

# Curriculum vitae

## Laurens de Haan

### Overview

Born

January 15, 1937

1960-1966

Study of Mathematics, University of Amsterdam.

1966-1972

Theoretical and applied work in probability and statistics at the Mathematisch Centrum, Amsterdam

1970

Doctorate in Mathematics, University of Amsterdam (Thesis: "On regular variation and sample extremes", advisor: Prof. J. Th. Runnenburg).

1971-1972

Visiting assistant professor, Stanford University.

1973-

Professor of probability and mathematical statistics, Economische Faculteit, Erasmus Universiteit (emeritus, since 1998).

1977-

Fellow I.M.S.

1994

Guest Professor (a honorary degree), Peking University.

2000

Doctor honoris causa, Universidade de Lisboa.

2008-2011

Professor of Statistics (part time), University of Tilburg.

### Doctoral students

E. Omey (1982, partially), [J.B.G. Frenk](#) (1983), [J.L. Geluk](#) (1983), S. Schim van der Loeff (1987, partially), H. Brozius (1989), A. Dekkers (1991), Huang Xin (1992), [A.K. Sinha](#) (1997), [L. Peng](#) (1998), G. Draisma (2001), T. Lin (2002), [A. Ferreira](#) (2002), [D. Li](#) (2004), C. Neves (2006, partially), [C. Zhou](#) (2008), J. Cai (since 2009).

### Publications

1. L. de Haan and J.Th. Runnenburg (1969). Some remarks concerning the quotient of sample median and sample range for a sample of size  $2n + 1$  from a normal distribution. *Statistica Neerlandica* 23, 227-234.
2. L. de Haan (1970). Note on a paper by H.G. Tucker. *Annals Math. Statist.* 41, 729-732.
3. L. de Haan (1970). *On regular variation and its application to the weak convergence of sample extremes*. Thesis, University of Amsterdam / Mathematical Centre tract 32.

4. L. de Haan (1971). A form of regular variation and its application to the domain of attraction of the double exponential distribution. *Z. Wahrscheinlichkeitstheorie* 17, 241-248.
5. L. de Haan and A. Hordijk (1972). The rate of growth of sample maxima. *Annals Math. Statist.* 43, 1185-1196.
6. A.A. Balkema and L. de Haan (1972). On R. von Mises' condition for the domain of attraction of  $\exp(-e^{-x})$ . *Annals Math. Statist.* 43, 1352-1354.
7. L. de Haan and S.I. Resnick (1973). Almost sure limit points of record values. *Journal of Appl. Prob.* 10, 528-542.
8. L. de Haan (1974). On sample quantiles from a regularly varying distribution function. *Annals of Statistics* 2, 815-818.
9. A.A. Balkema and L. de Haan (1974). Residual life time at great age. *Annals of Probability* 2, 792-804.
10. L. de Haan (1974). Equivalence classes of regularly varying functions. *Stochastic Processes and Appl.* 2, 243-260.
11. L. de Haan (1974). On random indices and limit distributions. *Annals of Probability* 2, 181.
12. L. de Haan (1974). Weak limits of sample range. *Journal of Appl. Prob.* 11, 836-841.
13. L. de Haan (1976). An Abel-Tauber theorem for Laplace transforms. *J. London Math. Soc.* (2) 13, 537-542.
14. L. de Haan (1976). Sample extremes: an elementary introduction. *Statistica Neerlandica* 30, 161-172.
15. L. de Haan (1977). On functions derived from regularly varying functions. *J. Austr. Math. Soc.* 23 (series A), 431-438.
16. L. de Haan and S.I. Resnick (1977). Limit theory for multivariate sample extremes. *Z. Wahrscheinlichkeitstheorie* 40, 317-337.
17. A.A. Balkema and L. de Haan (1978). Limit distributions for order statistics. *Theoria Verootnostei i primeneniia* 23, I 80-96, II 358-375.
18. L. de Haan and E. Taconis-Haantjes (1978). Asymptotic properties of a correlation coefficient type statistics connected with the general linear model. *Journal of Econometrics* 7, 15-21.
19. L. de Haan (1978). A characterization of multidimensional extreme-value distributions. *Sankya*, *The Indian Journal of Statistics* 40, series A, 85-88.
20. L. de Haan and G. Ridder (1979). Stochastic compactness of sample extremes. *The Annals of Probability* 7, No. 2, 290-303.
21. L. de Haan and S.I. Resnick (1979). Conjugate  $\pi$ -variation and process inversion. *The Annals of Probability* 7, 1028-1035.
22. L. de Haan and E. Taconis-Haantjes (1979). On Bahadur's representation of sample quantiles. *Ann. Inst. Statist. Math.* 31, part A, 299-308.
23. L. de Haan and S.I. Resnick (1979). Derivatives of regularly varying functions in  $\mathbb{R}^d$  and domains of attraction of stable distributions. *Stochastic Processes and their Applications* 8, 349-355.
24. A.A. Balkema, J.L. Geluk and L. de Haan (1979). An extension of Karamata's tauberian theorem and its connection with complementary convex functions. *Quart. J. Math. Oxford* (2) 30, 385-416.
25. L. de Haan and S.I. Resnick (1980). A simple asymptotic estimate for the index of a stable distribution. *Journal of the Royal Stat. Soc.* B 42, 83-87.
26. L. de Haan (1981). Estimation of the minimum of a function using order statistics. *Journal of the American Stat. Ass.* 76, 467-469.

