

September 2012

## CURRICULUM VITÆ

### Personal

Family name: Malinovskii  
Given name: Vsevolod  
Nationality: Russian  
Born: December 7, 1956  
Place of Birth: Moscow, Russia  
Marital Status: Married, 1 son (born in 1988)

### Education

1978–1981 — Graduate School at the Steklov Mathematical Institute (Homepage: <http://www.mi.ras.ru/>).  
1973–1978 — Lomonosov Moscow State University (Homepage: <http://www.msu.ru/en/>).  
Diploma thesis: «Interval Empirical Bayes Estimation». Diploma adviser — Prof. D.M. Chibisov.

### Languages

Russian (mother tongue); fair in English; fair in French; poor in German.

### Academic degrees

2007 — Professor (tenured Full Professor) from the Russian State University of Oil and Gas (named after I.M. Gubkin).  
2000 — Doctor of Science in Physics and Mathematics from the Central Economics and Mathematics Institute (CEMI) of the Russian Academy of Science.  
D. Sci. thesis: «Insurance rates and reserves: stochastic models and methods of computations».  
1991 — Dozent (tenured Associate Professor) from Moscow Institute for Electronic Engineering.  
1983 — Candidate of Science in Physics and Mathematics from the Steklov Mathematical Institute of the Russian Academy of Science.  
C. Sci. thesis: «High-order analysis of asymptotically optimal tests in Markov singleparametric models». C. Sci. adviser — Prof. D.M. Chibisov.

### Full-time positions held

2009–p.t. — Chief research fellow at the Central Economics and Mathematics Institute (CEMI) of the Russian Academy of Science (Homepage: <http://www.cemi.rssi.ru/>).  
2008–2009 — Professor at the Finance Academy under the Government of the Russian Federation (Homepage: [http://www.fa.ru/k\\_math.asp](http://www.fa.ru/k_math.asp)).  
2008–p.t — Head of the Russian Actuarial Laboratory (Homepage: [http://www.actlab.ru/index\\_eng.html](http://www.actlab.ru/index_eng.html)).  
2006–2008 — Head of the Laboratory of Actuarial Research and Professor at the Finance Academy under the Government of the Russian Federation.

1982–2006 — Leading research fellow (before 2000 — at the rank of Research fellow) in the Department of Theory of Probability at the Steklov Mathematical Institute of the Russian Academy of Science (Homepage: <http://www.mi.ras.ru/>).

### **Part-time positions held**

2009–p.t. — Professor at the Finance Academy under the Government of the Russian Federation.

2008–p.t. — Professor at the Moscow School of Economics (Faculty of the Lomonosov Moscow State University. Homepage: [http://www.mse-msu.ru/index\\_e.php](http://www.mse-msu.ru/index_e.php)).

2002–p.t. — Professor at the Gubkin State University of Oil and Gas (Homepage: <http://www.gubkin.ru/en/>).

1999–2006 — Head of the Laboratory of Actuarial Research at the Finance Academy under the Government of the Russian Federation.

### **Teaching experience in Russia**

2008–p.t. — As Professor at the Moscow School of Economics: undergraduate courses on theory of probability and statistics, courses on mathematical methods of control in insurance.

2002–p.t. — As Professor at the Gubkin State University of Oil and Gas: undergraduate courses on random processes and statistics.

2000–2002 — As Professor at the Moscow Technical University: undergraduate course on theory of probability.

1999–p.t. — As Professor at the Finance Academy under the Government of the Russian Federation: courses on actuarial mathematics and courses on actuarial aspects of the bonus-malus systems in automobile insurance, elementary courses in algebra and analysis.

1992–1996 — As Associate Professor at the Moscow Institute for Electronics and Mathematics (former Moscow Institute for Electronic Engineering): advanced courses on random processes and statistics.

1990–1992 — As Associate Professor at the Moscow Technical University: undergraduate courses on theory of probability.

1985–1990 — As Assistant, then Associate Professor at the Moscow Institute for Electronic Engineering: advanced courses on Markov processes and statistics of random processes.

