vol.* **4**, 1981, 45-66. D. Reidel Publ. Co., Dordrecht.

3. Exponential transformation models. With O.E. Barndorff-Nielsen, P. Blaesild and B. Jørgensen. *Proc. R. Soc. Lond. A* **379**, 1982, 41-54.

4. On the relation between size and distance travelled for wind-driven sand grains - results and discussion of a pilot experiment using coloured sand. With O.E. Barndorff-Nielsen and M. Sørensen. In B. Sumer and A. Mueller (eds.): *Mechanics of Sediment Transport*, Balkema, Rotterdam, 1982, 55-64.

5. On the mathematical modelling of aeolian saltation. With M. Sørensen. In B. Sumer and A. Mueller (eds.): *Mechanics of Sediment Transport*, Balkema, Rotterdam, 1982, 55-72.

6. The fascination of sand. With O.E. Barndorff-Nielsen, P. Blaesild and M. Sørensen. In A.C. Atkinson and S.E. Fienberg (eds.): *A Celebration of Statistics*, Springer-Verlag, New York, 1985, 57-87.

7. A methodological study of the sieving of small sand samples. With K. Dalsgaard. *Proceedings of the International Workshop on the Physics of Blown Sand.* Memoirs No. **8**, 1985, Department of Theoretical Statistics, University of Aarhus. A revised version is published as one half of a chapter in the book Principles, Methods and Application of Particle Size Analysis, edited by J.P.M. Syvitski, Cambridge University Press.

8. Saddlepoint formulas for reproductive exponential models. With P. Blaesild. *Scand. J. Statist.* **12**, 1985, 193-202.

9. Approximations for compound Poisson and Polya processes. With P. Embrechts, M. Maejima and J. Teugels. *Adv. Appl. Prob.* **17**, 1985, 623-637.

10. Estimation of some aeolian saltation parameters: a re-analysis of Williams' data. *Sedimentology* **33**, 1986, 547-558.

11. Inference for the mean of a Gamma distribution with unknown shape parameter. *Scand. J. Statist.* **13**, 1986, 135-151.

12. Similar tests and the standardized log likelihood ratio statistics. *Biometrika* **73**, 1986, 567-572.

13. A note on asymptotic expansions for Markov chains using operator theory. *Adv. Appl. Math.* **8**, 1987, 377-392.

14. Standardized log likelihood ratio statistics for mixtures of discrete and continuous observations. *Ann. Statist.* **15**, 1987, 314-324.

15. On asymptotic expansions in non-ergodic models. *Scand. J. Statist.* **14**, 1987, 305-318.

16. Uniform saddlepoint approximations. *Adv. Appl. Prob.* **20**, 1988, 622-634.

17. On the incubation time distribution and the Danish AIDS data. With J. Boldsen, J. Søgaard and M. Sørensen. *J. R. Statist. Soc. A* **151**, 1988, 42-43.

18. Maximum likelihood estimation of the hyperbolic parameters from grouped observations. *Computers and Geosciences* **14**, 1988, 389-408.

19. Asymptotic expansions for strongly mixing Harris recurrent Markov chains. *Scand. J. Statist.* **16**, 1989, 47-63.

20. A note on the work of Goetze and Hipp concerning asymptotic expansions for sums of weakly dependent random vectors. In Mandel, P. and Huskova, M. (eds.): *Proceedings of The Fourth Prague Symposium on Asymptotic Statistics*, Charles University, Prague, 1989, 295-303.

21. Local and tail approximations near the Poisson limit. With A.D. Barbour. *Scand. J. Statist.* **16**, 1989, 75-87.

22. Validity of the formal Edgeworth expansion when the underlying distribution is partly discrete. *Probability Theory and Related Fields* **81**, 1989, 507-519.

23. Wind shear and hyperbolic distributions. With O.E. Barndorff-Nielsen and M. Sørensen. *Boundary-Layer Meteorology* **49**, 1989, 417-431.

24. Is the "Improved likelihood ratio statistic" really improved in the discrete case? With M. Frydenberg. *Biometrika* **76**, 1989, 655-661.

