Curriculum vitae

Surgailis, Donatas

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Education

M.S. Applied Mathematics, Vilnius University, 1967

Candidate of Physics and Mathematics, Vilnius University, 1970

Doctor of Physics and Mathematics, Vilnius University, 1981

Professional experience

Junior research worker, Institute of Physics and Mathematics, Vilnius, 1970-1974

Senior research worker, Institute of Mathematics and Informatics, Vilnius, 1975-1981

Professor, Department of Mathematical Statistics, Institute of Mathematics and Informatics, Vilnius, 1982 - 2006.

Head of the Department of Stochastic Processes, Institute of Mathematics and Informatics, Vilnius University, 2006 - present.

Visiting appointments

International Banach Center for Mathematical Research, Polish Academy of Sci., Warsaw, Poland, January - April 1976

Mathematical Institute of Polish Academy of Sci., Sopot, Poland, May - June 1977

Istituto Matematico dell'Universita di Roma, Italy, November, 1979 - February, 1980

Institut für Mathematik, Ruhr-Universität Bochum, Germany, October 1988, and March 1990

Department of Statistics, Oxford University, England, May 1991

Center for Stochastic Processes, University of North Carolina, September, 1991 and January - March 1992

Center for Stochastic and Chaotic Processes in Science and Technology, Case Western Reserve University, Cleveland, Ohio, September - December 1993

Department of Statistics and Probability, Michigan State University, E. Lansing, Michigan, January - May 1994

Department of Mathematics, Case Western Reserve University, Cleveland, Ohio, January - May 1995

Instituto de Matematica Pura e Applicada (IMPA), Rio de Janeiro, September - December, 1995

IMPA, Rio de Janeiro, September - December, 1996

Department of Mathematics, Universita di Roma "Tor Vergata", March 1997

Department of Mathematics, Université de Paris Sud Orsay, May 1997

Stochastic Differential Equations, Vilnius University, graduate (3 times),

Stationary Processes, Vilnius University, graduate (2 times),

Markov Chains, Vilnius University, graduate (2 times),

Martingales, Vilnius University, graduate

Statistics 351, Michigan State University, spring 1994

Math 125, Case Western Reserve University, spring 1995

Statistics, Siauliai University, spring 1998

Statistics, Siauliai University, fall 1999 and spring, 2000

Introduction to Combinatorics and Graph Theory, Siauliai University, fall 1999

Statistics 351, Michigan State University, spring 1999

Statistics 421, Michigan State University, spring 1999

Statistics 351, Michigan State university, fall 2001

Investment theory, Vilnius University, 2005 - present.

Financial mathematics (master's course), Vilnius University, 2005 - 2008

Invited conference presentations

1980 International Conference on Random Fields and Applications, Bangalore, India

1981 Oberwolfach meeting on Stochastic Analysis, Oberwolfach, Germany

1982 4th Soviet-Japan Symposium on Probability Theory and Mathematical Statistics, Tbilissi, Georgia

1985 Oberwolfach meeting on Dependence in Probability and Statistics, Oberwolfach, Germany

1986 5th Japan-Soviet Symposium on Probability Theory and Mathematical Statistics, Kyoto, Japan

1987 16th European Meeting of Statisticians, Thessaloniki, Greece

1988 4th Bad Honnef Conference on Stochastic Differential Systems, Bad Honnef, Germany

1989 5th International Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius, Lithuania

1992 Workshop on Multiple Wiener-Ito Integrals and their Applications, Guanajuato, Mexico

1993 6th International Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius, Lithuania

1994 IMA Period of Concentration: Stochastic Methods for Nonlinear PDE's, Minneapolis, Minnesota

1994 IMA Workshop on Stochastic Models in Geosystems, Minneapolis, Minnesota

1996 Joint ASA-IMS Meeting, Chicago, Ill.

1996 IMS Special Topics Meeting, Chapel Hill, N.C.

1996 Workshop on Complex Systems, Statistical Mechanics and Pattern Recognition, San Paulo, Brazil

1997 I Escola Brasileira de Probabilidade, Rio de Janeiro, Brazil

7. D. Surgailis. On the "innovation theorem", *Lithuanian Math. J.* **13** (1973), 221–226.

8. D. Surgailis. A "Schwartz" inequality and some other results for square integrable martingales, *Lithuanian Math. J.* **13**, 3 (1973), 211–217.