### **Thesis supervision**

2006 — Consulting of one D.Sci. student.

2002–2004 — One Ph.D. student in the Gubkin State University of Oil and Gas.

1990–1992 — One Ph.D. student in the Steklov Mathematical Institute.

### **Visiting professorships and research fellowships**

2001, July–December — Visiting Professor (full professor rank) at the University of Montréal, Department of Mathematics and Statistics; courses MAT 2250 «Mathématiques de l'assurance-vie 1» and MAT 3251 «Théorie du risque» (in French).

1998, July–December — Visiting Professor (full professor rank) at the University of Copenhagen, Laboratory of Actuarial Mathematics; optional course «Calculation of the probabilities of ruin in the collective risk model» and compulsory course FM1.

1995, November–December — Weierstrass Institute, Germany.

1993, September–December — Visiting Professor (associate professor rank) at the University of Copenhagen, Laboratory of Actuarial Mathematics; course on total claims amount distribution.

1993, March–June — Bergen University, Norway.

1992, November — Université Paris-VII, France.

1992, September — Chalmers Institute of Technology and the Royal Institute of Technology, Sweden.

1988, July–August — Budapest and Debrecen University, Hungary.

### **Grants received**

2012 — fellowship of the Cariplo Foundation organized by the Landau Network–Centro Volta, Italy.

2011–2013 — long-term research grant of Russian Foundation for Basic Research, № 11-06-00057-a, chief of project.

2003–2006 — long-term grant of Russian Foundation for Basic Research awarded to Scientific school, № HIII-1758.2003.1, researcher.

2000–2003 — long-term grant of Russian Foundation for Basic Research awarded to Scientific school, № 00-15-96149, researcher.

1999–2001 — grant of Russian Foundation for Basic Research, № 99-01-00289-a, chief of project.

1998 — grant of the International Actuarial Association Congress Fund.

1998 — grant of the Institute of Actuaries, awarded by the Institute Research Committee.

1996–1998 — long-term grant of Russian Foundation for Basic Research awarded to Scientific school, № 96-15-96033, researcher.

1996–1998 — long-term research grant of Russian Foundation for Basic Research, № 96-01-00230-a, chief of project.

1996–1996 — grant of Russian Foundation for Basic Research, № 96-01-14040-д, chief of project.

1995 — research grant of International Science Foundation and Russian Government, № JB 7100, chief of project.

1993 — Research Council of Norway, division NAVF research scholarship.

### **Business consulting**

2010 — Lecturing to the staff of the pension fund «Almaznaja Osen'».

2009 — Actuarial advice to the Russian Union of Automobile Insurers concerning the methodology of a posteriori rating.

2006 — Actuarial advice to the National Union of Liability Insurers concerning methodology of tarification in the insurance of dangerous industrial objects.

2006 — Actuarial advice to the «Capital» insurance company concerning aspects of dynamic finance analysis.

2004 — Actuarial advice to the «Moscow-Re» reinsurance company concerning experience rating technique.

1998 — Actuarial advice to the «Ingosstrach» insurance company concerning actuarial analysis of the automobile insurance data.

1997 — Actuarial advice for the East European Investment Bank (The Group of Milinsure Co.) concerning application of statistical packages in data analysis.