25. The extremal family generated by the Yule process. With B. Johansson. *Stochastic Processes and Their Applications* **36**, 1990, 59-76.

26. Parametric modelling of turbulence. With O.E. Barndorff-Nielsen and M. Sørensen. *Phil. Trans. R. Soc. Lond. A* **332**, 1990, 439-455.

27. Two examples of statistics sufficiently smooth to admit an Edgeworth expansion. In Diana, G., Pace, L., Pesarin, F. and Salvan, A. (eds.): *Small Sample Asymptotics and Related Problems*, University of Padua, 1990, 1-24.

28. A note on asymptotic normality in the thermodynamic limit at low densities. *Adv. Appl. Math.* **12**, 1991, 387-399.

29. Uniform saddlepoint approximations and log-concave densities. *J. Roy. Statist. Soc. B* **53**, 1991, 157-172.

30. A large deviation type approximation for the 'box-class' of likelihood ratio criteria. *J. Amer. Statist. Assoc.* **86**, 1991, 437-440.

31. Saddlepoint expansions for sums of Markov dependent variables on a continuous state space. Probab. *Th. Rel. Fields* **89**, 1991, 181-199.

32. Pseudolikelihood for exponential family models of spatial processes. With J. Møller. *Ann. Appl. Prob.* **1**, 1991, 445-461.

33. Saddlepoint approximations to exact tests and improved likelihood ratio tests for the gamma distribution. With L.B. Kristensen. *Commun. Statist. - Theory Meth.* **20**, 1991, 1515-1532.

34. Saddlepoint approximations to the distribution of the total claim amount in some recent risk models. *Scand. Actuarial J.*, 1991, 154-168.

35. The modified signed likelihood statistic and saddlepoint approximations. *Biometrika* **79**, 1992, 693-703.

36. A note on a conjecture of H.E. Daniels. *REBRAPE* **6**, 1992, 85-95.

37. Asymptotic normality of estimates in spatial point processes. *Scand. J. Statist.* **20**, 1993, 97-109.

38. A historical sketch and some new results on the improved log likelihood ratio statistic. *Scand. J. Statist.* **20**, 1993, 1-15.

39. A note on asymptotic expansions for sums over a weakly dependent random field. *Ann. Inst. Statist. Math.* **45**, 1993, 353-360.

40. Chaotic dynamical systems with a view towards statistics - a review. In O.E. Barndorff-Nielsen, J.L. Jensen and W.S. Kendall (eds.): *Networks and Chaos - Statistical and Probabilistic Aspects*, Chapman and Hall, London, 1993.

41. Comments on nonparametric predictions of sunspot numbers. *The Astronomical Journal* **105**, 1993, 350-352.

42. Saddlepoint approximations, Edgeworth expansions and normal approximations - from independence to dependence. Memoirs No. **12**, 1993, Department of Theoretical Statistics, University of Aarhus. Doctoral Thesis.

43. A statistical model for the streamwise component of a turbulent velocity field. With O.E. Barndorff-Nielsen and M. Sørensen. *Ann. Geophysicae* **11**, 1993, 99-103.

44. On asymptotic normality of pseudo likelihood estimates for pairwise interaction processes. With H.R. Künsch. *Ann. Inst. Statist. Math.* **46**, 1994, 475-486.

45. Asymptotic expansions at work. (Contribution to the Cramer Symposium, Stockholm, 1993). *Scand. Actuarial J.*, 1995, 143-152.

46. Contribution to the discussion of "Overview of nonlinear time series analysis from a chaos perspective" by Howell Tong. *Scand. J. Statist.* **22**, 1995, 426-428.

47. Some stationary processes in discrete and continuous time. With O.E. Barndorff-Nielsen and M. Sørensen. *Adv. Appl. Prob.* **30**, 1998, 989-1007

48. Efficiency of the pseudo-likelihood estimate in a one-dimensional lattice gas. *Selected Proceedings of the Symposium on Estimating Functions.* Eds. I. Basawa, V.P. Godambe and R.L. Taylor, 1997, 369-379.