9. D. Surgailis. On stochastic integrals for $p-$integrable martingales, *Lithuanian Math. J.* **13**, 4 (1973), 205–210.

10. D. Surgailis. Characterization of a supermartingale by some stopping times, *Lithuanian Math. J.* **14**, 1 (1974), 189–193.

11. D. Surgailis. An expansion of the free Markov field, *Lithuanian Math. J.* **19** (1979), 181–186.

12. D. Surgailis. On trajectories of Gaussian Markov random fields, in: Z. Ciesielski (ed.). *Probability Theory. Banach Center Publications, Vol. 5*, pp. 231–247. PWN: Warsaw 1979.

13. R.L. Dobrushin, D. Surgailis. On the innovation problem for Gaussian Markov random fields, *Zeitschrift f. Wahrscheinlichkeitstheorie verw. Geb.* **49** (1979), 275–291.

14. D. Surgailis. On the Markov property of a class of linear infinitely divisible fields, *Zeitschrift f. Wahrscheinlichkeitstheorie verw. Geb.* **49** (1979), 293–311.

15. D. Surgailis. Convergence of sums of non-linear functions of moving averages to self-similar processes, *Soviet Math. Doklady* **23** (1981), 47–50.

16. D. Surgailis. On L^2 and non-L^2 multiple stochastic integration. In: M. Arató, D. Vermes and A.V. Balakrishnan (eds.), *Stochastic Differential Systems.* Lecture Notes Control Inform. Sci. vol. 36, pp. 212–226. Springer: Berlin etc. 1981.

17. D. Surgailis. On infinitely divisible self-similar random fields. *Zeitschrift f. Wahrscheinlichkeitstheorie verw. Geb.* **58** (1981), 453–477.

18. V. Bentkus, D. Surgailis. On some classes of self-similar random fields, *Lithuanian Math. J.* **21** (1981), 53–66.

19. D. Surgailis. Zones of attraction of self-similar multiple integrals. *Lithuanian Math. J.* **22** (1982), 185–201.

20. D. Surgailis. On Poisson multiple stochastic integrals and associated equilibrium Markov processes. In: G. Kallianpur (ed.), *Theory and Application of Random Fields.* Lecture Notes Control Inform. Sci. vol. 49, pp. 233–248. Springer: Berlin etc. 1983.

21. D. Surgailis. On infinitely divisible OS-positive random fields. In: K. Itô and Yu.V. Prokhorov (eds.). *Probability Theory and Mathematical Statistics.* Lecture Notes in Math. vol. 1021, pp. 666–675. Springer: Berlin etc. 1983.

22. P.M. Bleher, D. Surgailis. Self-similar random fields. In: *Probability Theory. Mathematical Statistics. Theoretical Cybernetics.* Itogi Nauki i Techniki Akad. Nauk SSSR vol. 20, pp. 3–51. Moscow: 1983.

23. D. Surgailis. On multiple Poisson stochastic integrals and associated Markov semigroups, *Probab. Math. Statist.* **3** (1984), 217–239.

24. L. Giraitis, D. Surgailis. CLT and other limit theorems for functionals of Gaussian processes, *Zeitschrift f. Wahrscheinlichkeitstheorie verw. Geb.* **70** (1985), 191–212.

25. D. Surgailis. On the multiple stable integral, *Zeitschrift f. Wahrscheinlichkeitstheorie werv. Geb.* **70** (1985), 621–632.

26. A. Astrauskas, D. Surgailis. Limit theorems for a random walk in a random environment, *Lithuanian Math. J.* **25** (1985), 12–27.

27. L. Giraitis, D. Surgailis. A limit theorem for a triangular array of symmetric statistics. In: N. V. Krylov, R. Sh. Liptser and A. A. Novikov (eds.), *Statistics and Control of Stochastic Processes*, pp. 147–166. Optim. Software: New York 1985.

