LISTA DE LUCRĂRI

VERNIC Gh. Raluca-Ileana

1° Teza de doctorat

Vernic, R. – "*Contribuţii la matematicile actuariale",* teză de doctorat, 125 pg., 2000.

Teza de abilitare

Vernic, R. – "*On some distributions and computational techniques for actuarial modelling",* teză de abilitare (susţinută pe 30.09.2016, Universitatea din Bucureşti), 119 pg., 2016.

2° Cărţi publicate

1. **Vernic, R.** şi Cosma, L. – "*Introducere în utilizarea calculatoarelor*", editura Universităţii "Ovidius" Constanţa, 124 pg., 2002.
2. Lupu, Gh., **Vernic, R.** şi Cosma, L. - "*Matematici Aplicate. Culegere de probleme. Vol. I*", editura Ex Ponto, Constanţa, 246 pg., 2002.
3. Cosma, L. şi **Vernic, R.** – "*Birotica*", editura Ex Ponto, Constanţa, 217 pg., 2003.
4. **Vernic, R.** – *"Statistica"*, editura Adco, Constanţa, 92 pg., 2003.
5. **Vernic, R.** – "*Matematici Actuariale*", editura Adco, Constanţa, 142 pg., 2004.
6. Vernic, C., Tamaş, T., **Vernic, R.**, Kigyosi, A. şi Mihalaş, Gh. - *"Informatică Medicală"*, editura Eurobit, Timişoara, 131 pg., 2006.
7. Vernic, C., Tamaş, T., **Vernic, R.**, Kigyosi, A. şi Mihalaş, Gh. - *"Informatică Medicală. Aplicaţii în balneo-fiziokinetoterapie şi recuperare"*, editura Eurobit, Timişoara, 144 pg., 2007.
8. Sundt, B. and **Vernic, R.** –*"Recursions for convolutions and compound distributions with insurance applications*". EAA Lectures Notes, Springer, **ISBN 13**: 9783540928997, 345 pg., 2009. https://www.buchhaus.ch/de/buecher/fachbuecher/technik/detail/ISBN-9783031435058/HerausgegebenHoskova-Mayerova-Sarka/Changes-and-Innovations-in-Social-Systems

Articole in carti:

Bâcă, A. and **Vernic, R.** (2025) –Extreme Values Modeling using the Gamma-Lognormal-Pareto Three-Spliced Distribution. In: Changes and Innovations in Social Systems, Editors: Hoskova-Mayerova, Sarka; Flaut, Cristina; Flaut, Daniel and Rackova, Pavlina. Springer, 2025 (Apr 2025), pg. 137-163. https://link.springer.com/book/10.1007/978-3-031-43506-5

3° Articole/studii/alte lucrări

Publicaţii în reviste cotate ISI

1. **Vernic, R.** – "*Multivariate Skew-Normal distributions with applications in insurance*". Insurance: Mathematics & Economics, vol. 38, no. 2, pag.413-426, 2006.
2. Tang, Q. and **Vernic, R.** – *"The Impact on Ruin Probabilities of the Association Structure among Financial Risks".* Statistics & Probability Letters, 77 (14), pag. 1522-1525, 2007. IF 2008: 0.445.
3. Bolance C., Guillen M., Pelican E. and **Vernic R**. – "*Skewed bivariate models and*

nonparametric estimation for the CTE risk measure". Insurance: Mathematics & Economics, 43 (3), 386-393, 2008. **IF 2008: 1.477**.