27. J.L. Geluk and L. de Haan (1981). *On functions with small differences*. Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, series A, 84, 187-194 and *Indagationes Mathematicae* 43.
28. L. de Haan and S.I. Resnick (1981). On the observation closest to the origin. *Stochastic Processes and their Applications* 11, 301-308.
29. L. de Haan and S.I. Resnick (1982). Local limit theorems for sample extremes. *The Annals of Probability* 10, 396-413.
30. L. de Haan and E. Omey (1983). Integrals and derivatives of regularly varying functions in  $\mathbb{R}^d$  and domains of attraction of stable distributions II. *Stochastic Processes and its Applications* 16, 157-170.
31. L. de Haan (1984). A spectral representation for max-stable processes. *Annals of Probability* 12, 1194-1204.
32. L. de Haan, E. Omey and S.I. Resnick (1984). Domains of attraction and regular variation in  $\mathbb{R}^d$  III. *Journal Multivariate Analysis* 14, 17-33.
33. L. de Haan and S.I. Resnick (1984). Asymptotically balanced functions and stochastic compactness of sample extremes. *Annals of Probability* 12, 588-608.
34. L. de Haan and S.I. Resnick (1984). Stochastic compactness and point processes. *Journal Australian Mathematical Society, (Series A)* 37, 307-316.
35. L. de Haan and U. Stadtmüller (1985). Dominated variation and related concepts and Tauberian theorems for Laplace transforms. *Math. Analysis Appl.* 108, 344-365.
36. L. de Haan (1986). A stochastic process that is autoregressive in two directions of time. *Statistica Neerlandica* 40, 39-45.
37. J.L. Geluk, L. de Haan and U. Stadtmüller (1986). A Tauberian theorem of exponential type and related results. *Canadian J. Math.* 38, 697-718.
38. L. de Haan and J. Pickands (1986). Stationary min-stable stochastic processes. *Probab. Th. Rel. Fields* 72, 477-492.
39. L. de Haan and S.I. Resnick (1987). On regular variation of probability densities. *Stoch. Processes and Applic.* 25, 83-93.
40. J.L. Geluk and L. de Haan (1987). *Regular variation, extensions and Tauberian theorems*. C.W.I. Tract 40. Centrum voor wiskunde en informatica / Mathematisch Centrum, Amsterdam.
41. H. Brozius and L. de Haan (1987). On limiting laws for the convex hull of a sample. *J. Applied Probability* 24, 852-862.
42. L. de Haan and E. Verkade (1987). On extreme value theory in the presence of a trend. *J. Applied Prob.* 24, 62-76.
43. L. de Haan and I. Weissman (1988). On the index of the outstanding observation among  $n$  independent ones. *Stoch. Proc. and Applic.* 27, 317-329.
44. A.A. Balkema and L. de Haan (1988). A.s. continuity of stable moving average processes with index  $\leq 1$ . *Annals of Probability* 16, 333-343.
45. L. de Haan and S.T. Rachev (1989). Estimates of the rate of convergence for max-stable processes. *Annals of Probability* 17, 651-677.
46. A.L.M. Dekkers and L. de Haan (1989). On the estimation of the extreme-value index and large quantile estimation. *Annals of Statistics* 17, 1795-1832.
47. A.L.M. Dekkers, J.H.J. Einmahl and L. de Haan (1989). A moment estimator for the index of an extreme-value distribution. *Annals of Statistics* 17, 1833-1855.
48. L. de Haan, S.I. Resnick, H. Rootzén, C. de Vries (1989). Extremal behaviour of solutions to a stochastic difference equation with applications to ARCH-processes. *Stochastic Processes and Applications* 32, 213-224.
49. L. de Haan and R.L. Karandikar (1989). Embedding a stochastic difference equation in a continuous-time process. *Stochastic Processes and Applications* 32, 225-235.