49. A saddlepoint approximation for the number of uniform spacings exceeding a given level. *Proceedings of the IV Symposium on Probability and Stochastic Processes, Gunanjuato, 1996.*

50. A simple derivation of r^* for a curved exponential families. *Scand. J. Statist.* **24**, 1997, 33-46.

51. On the non-existence of a Bartlett correction for unit root test. With Andrew T.A. Wood. *Statistics and Probability Letters* **35**, 1997, 181-187.

52. Errors in maximum entropy charge density distributions. With B.B. Iversen and J. Danielsen. *Acta Cryst.* **A 53**, 1997, 376-387.

53. Large deviation and other results for minimum contrast estimators. With A.T.A. Wood. *Ann. Institute Math. Statist.* **50**, 1998, 673-695.

54. A note on models for stock prices. With J. Pedersen. Research Report No. 372 (1997), Department of Theoretical Statistics, University of Aarhus. Revised version with the title "Ornstein-Uhlenbeck type processes with non-normal distribution" published in *J. Appl. Probab.* **36**, 389-402 (1999).

55. Asymptotic normality of the maximum likelihood estimator in state space models. With N.V. Petersen. *Ann. Statist.* **27**, 1999, 514-535.

56. Probabilistic models of DNA sequence evolution with context dependent rates of substitution. With A-M.K. Pedersen. *Adv. Appl. Probab.* **32**, 2000, 499-517.

57. A class of risk neutral densities with heavy tails. With N.V. Hartvig and J. Pedersen. *Finance and Stochastics*, **5**, 2001, 115-128.

58. Markov jump processes with a singularity. With O.E. Barndorff-Nielsen and F.E. Benth. *Adv. Appl. Probab.* **32**, 2000, 779-799

59. Light, atoms, and singularities. With O.E. Barndorff-Nielsen and F.E. Benth. MaPhySto Research Report No. 19 (2000), Centre for Mathematical Physics and Stochastics, University of Aarhus. Proceedings Progress in Probability, 52, 1-18 (2002).

60. Spatial mixture modelling of fMRI data. With N.V. Hartvig. *Human Brain Mapping* **11**, 2000, 233-248.

61. A dependent rates model and MCMC based methodology for the maximum likelihood analysis of sequences with overlapping reading frames. With A-M.K. Pedersen. Mol Biol Evol 18, 763-776, 2001

62. Classification and characterization of bladder cancer stages using microarrays. Stage and grade of bladder cancer defined by gene expression patterns. With L.D. Andersen, T. Thyklær, M. Kruhøffer, N. Marcussen, S.H. Dutoit, H. Wolf and T.F. Ørntoft. Nature Genetics **33 No. 1**, 90-96, 2003. Published online: 9 December 2002, doi:10.1038/ng1061.

    `http://www.nature.com/cgi-taf/DynaPage.taf?file=/ng/journal/v33/n1/abs/ng1061.html`

63. Recursions for statistical multiple alignment. With J. Hein and C.N.S. Pedersen. Published online before print December 1, 2003. Proceedings of the National Academy of Science, December 9, 2003, vol. 100, no. 25, 14960-14965, Proceedings of the National Academy of Science.

    `http://www.pnas.org/cgi/content/full/100/25/14960`

64. Bayesian phylogenetic inference under a statistical indel model. With G.A. Lunter, I. Mikl'os, A. Drummond, and J. Hein. Lecture Notes in Bioinformatics, Proceedings of WABI'03, 2812:228-244.

    `http://www.springerlink.com/app/home/contribution.asp?wasp=16ut607d4g4vtp80132p&referrer=parent&backto=issue,18,36;journal,281,1634;linkingpublicationresults,1:105633,1`

65. Gene Expression in the Urinary Bladder: A Common Carcinoma in Situ Gene Expression Signature Exists Disregarding Histopathological Classification. With Lars Dyrskjøt, Mogens Kruhøffer, Thomas Thykjær, Niels Marcussen, Klaus Møller, and Torben F. Ørntoft. Cancer Research **64**, 4040-4048, 2004.