## Editorship and translations

1. М. Арато. *Линейные стохастические системы с постоянными коэффициентами. Статистический подход*. Москва, Наука, 1998. — the Russian translation of the book: M. Arato, *Linear Stochastic Systems with Constant Coefficients. A Statistical Approach* (Springer, Berlin etc., 1982).
2. Д. Ревюз. *Цепи Маркова*. Москва, Янус-К, 1998. — the Russian translation of the book: D. Revuz. *Markov Chains* (North-Holland, Amsterdam etc., 1984).
3. Ж. Лемер. *Автомобильное страхование. Актуарные модели*. Москва, Янус-К, 1-е изд. 1998, 2-е изд. 2003. — the Russian translation of the book: J. Lemaire. *Automobile Insurance: Actuarial Models* (Kluwer, 1996).
4. Ж. Лемер. *Системы бонус-малус в автомобильном страховании*. Москва, Янус-К, 1-е изд. 1998, 2-е изд. 2003. — the Russian translation of the book: J. Lemaire. *Bonus-Malus Systems in Automobile Insurance* (Kluwer, 1995).
5. The Russian translation of the Acted Tuition Material relating to subject D, Unit 13 and Modules 5, 6 (Institute of Actuaries, UK).
6. Н. Бауэрс, Х. Гербер, Д. Джонс, С. Несбитт, Дж. Хикман. *Актуарная математика*. Москва, Янус-К, 2001. — the Russian translation of the book: N. Bowers, H. Gerber, J. Hickman, D. Jones, C. Nesbitt. *Actuarial Mathematics* (The Society of Actuaries, 1997).
7. С.Е. Савич. *Элементарная теория страхования жизни и трудоспособности*. Москва, Янус-К, 2003. — Third ed., with addenda, of the book: S.E. Sawitch. *Elementary Theory of Insurance and Pension Funds* (in Russian); first ed. 1900, second ed. 1909.
8. Х. Панджер, Ф. Бойль, Х. Гербер, Д. Дюфрень, С. Кокс, Х. Мюллер, Х. Педерсон, С. Плиска, К.С. Тан, М. Шеррис, Э. Шиу. *Финансовая экономика с приложениями к инвестированию, страхованию и пенсионному делу*. Москва, Янус-К, 2005. — the Russian translation of the book: Harry H. Panjer (editor), contributing authors: Phelim P. Boyle, Samuel H. Cox, Daniel Dufresne, Hans U. Gerber, Heinz H. Mueller, Hal W. Pedersen, Stanley R. Pliska, Michael Sherris, Elias S.W. Shiu, Ken Seng Tan. *Financial Economics: with Applications to Investments, Insurance and Pensions* (The Society of Actuaries, 1998).
9. Р. Каас, М. Гувертс, Ж. Дэнэ, М. Денут. *Современная актуарная теория риска*. Москва, Янус-К, 2007. — the Russian translation of the book: R. Kaas, M. Goovaerts, J. Dhaene, M. Denuit. *Modern Actuarial Risk Theory* (Kluwer Academic Publishers, 2001, 309 p., ISBN 0-7923-7636-6).

## Membership in professional societies

Member, Moscow Mathematical Society, since 1986.

Member, Russian Committee of Bernoulli Society, since 1990.

Member, Russian Actuarial Society, since 1996.

Individual Member, International Actuarial Association, since 2001 until 2004 (this category of membership was cancelled in 2004).

Individual Member, ASTIN (Actuarial Studies In Non-life insurance, section of the IAA), since 2001.

Member, The American Risk and Insurance Association (ARIA), since 2011.

### Areas of research interest

Limit theorems of theory of probability. Mathematical statistics of random processes, in particular asymptotic inference in Markov models. Random processes, in particular ergodicity of the general state space Markov chains and semi-Markov processes. Applied probability, in particular the collective risk theory. Econometrics and non-linear autoregressions, in particular ARCH, RCA models. Control theory, in particular stochastic adaptive control. Applied actuarial mathematics, in particular models of solvency regulation, automobile and life insurance.

### Recent research meetings, conferences and visits

39-th International ASTIN Colloquium (June 1–4, 2009, Helsinki, Finland). Talks «Survive a downswing phase of the underwriting cycle» and «Scenario analysis for a multiperiod diffusion model of risk».

38-th International ASTIN Colloquium (July 13-16, 2008, Manchester, UK). Talk «Zone-adaptive control strategy for a multiperiodic model of risk».

South African International Insurance Conference (January 31–February 1, 2007, Johannesburg, SAR). Contribution «Managing solvency — a risk theory insight».

28-th International Congress of Actuaries (April 28–May 2, 2006, Paris, France). Talk «Risk theory insight into the asset-liability and solvency adaptive management».