50. L. de Haan (1989). *A Brownian bridge connected with extreme values*. *Sankhy* series A 52, 157-165.
51. A.A. Balkema and L. de Haan (1990). A convergence rate in extreme-value theory. *J. Applied Probability* 27, 577-585.
52. L. de Haan (1990). Fighting the arch-enemy with mathematics. *Statistica Neerlandica* 44, 45-68.
53. V. Dijk and L. de Haan (1992). *On the estimation of the exceedance probability of a high level*. *Order statistics and nonparametrics: Theory and applications*. P.K. Sen and I.A. Salama (Editors), 79-92. Elsevier, Amsterdam.
54. L. de Haan and H. Rootz'en (1993). On the estimation of high quantiles. *J. Statist. Planning and Inference* 35, 1-13.
55. A.A. Balkema, L. de Haan and R.L. Karandikar (1993). The maximum of  $n$  independent stochastic processes. *J. Applied Probability* 30, 66-81.
56. L. de Haan and S.I. Resnick (1993). Estimating the limit distribution of multivariate extremes. *Communications in Statistics - Stochastic Models* 9, 275-309.
57. J. Einmahl, L. de Haan and Huang Xin (1993). Estimating a multidimensional extreme-value distribution. *J. Multiv. Analysis* 47, 35-47.
58. A.L.M. Dekkers and L. de Haan (1993). Optimal choice of sample fraction in extreme-value estimation. *J. Multiv. Analysis* 47, 173-195.
59. L. de Haan and S.I. Resnick (1994). Random transformations for Poisson processes and sup-integral processes. *Communications in Statistics - Stochastic Models* 10, 205-221.
60. L. de Haan, D.W. Jansen, K. Koedijk and C.G. de Vries (1994). *Safety first portfolio selection, extreme value theory and long run asset risks*. *Extreme value theory and applications* (J. Galambos et al., eds.) 471-487. Kluwer, Dordrecht.
61. L. de Haan and S. Resnick (1994). Estimating the home range. *J. Appl. Prob.* 31, 700-720.
62. L. de Haan (1994). *Estimating exceedance probabilities in higher-dimensional space*. *Communications in Statistics - Stochastic Models* 10, 765-780.
63. K. Aarssen and L. de Haan (1994). On the maximal life span of humans. *Mathematical Population Studies* 4 (4), 259-281.
64. L. de Haan (1994). A unified criterion for the domain of attraction of extreme value distributions. *Th. Prob. Appl.* 39, 323-328.
65. L. de Haan and X. Huang (1995). Large quantile estimation in a multivariate setting. *J. Multiv. Anal.* 53, 247-263.
66. A.A. Balkema, J.L. Geluk and L. de Haan (1995). Measuring asymptotic convexity. *Publ. de l'Inst. Math. (Beograd)* 58(72), 106-116.
67. L. de Haan (1996). Von Mises conditions in second order regular variation. *J. Math. Analysis Appl.* 197, 400-410.
68. G. Draisma and L. de Haan (1996). An estimator for the extreme-value index. *Communications in Statistics - Theory and Methods* 25, 685-694.
69. L. de Haan and S. Resnick (1996). Second order regular variation and rates of convergence in extreme value theory. *Annals of Probability* 24, 97-124.
70. S. Cheng, L. de Haan and J. Yang (1996). Asymptotic distributions of multivariate intermediate order statistics. *Th. Prob. Appl.* 41, 840-853.
71. L. de Haan and U. Stadtmüller (1996). Generalized regular variation of second order. *J. Australian Math. Soc. (Series A)* 61, 381-395.
72. S. Cheng, L. de Haan and X. Huang (1997). Rate of convergence of intermediate order statistics. *J. Theoretical Probability* 10, 1-23.