47. D. Surgailis, W.A. Woyczynski. Scaling limits of solutions of Burgers' equation with singular Gaussian initial data. In: C. Houdré and V. Pérez-Abreu (eds.), *Chaos Expansions, Multiple Wiener-Itô Integrals and Their Applications*, pp. 145–161. CRC Press: Boca Raton etc. 1994.

48. D. Surgailis, W.A. Woyczynski. Burgers' equation with non-local shot noise data, *J. Appl. Probab.* **31A** (1994), 351–362.

49. S. Albeverio, S.A. Molchanov, D. Surgailis. Stratified structure of the Universe and Burgers' equation - a probabilistic approach. *Probab. Th. Rel. Fields* **100** (1994), 457–484.

50. T. Funaki, D. Surgailis, W.A. Woyczynski. Gibbs-Cox random fields and Burgers' turbulence. *Ann. Appl. Probab.* **5** (1995), 701–735.

51. S.A. Molchanov, D. Surgailis, W.A. Woyczynski. Hyperbolic asymptotic in Burgers' turbulence and extremal processes. *Commun. Math. Phys.* **168** (1995), 209–226.

52. D. Surgailis. Intermediate asymptotic of statistical solutions of Burgers' equation, In: T. Funaki and W.A. Woyczynski (eds.), *Nonlinear Stochastic PDE's: Hydrodynamic Limit and Burgers' Turbulence*, IMA Volumes in Mathematics and Its Applications vol. 77, pp. 137–146, Springer-Verlag: New York etc. 1995.

53. D. Surgailis. Asymptotic of solutions of Burgers' equation with random piecewise constant data, In: S.A. Molchanov, W.A. Woyczynski (eds.), *Stochastic Models in Geosystems*, IMA Volumes in Mathematics and Its Applications vol. 85, pp. 427–442, Springer-Verlag: New York etc. 1996.

54. L. Giraitis, H.L. Koul, D. Surgailis. Asymptotic normality of regression estimators with long memory errors, *Statist. Pro bab. Letters* **29** (1996), 317–335.

55. L. Giraitis, R. Leipus, Surgailis. The change-point problem for dependent observations, *J. Stat. Plan. Inf.* **53** (1996), 297–310.

56. S.A. Molchanov, D. Surgailis, W.A. Woyczynski. The large-scale structure of the Universe and quasi-Voronoi tesselation structure of shock fronts in forced Burgers' turbulence in $\mathbf{R}^d$, *Ann. Appl. Probab.* **7** (1997), 200–228.

57. H.L. Koul, D. Surgailis. Asymptotic expansion of M-estimators with long memory errors, *Ann. Statist.* **25** (1997), 818–850.

58. C. Houdré, V. Pérez-Abreu, D. Surgailis. Interpolation, correlation inequalities and covariance expansions for functions of infinitely divisible variables, *J. Fourier Anal.* **4** (1998), 651–668.

59. V. Sidoravicius, D. Surgailis, M.E. Vares. An exclusion process with two types of particles and the hydrodynamic limit, *Markov Proc. Rel. Fields* **4** (1998), 131–174.

60. P. Doukhan, D. Surgailis. Functional central limit theorem for the empirical process of short memory linear sequence, *C. R. Acad. Sci. Paris* **326** (1998), Serié 1, 87–92.

61. R. Banys, D. Surgailis. On weak convergence of random fields, *Lithuanian Math. J.* **39** (1999).

62. V. Sidoravicius, D. Surgailis, M.E. Vares. On the truncated anisotropic long-range percolation on $\mathbf{Z}^2$, *Stoch. Proc. Appl.* **81** (1999), 337–349.

63. L. Giraitis, P.M. Robinson, D. Surgailis. Variance-type estimators of long memory, *Stoch. Proc. Appl.* **80** (1999), 1–24.

64. L. Giraitis, D. Surgailis. Central limit theorem for the empirical process of linear sequence with long memory, *J. Stat. Plan. Inf.* **80** (1999), 81–93.

65. D. Surgailis, M. Vaičiulis. Convergence of Appell polynomials of long range dependent moving average in martingale differences, *Acta Appl. Math.* **58** (1999), 343–357.

