Nikolay M. YANEV - Short CV

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Department of Probability and Statistics, Professor and Chair,
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Education

B.S. 1964-1967, Faculty of Mathematics and Informatics, University of Sofia, Bulgaria;

M.S. 1967-1969, Faculty of Mathematics and Informatics, University of Sofia, Bulgaria;

Ph.D. in Probability and Statistics, 1972-1975, Moscow State University, Russia; Supervisor: B.A.Sevastyanov.

Doctor of Mathematical Sciences (Second degree after PhD), 1985, Bulgarian Academy of Sciences and University of Sofia, Bulgaria.

LANGUAGES: Bulgarian, English, French, Russian.

Specialization

Main field: Probability, Statistics, Stochastic Processes and Applications.

Other fields:

- Branching Stochastic Processes: Controlled Branching Processes, Age-Dependent Models, State-Dependent Immigration, Processes with Random Migration, Multitype Processes, Large Number of Ancestors, Probability of Extinction, Limit theorems;

- Statistical Inference for Branching Processes; Simulation and Estimation of Branching Processes;

- Branching Processes as Mathematical Models in Cell and Molecular Biology, Cancer Research and Radiobiology.

- Sums of Random Number of Random Variables and Applications;

- Renewal Theory and Regenerative Processes.

Publications

- Papers in refereed journals: 111 (See the List of Publications).

- Books: 7

- Communications to scientific meetings: over 60.

Some of the Invited Talks:

- First World Congress on Branching Processes, (Varna, 1993);

- Institute of Mathematical Analysis and Applications (Minneapolis, 1994);

- Workshop on Branching Processes, Oberwolfach, 1996;

- International Statistical Institute, 51 Session, 1997.

Career/Employment

(1) Academic Positions: Department of Probability and Statistics at the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences:

1969-1972 - Research Fellow;

1972-1975 - PhD Student in Moscow State University, Russia;

1975-1978 - Research Fellow;

1978-1988 - S. Research Fellow;

1988-1991 - Associate Professor;

1991- - Professor;

1993-1999 - Director of the Institute of Mathematics and Informatics;

2000- - Chair of the Department of Probability and Statistics.

(2) Basic Teaching Activities:

(i) Faculty of Mathematics and Informatics, University "St. Kl. Ohridski", Sofia - (from 1976):

- Introductory Course in Probability and Statistics;
- Special Courses in Probability and Statistics;
- Random Walk and Renewal Theory;
- Branching Stochastic Processes;
- Introductory Course in Stochastic Processes;
- Probability, Statistics and Stochastic Processes for Ph. D. Students.

(ii) Université du Quebec à Montreal – 1989-1990 – Probability and Statistics.

(iii) Université de Versailles – 1998-2000 – Probability and Statistics.

(iv) University of Rochester – 2005 – Stochastic Processes for PhD students.

(3) Supervision - 12 M.S. students and 10 Ph. D. students.

Visiting Professor

(1) Up to one month (for research and lectures):

Athens, Berlin, Bordeaux, Bucharest, Budapest, Ebora, Goteborg, Los Angeles, Minneapolis, Moscow, New York, Oberwolfach, Paris, Prague, Sanct Petersburg, Tampa, Thessaloniki, Vienna, Warsaw.

(2) Université du Quebec à Montreal, Canada (for teaching in French and research):

December 1989- June 1990, April - June 1991, May - June 1992.

(3) Oregon State University, Corvallis, USA: October 1994 - January 1995.

(4) Université de Versailles, France (for teaching in French and research): February-July 1998; January -July 1999; December 1999- July 2000.

(5) University of New South Wales, Sydney, Australia: November-December, 2001.

(6) University of Extremadura, Badajoz, Spain: November 2002 – May 2003.

(7) University of Rochester (State New York, USA): January-July 2005; January-July 2007; January-June 2008.

Fellowships and Membership of Professional Societies:

International Statistical Institute and Bernoulli Society: 1993- ;

Bulgarian Statistical Society.

Nikolay M. YANEV. Selected List of Publications.