73. L. de Haan and L. Peng (1997). Rate of convergence for bivariate extremes. *J. Multivariate Analysis* 61, 195-230.
74. J. Einmahl, L. de Haan and A. Sinha (1997). Estimation of the spectral measure of an extreme-value distribution. *Stoch. Proc. Appl.* 70, 143-171.
75. J. Geluk, L. de Haan, S. Resnick and C. Starica (1997). Second order regular variation, convolution and the central limit theorem. *Stoch. Proc. Appl.* 69, 139-159.
76. L. de Haan and L. Peng (1997). Slow convergence to normality: an Edgeworth expansion without third moment. *Prob. and Math. Stat.*, 17, 395-406.
77. L. de Haan and L. Peng (1998). Comparison of tail index estimators. *Statistica Neerlandica*, 52, 60-70.
78. L. de Haan and J. de Ronde (1998). Sea and wind: multivariate extremes at work. *Extremes*, 1, 7-45.
79. L. de Haan and S. Resnick (1998). On asymptotic normality of the Hill estimator. *Stoch. Models*, 14, 849-867.
80. Holger Rootz'en, M.R. Leadbetter and Laurens de Haan (1998). On the distribution tail array sums for strongly mixing stationary sequences. *Annals Appl. Probab*, 8, 868-885.
81. L. de Haan and T. Themido Pereira (1999). Estimating the index of a stable distribution. *Statistics and Probability letters*, 41, 39-55.
82. H. Drees and L. de Haan (1999). A note on conditions for quantile process approximations. *Stoch. Models*, 15, 485-502.
83. L. de Haan, L. Peng and H. Iglesias Pereira (1999). Approximation by penultimate stable laws. *Probability and Mathematical Statistics*, 19, 105-121.
84. L. de Haan and A.K. Sinha (1999). Estimating the probability of a rare event. *Annals of Statistics*, 27, 732-759.
85. L. de Haan and L. Peng (1999). Exact rates of convergence to a stable law. *J. London Math. Soc.* , 59, 1134-1152.
86. M.I. Gomes and L. de Haan, (1999). Approximation by penultimate extreme-value distributions. *Extremes*, 2(1), 71-85.
87. G. Draisma, L. de Haan, L. Peng and T. Themido Pereira (1999). A bootstrap based method to achieve optimality in estimating the extreme-value index. *Extremes*, 2, 367-404.
88. H. Drees, L. de Haan and S. Resnick (2000). How to make a Hill plot, *Annals of Statistics*, 28, 254-274 .
89. J. Geluk and L. de Haan (2000). Stable probability distribution and their domains of attraction: a direct approach, *Prob. and Math. Stat.* 20, 169-188.
90. L. Canto e Castro, L. de Haan and M.G. Temido (2000). Rarely observed maxima. *Th. Prob. Appl.* 45, 779-782.
91. P. Embrechts, L. de Haan and X. Huang (2000). Modelling multivariate extremes. In: *Extremes and integrated risk management*, P.L. Embrechts ed., 59-70, Risk books, Risk Waters Group.
92. J. Danielsson, L. de Haan, L. Peng and C.G. de Vries (2001). Using a bootstrap method to choose the sample fraction in tail index estimation. *J. of Multivar. Anal.*, 76,226-248.
93. L. de Haan and T. Lin (2001). On convergence towards an extreme value distribution in  $C[0,1]$ . *Annals of Prob.* 29, 467-483.
94. S. Cheng and L. de Haan (2001). Penultimate approximation for Hill's estimator. *Scand. J. Stat.*28, 569-575.
95. J. Einmahl, L. de Haan and V. Piterbarg (2001). Non-parametric estimation of the spectral measure of an extreme value distribution. *Annals of Statistics*, 29,1401-1423.