2-nd Fall School of Hungarian Actuarial Society (November 4–5, 2005, Budapest, Hungary). Invited talk «Insurance solvency and risk theory (I: overview; II: some recent results)».

34-th International ASTIN Colloquium (September 24–27, 2003, Berlin, Germany). Talk «On a non-linear dynamic solvency control model».

27-th International Congress of Actuaries (March 17–22, 2002, Cancún, México). Talk «On risk reserve conditioned by ruin».

McGill University (October 11, 2001). Invited lecture «Probabilities of ruin when the safety loading tends to zero».

Statistics 2001 Canada. Fourth Canadian conference in applied statistics (6–8.06.2001, Montréal, Canada). Talk «Probabilities of ruin when the safety loading tends to zero».

31-st International ASTIN Colloquium (17–20.09.2000, Porto Cervo, Italy). Talk «Price vs. reserve regulation conditioned by solvency requirements in the collective risk model».

University of Copenhagen, 31.08.–1.09.2000: participation in the «T.N.Thiele Symposium on Stochastics in Insurance and Finance».

Institute and Faculty of Actuaries, UK, 10–19.07.2000: participation in the annual Training the Trainers event followed by the Actuarial Teachers Conference.

University of Copenhagen, 6.10.1998: Guest lecture «Probabilities of ruin when the safety loading tends to zero».

Stockholm University, 17.09.1998: Guest lecture «Probabilities of ruin when the safety loading tends to zero».

26-th International Congress of Actuaries (7–12.6.1998, Birmingham, UK). Talk «Some aspects of rate making and collective risk models with variable safety loadings».

University of London, Birkbeck College, 4.06.1998: Guest lecture «Probabilities of ruin when the safety loading tends to zero».

### Submitted manuscripts

Malinovskii, V.K. (2011) Reflexivity in competition-originated underwriting cycles.

### Recent publications

Malinovskii, V.K. (2012) Equitable solvent controls in a multi-period game model of risk, *Insurance: Mathematics & Economics*, **51**, 599–616.

Malinovskii, V.K. (2010) Competition-originated cycles and insurance strategies, *ASTIN Bulletin*, **40**, 797–843.

Malinovskii, V.K. (2009) Scenario analysis for a multi-period diffusion model of risk, *ASTIN Bulletin*, **39**, 649–676.

Malinovskii, V.K. (2008) Risk theory insight into a zone-adaptive control strategy. *Insurance: Mathematics & Economics*, **42**, 656–667.

Malinovskii, V.K. (2008) Adaptive control strategies and dependence of finite time ruin on the premium loading, *Insurance: Mathematics & Economics*, **42**, 81–94.

Malinovskii, V.K. (2007) Zone-adaptive control strategy for a multiperiodic model of risk. *Annals of Actuarial Science*, 2, **II**, 391–409.

### LIST OF SELECTED PUBLICATIONS

1. Malinovskii, V.K. (1982) On computation of the defect of an asymptotically efficient test in the case of Markov observations. — *Soviet Math. Dokl.*, 26, № 3, 736–740.
2. Malinovskii, V.K. (1983) High-order analysis of asymptotically optimal tests in Markov singleparametric models. — C.Sci. Thesis, Steklov Math. Inst., 114 p. (in Russian)
3. Malinovskii, V.K. (1983) High-order analysis of asymptotically optimal tests in Markov singleparametric models. — Abstracts of C.Sci. Thesis, Steklov Math. Inst., 13 p. (in Russian)
4. Malinovskii, V.K. (1984) On asymptotic expansions in the central limit theorem for Harris recurrent Markov chains. — *Soviet Math. Dokl.*, 29, № 3, 679–684.
5. Malinovskii, V.K. (1985) On some asymptotic relations and identities for Harris recurrent Markov chains. — In: *Statistics and Control of Stochastic Processes* (Steklov seminar, Moscow, 1984), Optimization Software, 1985, 317–336. [MR 87f: 60100]
6. Malinovskii, V.K. (1985) On limit theorems for the number of Markov renewals. — In: *Lecture Notes in Math.*, B. 1155, Springer, 190–222. [MR 87m: 60203]
7. Malinovskii, V.K. (1985) Second order efficiency of an asymptotically efficient test based on Markov observations. — *Theor. Probab. Appl.*, 30, 603–608. [MR 87c: 62167]
8. Malinovskii, V.K. (1986) Limit theorems for Harris Markov chains. I. — *Theor. Probab. Appl.*, 31, 269–285. [MR 88b: 60157]
9. Malinovskii, V.K. (1986) Asymptotic expansions in the central limit theorem for recurrent Markov renewal processes. — *Theor. Probab. Appl.*, 31, 523–526. [MR 88d: 60227]
10. Malinovskii, V.K. (1987) Limit theorems for recurrent semi-Markov processes and Markov renewal processes. — *J. Soviet Math.*, 36, 493–502.
11. Malinovskii, V.K. (1988) On integral and local limit theorems for recurrent Markov renewal processes. — In: *Problems of Stability of Stoch. Models*. Ed. V.M. Zolotarev,