    `http://cancerres.aacrjournals.org/cgi/content/full/64/11/4040`

66. Normalization of Real-Time Quantitative Reverse Transcription-PCR Data: A Model-Based Variance Estimation Approach to Identify Genes Suited for Normalization, Applied to Bladder and Colon Cancer Data Sets. With Claus Lindbjerg Andersen and Torben Falck Ørntoft. Cancer Research **64**, 5245-5250, 2004.

    `http://cancerres.aacrjournals.org/cgi/content/abstract/64/15/5245`

67. Gibbs sampler for statistical multiple alignment. With J. Hein. *Statistica Sinica* **15**, 889–907, 2005

68. Applications of hidden Markov models for characterization of homologous DNA sequences with a common gene. With A. Hobolth. *J. Compt. Biology* **12**, 186–203, 2005.

69. Bayesian coestimation of phylogeny and sequence alignment. Gerton Lunter, Istvan Miklos, Alexei J Drummond, Jens L Jensen, Jotun Hein. BMC Bioinformatics 2005, 6:83 (1 April 2005) doi:10.1186/1471-2105-6-83

    `http://www.biomedcentral.com/1471-2105/6/83`

70. A molecular signature in superficial bladder carcinoma predicts clinical outcome. With Lars Dyrskjøt, Mogens Kruhøffer, Thomas Thykjær, Hanne Primdahl, Natasha Aziz, Niels Marcussen, Klaus Møller, and Torben F. Ørntoft. Clinical Cancer Research **11**, 4029-4036, 2005.

71. Statistical inference in evolutionary models of DNA sequences via the EM algorithm. With A. Hobolth. Statistical Applications in Genetics and Molecular Biology: Vol. 4: No. 1, Article 18.

    `http://www.bepress.com/sagmb/vol4/iss1/art18`

72. Gene expression signatures for colorectal cancer microsatellite status and HNPCC. With Kruhøffer, M., Jensen J.L., Laiho, P., Dyrskjøt, L., Salovaara, R., Arango, D., Birkenkamp-Demtroder, K., Christensen, L.L., Sørensen, F.B., Buhl, L., Mecklin J-P., Jørvinen, H., Thykjaer, T., Wikman, F.P., Bech-Knudsen, F., Juhola, M., Nupponen, N.N., Lauerberg, S., Andersen, C.L., Aaltonen, L.A. and Ørntoft, T.F. British Journal of Cancer. 2005 Jun 20;92(12):2240-8.

73. Role of activating fibroblast growth factor receptor 3 mutations in the development of bladder tumors. With Zieger K, Dyrskjøt L, Wiuf C, Jensen JL, Andersen CL, Jensen KM, Ø)rntoft TF. Clin Cancer Res. 2005 Nov 1;11(21):7709-19.

74. Pseudo-likelihood analysis of context-dependent codon substitution models. With O.F. Christensen and A. Hobolth. *J. Compt. Biology* **12**, 1166-1182, 2005.

75. DNA microarray and genetic testing. With L. Dyrskjøt, C.L. Andersen, M. Kruhøffer, N. Tørring, K. Koed, F. Wikman, and T.F. Ørntoft. In G. Patrinos and W. Ansorge (eds.): *Molecular Diagnostics*. Academic Press. ISBN: 0-12-546661-7, 183-197, 2005.

76. Construction and validation of the APOCHIP, a spotted oligo-microarray for the study of beta-cell apoptosis. With N. E. Magnusson, A. K. Cardozo, M. Kruhøffer, D. L. Eizirik, T. F. Ørntoft. *BMC Bioinformatics* 2005, 6:311. doi:10.1186/1471-2105-6-311

77. Validation of the use of DNA pools and primer extension in association studies of sporadic colorectal cancer for selection of candidate SNPs. With Gaustadnes M, Orntoft TF, and Torring N. Hum Mutat. 2006 Feb;27(2):187-94. PMID: 16395669 [PubMed - in process]

Books

78. Barndorff-Nielsen, O.E., Jensen, J.L., and Kendall, W.S. (eds.) (1993). Networks and Chaos - Statistical and Probabilistic Aspects. Chapman & Hall, London.