96. D. Dietrich, L. de Haan and J. Huesler (2002). Testing extreme value conditions. *Extremes* 5, 71-85.
97. J. Geluk and L. de Haan (2002). On bootstrap sample size in extreme value theory. *Publ. de l'Inst. Math., Nouvelle serie*, 71(85), 21-25.
98. L. de Haan, D. Li, L. Peng and H. Pereira Iglesias (2002). Alternative conditions for attraction to stable vectors. *Probability and Mathematical Statistics*, 22, 303-317.
99. M.Ivette Gomes, Laurens de Haan and Liang Peng (2002). Semi-parametric estimation of the second order parameter in statistics of extremes. *Extremes*, 5, 387-414.
100. M.I. Fraga Alves, M.I. Gomes and L. de Haan (2003). A new class of semiparametric estimators of the second order parameter. *Portugalia Mathematica* 60, 193-213.
101. Holger Drees, Laurens de Haan and Deyuan Li (2003). On large deviations for extremes. *Stat.Prob.Letters*, 64, 51-62.
102. A. Ferreira, L. de Haan and L. Peng (2003). On optimizing the estimation of high quantiles of a probability distribution. *Statistics*, 37, 401-434.
103. M.I. Fraga Alves, L. de Haan and T.Lin (2003). Estimation of the parameter controlling the speed of convergence in extreme value theory. *Math.Methods of Stat.* 12, 155-176.
104. Laurens de Haan and Tao Lin (2003). Weak consistency of extreme value estimators in  $C[0,1]$ . *Annals of Statistics* 31, 1996-2012.
105. G. Draisma, H. Drees, A. Ferreira and L. de Haan (2004). Bivariate tail estimation: dependence in asymptotic independence. *Bernoulli* 10, 251-280.
106. H. Drees, A. Ferreira and L. de Haan (2004). On maximum likelihood estimation of the extreme value index. *Ann.of Appl.Prob* 14, 1179-1201.
107. I.Gomes, L. de Haan and D. Pestana (2004). Joint exceedances of the ARCH process. *J. Appl. Prob.* 41, 919-926.
108. L. de Haan and T.T. Pereira (2006). Spatial Extremes: Models for the stationary case. *Ann. Statist.* 34, 146-168.
109. L. de Haan and A. Ferreira (2006). *Extreme Value Theory: An Introduction*. 417 pages. Springer.
110. H. Drees, L. de Haan and D.Li (2006). Approximations to the tail empirical distribution function with application to testing extreme value conditions. *J. Stat. Planning and Inference* 136, 3498-3538.
111. L. Canto e Castro and L. de Haan (2006). A class of distribution functions with less bias in extreme value estimation. *Stat.Prob.Letters*, 76, 1617-1624.
112. J. H. J. Einmahl, L. de Haan and D. Li (2006). Weighted Approximations of Tail Copula Processes with Application to Testing the Multivariate Extreme Value Condition. *Ann. Statist.* 34, 1987-2014.
113. M. I. Fraga Alves, L. de Haan and T. Lin (2006). Third order extended regular variation. *Publ. de l'Institut Mathématique (PIMB), Nouvelle Série* 80, 94, 109-120.
114. M.I. Barao, L. de Haan and D. Li (2007). Comparison of estimators in multivariate EVT. *International J. Statistics and Systems*, 2, 75-91.
115. M. I. Gomes, L. de Haan and L. Henriques (2008). Tail index estimation through the accommodation of bias in the weighted log-excesses. *JRSS-B*, 70, 31-52.
116. L. de Haan and C. Zhou (2008). On extreme value analysis of a spatial process. *Revstat*, 6, 71-81.
117. L. de Haan, C. Neves and L. Peng (2008). Parametric tail copula estimation and model testing. *J. Multivariate Anal.* 99, 1260-1275.