- VNIISI, 1988, Moscow, 100–115 (in Russian), Translation: *Journal of Soviet Math.*, 57, № 4, 3286–3301. [MR 91m: 60161]
12. Malinovskii, V.K. (1988) On a limit theorem for dependent random variables. — *Ann. Acad. Sci. Fenicæ*, Ser. A.I. Mathematica, 13, 225–229. [MR 90b: 60081]
  13. Malinovskii, V.K. (1988) Asymptotical Methods in the Theory of Markov Chains. — Moscow Institute for Electronic Engineering Press: Moscow (in Russian)
  14. Malinovskii, V.K. (1989) Asymptotic optimality of tests in a hypothesis testing problem for recurrent jump Markov processes. — *J. Soviet Math.*, 44, 503–510. [MR 88b: 62160]
  15. Malinovskii, V.K. (1989) Limit theorems for Harris recurrent Markov chains. II. — *Theor. Probab. Appl.*, 34, 252–265. [MR 91e: 60092]
  16. Malinovskii, V.K. (1989) Power and defect functions of asymptotically efficient tests in the case of Markov observed values (Correct translation of the title should be: «Power functions and the deficiency of asymptotically efficient tests in the case of Markov observations») — *Theor. Probab. Appl.*, 34 (1989), 441–453. [MR 91e: 62213]
  17. Malinovskii, V.K. (1989) Asymptotic optimality of criteria in the problem of testing hypotheses for a recurrent semi-Markov processes. — In: *Problems of Stability of Stoch. Models*. Ed. V.M. Zolotarev, VNIISI, 1989, Moscow, 88–93 (in Russian), Translation: *Journal of Soviet Math.*, 59 (1992), № 4, 955–959.
  18. Malinovskii, V.K. (1991) Large deviations for recurrent Markov renewal processes. — *Theor. Probab. Appl.*, 36, 170–173.
  19. Malinovskii, V.K. (1991) Asymptotic expansions in the central limit theorem for stopped random walks. — *Theor. Probab. Appl.*, 36, 827–829.
  20. Malinovskii, V.K. (1993) Limit theorems for stopped random sequences I. Rates of convergence and asymptotic expansions. — *Theor. Probab. Appl.*, 38, 673–693.
  21. Malinovskii, V.K. (1993) Asymptotic expansions in the sequential estimation of an autoregressive parameter. — *Mathematical Methods of Statistics*, 2, 206–227.
  22. Malinovskii, V.K. (1994) Asymptotic expansions in sequential estimation for the first order random coefficient autoregressive model: regenerative approach. — *Acta Applicandæ Mathematica*, 34, 261–281.
  23. Malinovskii, V.K. (1994) Corrected normal approximation for the probability of ruin within finite time. — *Scandinavian Actuarial Journal*, 2: 161–174.
  24. Malinovskii, V.K. (1996) Limit theorems for stopped random sequences II. Probabilities of large deviations. — *Theor. Probab. Appl.*, 41, № 1, 70–90.
  25. Malinovskii, V.K. (1995) Calculation of the total claims amount and limit theorems of the theory of probability (in Russian). — *Insurance Business*, № 1, 42–46.
  26. Malinovskii, V.K. (1995) Some problems in the analysis of solvency of the insurance companies (in Russian). — *Insurance Business*, № 6, 46–52.
  27. Malinovskii, V.K. (1996) Financial stability of insurers: insight into the problem by using mathematical models (in Russian). — *Insurance Business*, № 11.
  28. Malinovskii, V.K. (1996) Approximations and upper bounds on probabilities of large deviations in the problem of ruin within finite time. — *Scandinavian Actuarial Journal*, 2: 124–147.
  29. Malinovskii, V.K. (1998) Non-poissonian claims arrivals and calculation of the probability of ruin. — *Insurance: Mathematics & Economics*, **22**, 123–138.