1. Conditions of extinction of -branching processes with random . **Theor. Probab. Appl.** XX, 2 (1975), 433-440.

2. On the statistics of branching processes. **Theor. Probab. Appl.** XX, 3 (1975), 623-633.

3. Dynamics of induced cell proliferation systems within a framework of a branching process model: 1. Numbers of cells in successive generations. **CYTOLOGY**, 22 (1980), 945-953. (CA: A. Yakovlev; In Russian)

4. The life-periods of critical branching processes with random migration. **Theor. Probab. Appl.** XXVIII, 3 (1983), 458-467. (CA: K.V. Mitov)

5. Dynamics of induced cell proliferation systems within a framework of a branching process model: 2. Some characteristics of the cell cycle temporal organization. **CYTOLOGY,** 25, 1983, 818-826. (CA: A. Yakovlev, in Russian).

6. Critical Galton-Watson processes with decreasing state-dependent immigration. **J. Appl. Probab.** 21 (1984), 22-39. (CA: K.V. Mitov).

7. Continuous-time branching processes with decreasing state-dependent immigration. **Adv. Appl. Probab.** 16 (1984), 697-714. (CA: V.A. Vatutin, K.V. Mitov)

8. Bellman-Harris branching processes with state-dependent immigration. **J. Appl. Probab.** 22 (1985), 757-765. (CA: K.V. Mitov)

9. On the distribution of marks over a proliferating cell population obeying the Bellman-Harris branching process. **Mathematical Biosciences** 5 (1985), 159-173. (CA: A. Yakovlev).

10. Critical branching processes with nonhomogeneous migration. **Annals of Probability** 13 (1985), 923-933. (CA: K. Mitov).

11. Bellman-Harris branching processes and distribution of marks in proliferating cell populations. **Proceedings of the I-st Word Congress of the Bernoulli Society**, v. 2, 1987, 725-728. (CA: A.Yakovlev, M.S.Tanoushev)

12. Non-parametric statistical inference for Galton-Watson branching processes. **Proceedings of 6th European Y. S. Meeting**, Prague, Charles University, 1989, 269-276. (CA: I.Tzankova)

13. Bellman-Harris branching processes with a special type of state-dependent immigration. **Adv. Appl. Probab.** 21 (1989), 270-283. (CA: K.V.Mitov).

14. Multitype Critical Galton-Watson Branching Processes with Final Types. **Discrete Mathematics**, v.1, no.4, 1989, 113-122. (CA: V.Vatutin)

15. Limit Theorems for Sums of a Random Number of Random Variables and Applications in Branching Processes. In: **Selected Talks on Stochastic Processes**. Aristotle University, Thessaloniki, 1990, 1-28. (CA: J.-P. Dion)

16. Statistical Inference for Branching Processes with an Increasing Random Number of Ancestors. **J. Statistical Planning and Inference**, 39, 1994, 329-352 (CA: J.P.-Dion)

17. Age-dependent branching processes with state-dependent immigration. In: C.C. Heyde (Editor), Branching Processes, Proceedings of the First World Congress. **Lecture Notes in Statistics**, 99. Springer-Verlag, New York, 1995, 77-89. (CA: M. Slavtchova-Bojkova).

18. Critical branching processes with random migration. In: C.C. Heyde (Editor), Branching Processes (Proceedings of the First World Congress). **Lecture Notes in Statistics**, 99, Springer-Verlag, New York, 1995, 36-46. (CA: G.P. Yanev)

19. Central limit theorem for martingales in BGWR branching processes with some statistical applications. **Math. Methods of Statistics**, V. 4, No.3, 1995, 344-358. (CA: J.P.-Dion)

20. Branching Processes with two types of emigration and state-dependent immigration. In: **Lecture Notes in Statistics** 114, Springer-Verlag, New York, 1996, 216-228. (CA: G.P.Yanev)

21. Limit theorems for branching processes with random migration stopped at zero. In: K. Athreya and P. Jagers (Editors). Classical and Modern Branching Processes. **The IMA volumes in Mathematics and its Applications**, v.84, Springer, New York, 1997, 323-336. (CA: G.P.Yanev).

22. Limit theorems and estimation theory for branching processes with an increasing random number of ancestors. **J. Appl. Probab**. 34, 309 -327 (1997). (CA:J.-P. Dion).

23. Branching Processes with Random Migration as Mathematical Models of Population Dynamics. **Bulletin of the ISI, 51 Session, Invited Papers Meetings**, Tome LVII, Book 1, 177-180 (1997).

24. Extremal problems on probability distributions. **Mathematical and Computer Modelling**, 32, (2000), 877-886 (CA: E. Galperin).