118. A. Buishand, L. de Haan and C. Zhou (2008). On spatial extremes; with application to a rainfall problem. *Annals of Applied Statistics*, 2, 624-642.
119. M. I. Fraga Alves, L. de Haan and C. Neves (2009). A test procedure for detecting super-heavy tails. *J. Stat. Planning and Inference*, 139, 213-227.
120. M. I. Fraga Alves, M. I. Gomes, L. de Haan and C. Neves (2009). Mixed moment estimator and location invariant alternatives. *Extremes*, 12, 149-186.
121. L. de Haan, C. G. de Vries and C. Zhou (2009). The expected payoff to Internet auctions. *Extremes*, 12, 219-238.
122. Z. Kabluchko, M. Schlather and L. de Haan (2009). Stationary max-stable fields associated to negative definite functions. *Annals of Probability*, 37, 2042-2065.
123. L. de Haan and C. Zhou (2011). Extreme residual dependence for random vectors and processes. *Adv. in Appl. Probab.*, 43, 217-242.
124. J. Cai, J. Einmahl and L. de Haan (2011). Estimation of extreme risk regions under multivariate regular variation. *Annals of Statistics*, 39, 1803-1826.
125. [A. Ferreira, L. de Haan and C. Zhou \(2011\)](#). Exceedance probability of a stochastic process. *J. Multiv. Analysis*, Accepted..
126. [J.H.J. Einmahl and L. de Haan \(2009\)](#). *Estimating extreme multivariate quantile regions*. Submitted.
127. [L. de Haan, A. Klein Tank and C. Neves \(2011\)](#). *On tail trend detection: modeling relative risk*. Submitted.
128. [H. Drees and L. de Haan \(2011\)](#). *Estimating failure probabilities*. Submitted.
129. [J. Cai, L. de Haan and C. Zhou \(2011\)](#). *Bias correction in extreme value statistics with index around zero*. Submitted.

## Published Invited Lectures etc.

A.A. Balkema and L. de Haan

"Limit laws for order statistics", *Colloquia Math. Soc. János Bolyai* 11 (1974), 17-22.

Haan, L. de

"Slow variation and characterization of domains of attraction", J. Tiago de Oliveira (ed), *Statistical Extremes and Applications*, (1984), 31-48, Reidel, Dordrecht, Holland.

Haan, L. de

"Extremal processes", J. Tiago de Oliveira (ed), *Statistical Extremes and Applications*, (1984), 297-309, Reidel, Dordrecht, Holland.

Haan, L. de

"Multivariate regular variation and applications in probability theory", P.R. Krishnaiah (ed), *Multivariate Analysis - VI*, (1985), 281-288, Pittsburgh.

Haan, L. de

"Extremes in higher dimensions: the model and some statistics", *Proceedings 45th Session of the I.S.I.* 26.3 (1985), Amsterdam.

Haan, L. de

"Review of "Regular variation" by N.H. Bingham, C. Goldie and J.L. Teugels (Cambridge Univ. Press) in: *Bulletin of the Amer. Math. Society* 19 (1988), 329-332.

Haan, L. de

"Statistics of extreme values", *CWI Quarterly* 2 (1989), 101-115.

Haan, L. de

"Extreme value statistics", in: *Extreme Value Theory and Applications* (J. Galambos et al., eds.) (1994), 93-122. Kluwer, Dordrecht.