66. V. Sidoravicius, D. Surgailis, M.E. Vares. Poisson broken lines' process and its application to Bernoulli first passage percolation, *Acta Appl. Math.* **58** (1999), 311–325.

86. D. Surgailis. Stable limits of sums of bounded functions of long memory moving averages with finite variance. *Bernoulli* **10** (2004), 327–355.

87. H.L. Koul, R.T. Baillie, D. Surgailis. Regression model fitting with a long memory covariate process. *Econometric Theory* **20** (2004), 485–512.

88. P. Doukhan, G. Lang, D. Surgailis, M.-C. Viano. Functional limit theorem for the empirical process of a class of Bernoulli shifts with long memory, *J. Theoret. Probab.* **18** (2005), 109–134.

89. R. Leipus, V. Paulauskas, D. Surgailis. Renewal regime switching and stable limit laws. *J. Econometrics* **129** (2005), 299–327.

90. R. Leipus, V. Paulauskas, D. Surgailis. Random coefficient AR(1)process with heavy tailed renewal switching coefficient and heavy tailed noise. *J. Appl. Probab.* **43** (2006), 421–440.

91. A. Philippe, D. Surgailis, M.-C. Viano. Invariance principle for a class of non stationary processes with long memory. *C. R. Acad. Sci. Paris Ser. 1* **342** (2006), 269–274.

92. A. Philippe, D. Surgailis, M.-C. Viano. Almost periodically correlated processes with long memory. In: P. Bertail, P. Doukhan, P. Soulier (Eds.) *Dependence in Probability and Statistics.* Lecture Notes in Statistics, vol. 187, pp. 159–194. Springer, Berlin 2006.

93. L. Giraitis, R. Leipus, D. Surgailis. Recent advances in ARCH modelling. In: A. Kirman, G. Teyssière (Eds.) *Long-Memory in Economics* Springer, Berlin, 2007, pp. 3-38.

94. P. Doukhan, G. Lang, D. Surgailis. Randomly fractionally integrated processes. *Lithuanian Math. J.* **47** (2007), 3–28.

95. A. Klivečka, D. Surgailis. GARCH(1,1) process can have arbitrarily heavy tails. *Lithuanian Math. J.* **47** (2007), 196–210.

96. K. Bružaitė, D. Surgailis, M. Vaičiulis. Time-varying fractionally integrated processes with finite or infinite variance and nonstationary long memory. *Acta Appl. Math.* **96** (2007), 99–118.

97. R. Leipus, D. Surgailis. On long-range dependence in regenerative process based on general ON/OFF scheme. *J. Applied Probab.* **44** (2007), 1–14.

98. A. Philippe, D. Surgailis, M.-C. Viano. Time-varying fractionally integrated processes with nonstationary long memory. *Th. Probab. Appl.* **52** (2008), 651-673.

99. V. Paulauskas, D. Surgailis. On the rate of approximation in limit theorems for sums of moving averages. *Th. Probab. Appl.* **52** (2008), 361-370.

100. D. Surgailis. Nonhomogeneous fractional integration and multifractional processes. *Stochastic Process. Appl.* **118** (2008), 171–198.

101. D. Surgailis, G. Teyssière, M. Vaičiulis. The increment ratio statistic. *J. Multiv. Anal.* **99** (2008), 510–541.

102. H.L. Koul, D. Surgailis. Testing of a sub-hypothesis in linear regression models with long memory covariates and errors. *Applications of Mathematics* **53** (2008), 235–248.

103. D. Surgailis. A Quadratic ARCH(∞) model with long memory and Lévy stable behavior of squares *Advances of Applied Probability* **40** (2008), 1198–1222.

104. L. Giraitis, R. Leipus, D. Surgailis. ARCH(∞) models and long memory properties. In: T.G. Andersen, R.A. Davis, J.-P. Kreiss, T. Mikosch (Eds.) *Handbook of Financial Time Series*, pp. 71–84. Springer-Verlag, 2009.

105. H.L. Koul, D. Surgailis. Testing of a sub-hypothesis in linear regression models with long memory errors and deterministic design. *J. Statist. Plan. Inf.* **139** (2009), 2715–2730.