25. One dimensional analogue of the global optimality criterion. **Nonlinear Analysis - Theory, Methods and Applications**, Series A: Theory and Methods. 44, (2001), 759-766. (CA: E. Galperin).

26. Regenerative processes in the infinite mean cycle case. **J. Appl. Probab.**, 38, (2001), 65-179. (CA:K.V.Mitov)

27. Limit theorems for alternating renewal processes in the infinite mean case. **Advances in Appl. Probab.** 33, (2001), 896-911. (CA: K.V.Mitov)

28. Critical Bellman-Harris branching processes with infinite variance allowing state-dependent immigration. **Stochastic Models**, 18 (2), 281-300 (2002). (CA: K.V.Mitov)

29. Critical Branching Regenerative Processes with Migration. **J. Appl. Stat. Science**, v.12, No. 1, 41-54, 2003. (CA: G.P.Yanev, K.V.Mitov)

30. A Critical Branching Process with Stationary-Limiting Distribution. **Stochastic Analysis and Applications**, v.22, no.3, 2004, 721-738. (CA: G.P.Yanev)

31. Renewal, Regenerative, and Branching Processes with Stable Distributions. **Journal of Mathematical Sciences**, August 2004, vol. 122, no. 4, pp. 3438-3448(11), Kluwer Academic Publishers. (CA: Mitov K.V.; Yanev G.P.).

32. Superpositions of renewal processes with heavy-tailed interarrival times. **Statistics & Probability Letters**, 2006, v. 76, no.6, 555-561. (CA: K. Mitov)

33. Analysis of a Recurrence Related to Critical Nonhomogeneous Branching Processes. **Stochastic Analysis and Applications**, 2006, v. 24, no. 1, 37-59. (CA: Michael Drmota, Guy Louchard).

34. Branching stochastic processes with immigration in analysis of renewing cell populations. **Mathematical Biosciences** 203, 2006, 37-63. (CA: A. Yu. Yakovlev)

35. Age and residual lifetime distributions for branching processes. **Statistics and Probability Letters** 77, 2007, 503-513. (CA: A. Yu. Yakovlev)

36. Stationary distributions for branching processes with multi-type random control functions. **J. Appl. Stat. Sci**., 2008, v. 16, No.1, 91-102. (CA: I.M. Del Puerto)

37. Branching processes as models of progenitor cell populations and estimation of the offspring distributions. **JASA (J. Amer. Stat. Assoc.)**, 2008, v. 103, no. 484, 1357-1366. (CA: A. Yu. Yakovlev, V. K. Stoimenova)

38. Relative frequencies in multitype branching processes. **Ann. Appl. Probab.**, 2009, v.19, No.1, 1-14. (CA: A. Yu. Yakovlev)

39. Limiting distributions in multitype branching processes. **Stochastic Analysis and Applications**, 2009, in press. (CA: A. Yu. Yakovlev)

40. Critical randomly indexed branching processes. **Statistics and Probability Letters**, 2009, in press. (CA: G.K.Mitov, K.V.Mitov)

BOOKS

1. Transient Processes in Cell Proliferation Kinetics. *Lecture Notes in Biomathematics*, v. 82, Springer, New York, 1989. (CA: A.Yakovlev)

2. Exercise Manual in Mathematical Statistics. *Sofia University Press*, Sofia, 1989. (CA: M.S.Tanoushev; in Bulgarian)

3. Probability and Statistics. *Sofia University Press*, Sofia, 1990. Second edition 1998. Third edition 2007. (CA: B.Dimitrov; in Bulgarian)

4. Branching Stochastic Processes. *University Publ. "St. Kl.Ohridski"*, Sofia, 2007. (CA: M. Slavtchova-Bojkova; in Bulgarian)

5. Regenerative Branching Processes, Ch.3 (37-62) in: Records and Branching processes, Ed. M.Ahsanullah, G.P.Yanev, *Nova Science Publishers, Inc.*, New York, 2008. (CA: K.V.Mitov)

6. Statistical Inference for Branching Processes, Ch.7 (143-168) in: Records and Branching processes, Ed. M.Ahsanullah, G.P.Yanev, *Nova Science Publishers, Inc.*, New York, 2008.

7. Branching Processes with Multi-Type Random Control Functions: Subcritical Case, Ch. 11 (363-374) in: Leading-Edge Applied Mathematical Modeling Research. Editor: M.P.Alvarez, *Nova Science Publishers, Inc.*, New York, 2008. (CA: I.M. Del Puerto)