79. Jensen, J.L. (1995). *Saddlepoint Approximations*. Clarendon Press, Oxford.

Work in progress

80. Tests and confidence intervals for an extended variance component using the modified likelihood ratio statistic. With O.F. Christensen, M. Frydenberg, and J.G. Pedersen. Research Report No. 454, Department of Theoretical Statistics, University of Aarhus.

81. Context dependent DNA evolutionary models. Research Report No. 458 (2005), Department of Theoretical Statistics, University of Aarhus.

Other publications

82. A note on the fiducial inference for the Fisher distribution on a sphere. Research Report No. 71 (1981), Department of Theoretical Statistics, University of Aarhus.

83. Similar tests and confidence regions for the group parameter of an exponential transformation model. Research Report No. 82 (1982), Department of Theoretical Statistics, University of Aarhus.

84. The Hanstholm experiment 1982. Sand grain saltation on a beach. With K.R. Rasmussen, M. Sørensen and B.B. Willetts. Research Report No. 125 (1984), Department of Theoretical Statistics, University of Aarhus.

85. Windtunnel tracer studies of grain progress. With O.E. Barndorff-Nielsen, H.L. Nielsen, K.R. Rasmussen and M. Sørensen. *Proceedings of the International Workshop on the Physics of Blown Sand*. Memoirs No. **8**, 1985, Department of Theoretical Statistics, University of Aarhus.

86. A note on asymptotic expansions for the first order autoregressive process. Memoirs No. **10** (1986), Department of Theoretical Statistics, University of Aarhus.

87. Sand transport studies in a wind tunnel using radioactive grains. Report on a pilot experiment. With O.E. Barndorff-Nielsen, H.L. Nielsen, K.R. Rasmussen and M. Sørensen. Research Report 140 (1988), Department of Theoretical Statistics, University of Aarhus.

88. CALQ: A new program to calculate the discharge of rivers. With Bente Clausen. 1994.

89. Ensidet variansanalyse og lineær regression. Statistiske Interna nr. 49 (1995), Department of Theoretical Statistics, University of Aarhus. (Notes for a course for highschool teachers.)

90. Methods for estimating the singular component of a distribution. With Karl Broman, Peter Hall, and T.P. Speed. 1996.

91. Ridge type calibration. Research Report No. 375 (1997), Department of Theoretical Statistics, University of Aarhus.

92. Poisson approximation to the distribution of rare events in DNA evolution. Research Report No. 422 (2001).

Proceedings

92. Jensen, A., Jensen, J.L., and Jacobsen, B.H. (eds.) (1999). *Miniproceedings: First MaPhySto Workshop on Inverse problems. Inverse Problems in Stratified Media*. Centre for Mathematical Physics and Stochastics, Miscellanea 13.

93. Hansen, M.B., Jensen, J.L., and Lauritzen, S.L. (eds.) (2001). *Miniproceedings: Second MaPhySto Workshop on Inverse Problems. Inverse Problems from a Statistical Perspective*. Centre for Mathematical Physics and Stochastics, Miscellanea 21.

94. Jensen, J.L. (ed.) (2003). *Workshop on Statistical Aspects of Microarray Data*. Centre for Mathematical Physics and Stochastics, Miscellanea 23.

Lecture Notes (mostly in danish)

86. Et første kursus i teoretisk statistik. (Notes for third year statistic course.)

87. Nogle asymptotiske resultater. (Notes for third year statistic course.)

88. Ikke parametrisk statistik - rangtestorer. (Notes for third year statistic course.)

89. En kort indføring i markovprocesser. (Notes for third year statistic course.)

90. Stochastic simulations: concepts and applications. (Notes for third year statistic course.)

91. Biomathematics. (Introductory course for master in bioinformatics.)

92. Markov chains. (Introductory course for master in bioinformatics.)