30. Malinovskii, V.K. (1998) Some aspects of rate making and collective risk models with variable safety loadings. — Transactions of the 26-th International Congress of Actuaries, 4, 465–481.
31. Malinovskii, V.K. (1998) Probabilities of ruin when the safety loading tends to zero. — Working paper № 153, Lab. Act. Math., Univ. Copenhagen (1998). 36 pp. (Published in 2000 in Advances in Applied Probability.)
32. Malinovskii, V.K. (1998) On automobile insurance in Russia (in Russian). In book: Леммер, Ж. «Автомобильное страхование. Актуарные модели», Москва, Янус-К, 1998 (the Russian translation of the book: J. Lemaire, Automobile Insurance. Actuarial Models, Kluwer, 1996), pp. 288–295.
33. Malinovskii, V.K. (2000) Insurance rating and reserving: stochastic models and methods of computations. — D. Sci. Thesis, Steklov Math. Inst., 288 p. (in Russian)
34. Malinovskii, V.K. (2000) Insurance rating and reserving: stochastic models and methods of computations. — Abstracts of D. Sci. Thesis, Steklov Math. Inst., 28 p. (in Russian)
35. Malinovskii, V.K. (2000) Price vs. reserve regulation conditioned by solvency requirements in the collective risk model. — Proceedings of the 31-st International ASTIN Colloquium, 55–64.
36. Malinovskii, V.K. (2000) Actuaries, who they are (in Russian). — *Banking in Moscow*, № 8, 50–52.
37. Malinovskii, V.K. (2000) Probabilities of ruin when the safety loading tends to zero. — *Advances in Applied Probability*, 32, № 3, 885–923.
38. Malinovskii, V.K. (2002) On risk reserve conditioned by ruin. — Transactions of the 27-th International Congress of Actuaries.
39. Malinovskii, V.K. (2003) On a non-linear dynamic solvency control model. — Proceedings of the 34-th International ASTIN Colloquium.
40. Malinovskii, V.K. (2006) Risk theory insight into the asset-liability and solvency adaptive management In: Proceedings of the 28-th International Congress of Actuaries.
41. Malinovskii, V.K. (2007) Zone-adaptive control strategy for a multiperiodic model of risk. — *Annals of Actuarial Science*, 2, II, 391–409.
42. Malinovskii, V.K. (2008) Adaptive control strategies and dependence of finite time ruin on the premium loading. — *Insurance: Mathematics & Economics*, 42, 81–94.
43. Malinovskii, V.K. (2008) Risk theory insight into a zone-adaptive control strategy. — *Insurance: Mathematics & Economics*, 42, 656–667.
44. Malinovskii, V.K. (2009) Scenario analysis for a multi-period diffusion model of risk. — *ASTIN Bulletin*, 39, 649–676.
45. Malinovskii, V.K. (2010) Competition-originated cycles and insurance strategies. — *ASTIN Bulletin*, 40, 797–843.
46. Malinovskii, V.K. (2012) Equitable solvent controls in a multi-period game model of risk. — *Insurance: Mathematics & Economics*, 51, 599–616.