Haan, L. de

"On extreme value theory, or how to learn from almost disastrous events.",  
Gulbenkian lecture, DEIO, FC Universidade de Lisboa, 2006.

Haan, L. de

"Discussion of 'Copulas: Tales and facts', by Thomas Mikosch", *Extremes* (2006), 9,  
21-22.

Haan, L. de

"Plotting Positions in Extreme Value Analysis", *J. Appl. Meteor. Climatol.* (2007), 46,  
396.

[J. L. Geluk, L. de Haan and C. G. de Vries](#)

"Weak & strong financial fragility", Tinbergen Institute Discussion Paper (2007), TI  
2007-023/2.

[L. de Haan, C. G. de Vries and C. Zhou](#)

"The extent of Internet auction markets", Tinbergen Institute Discussion Paper (2008),  
TI 2008-041/2.

## **Extended visits (1-3 months) for research purposes**

1975 summer

CSIRO, Canberra, Australia.

1979, 1987 summer

Colorado State University, Fort Collins.

1982, 1984, 1988, 1996 summer

Center for Stochastic Processes, University of North Carolina at Chapel Hill.

1988 winter

I.S.I. at New Delhi.

1990, 1991, 1993, 1994, 1995 summer,

1990, 1991, 1992 fall

Cornell University, Dept. of Operations Research.

1992 winter

University of Ulm (Germany).

1992, 1999 summer

ETH (Zuerich).

1993 winter

Univ. Claude Bernard, Lyon 1.

1994 summer

Peking University.

1995 winter

Institut Mittag-Leffler, Stockholm.

1997, 1999, 2000 etcetera.

University of Lisbon.

1998 summer

Chalmers University Goeteborg.

1999-

Universidade de Lisboa

2000

University of Berne

2001

Universite de Marne-la-Vallee

2002

Georgia Institute of Technology

## Teaching activities

- Regular undergraduate courses in Probability and Statistics, including Stochastic Processes.
- Some optional courses taught:
- Time series analysis
- Sufficient statistics
- Fundamental probability (including measure theory)
- Stochastic methods in finance
- Reliability theory
- Insurance mathematics
- Extreme value theory

Graduate course (AIO-cursus, najaar 1999) on [empirical processes and extreme values](#), jointly with John Einmahl.

There are also other [lectures notes](#).

## Other activities

- "Overschrijdingslijnen", a project based on extreme-value analysis, meant to provide new standards for the Dutch sea defenses. Joint project with people from "Rijkswaterstaat" (the Dutch government agency overseeing the sea defenses, among other things), the Royal Netherlands Meteorological service and CWI (Centre for Mathematics and Computer Science in Amsterdam). Commissioned by the Ministry of Public Works (1984-1992). Report: Dillingh, D. L. de Haan, R. Helmers, G.P. Können and J. van Malde, 1993: De basispeilen langs de Nederlandse kust; statistisch onderzoek (in Dutch). Rijkswaterstaat, Dienst Getijdenwateren /RIKZ, Report DGW-93.023.
- "[Neptune](#)", a larger scale but similar project, sponsored by the European Union via the MAST program and in cooperation with BMT Port & Coastal Limited; Delft Hydraulics; Rijkswaterstaat; GKSS-Forschungszentrum Geesthacht GmbH; University of Lancaster; University of East Anglia. Novel aspects are: firstly the wide-ranging set-up starting from climatological data going down to the water levels and movements near the British and Dutch coasts and secondly the higher-dimensional statistical set-up in the extreme-value analysis (1995-1997). Finished March 1997.
- I have been Associate Dean of the School of Economics (1990-1992).
- NATO collaborative research grant (1991-1995) with Sidney Resnick, Cornell University.
- European Union grant "Training through research" (cat. 40) in the "Training and Mobility of Researchers" program. University of Lisbon, January through June 1997.
- "Extreme interest rates", a project for ING insurance company; jointly with H. Drees, Heidelberg (1999-2000).