4. Teodorescu, S. and **Vernic, R.- "***Some composite exponential-Pareto models for actuarial prediction***".** Romanian Journal of Economic Forecasting 12 (4)**,** pp.82-100, 2009.
5. **Vernic, R.**, Teodorescu, S. and Pelican E. – "*Two LogNormal models for real data*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XVII (3), pag. 263 -279, 2009 (ISI proceedings of The 5th ICDSA Conference, June 15-18, Constanţa 2009).
6. **Vernic, R**., Dhaene, J., Sundt, B.- "*Inequalities for the De Pril approximation to the distribution of the number of policies with claims*". Scandinavian Actuarial Journal no. 4, pp. 249–267, 2010 (prezentată la RoGerS Symposium on Mathematics and its Applications, Sibiu, May 14-17, 2009).
7. Asimit, A., Furman, E. and **Vernic, R.** – "*On a Multivariate Pareto Distribution*". Insurance: Mathematics and Economics 46, 308-316, 2010 (prezentata la 13th International Congress on Insurance: Mathematics and Economics, Istanbul, May 2009). **IF 2010: 1.178**.
8. **Vernic, R.** – "*Tail Conditional Expectation for the Multivariate Pareto Distribution of the Second Kind: Another Approach*". Methodology and Computing in Applied Probability Vol. 13 (1), 121-137, 2011 (DOI: 10.1007/s11009-009-9131-9) (prezentată la al 9-lea Colocviu Franco-Român, 28 August-2 Septembrie, Braşov, 2008). **IF 2011: 0.753**.
9. Asimit, A., Furman, E., Tang, Q. and **Vernic, R.** – "*Asymptotics for Risk Capital Allocations based on Conditional Tail Expectation*". Insurance: Mathematics and Economics 49 (3), 310-324, nov. 2011. **IF 2011: 1.288**.
10. Teodorescu, S. and **Vernic, R.** - "*On composite Pareto models*". Mathematical Reports 15 (65), no. 1, 11-30, 2013.
11. Zbăganu, Gh. and **Vernic, R.** - "*On the fatal shock model*". Mathematical Reports 15 (65), no. 2, 133-144, 2013.
12. Pelican E. and **Vernic R**. – "*Maximum-likelihood estimation for the multivariate Sarmanov distribution: simulation study*". International Journal of Computer Mathematics 90 (9), 1958-1970, 2013. IF 2013: 0.721.
13. Asimit, A., Furman, E. and **Vernic, R.** – "*Statistical inference for a new class of multivariate Pareto distributions*". Communications in Statistics – Simulation and Computation 45 (2), 456-471, 2016. dx.doi.org/10.1080/03610918.2013.861627
14. **Vernic, R.** – "*On the distribution of a sum of Sarmanov distributed random variables*". Journal of Theoretical Probability, 29 (1), 118-142, 2016. DOI: 10.1007/s10959-014-0571-y. IF 2016: 0.857.
15. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*Recursive calculation of ruin probabilities at or before claim instants for non-identically distributed claims*". ASTIN Bulletin 45 (2), 421-443, 2015. (prezentată la a 17-a Conferinţă SPSR, UTCB Bucureşti, 25 aprilie 2014). IF 2014: 0.738.
16. Bahraoui, Z., Bolance C., Pelican E. and **Vernic R**. – "*On the bivariate Sarmanov distribution and copula. An application on insurance data using truncated marginal distributions*". SORT 39 (2), 209-230, 2015.
17. **Vernic, R.** – "*On a conjecture related to the ruin probability for nonhomogeneous insurance claims*". Analele Universităţii "Ovidius" Constanţa, seria Matematică 23 (3), 209-220, 2015 (Proceedings of the 10th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, Ovidius University of Constanţa, 16-18 octombrie 2014). dx.doi.org/10.1515/auom-2015-0056
18. Robe-Voinea, E. and **Vernic, R.** – *"On a multivariate aggregate claims model with multivariate Poisson counting distribution"*. Proceedings of the Romanian Academy - Series A, 18 (1), 3-7, 2017. https://academiaromana.ro/sectii2002/proceedings/doc2017-1/01Robe-Voinea.pdf

19. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*On the ruin probability for nonhomogeneous claims and arbitrary inter-claim revenues*". Journal of Computational and Applied Mathematics 290, 319-333, 2015. IF 2014: 1.266.
20. Asimit, A., **Vernic, R.** and Zitikis, R. – "*Background risk models and stepwise portfolio construction*". Methodology and Computing in Applied Probability 18 (3), 805-827, 2016. IF 2014: 0.913.
21. **Vernic, R.** – "*Optimal investment with a constraint on ruin for a fuzzy discrete-time insurance risk model*". Fuzzy Optimization and Decision Making 15 (2), 195-217, 2016. IF 2015: 2.569.
22. Robe-Voinea, E. and **Vernic, R.** – "*Another appproach to the evaluation of a certain multivariate compound distribution*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, Volume XXIV 24 (3), 2016, 339-349. DOI: 10.1515/auom-2016-0061
23. **Vernic, R.** – "*Capital allocation for Sarmanov's class of distributions*". Methodology and Computing in Applied Probability 19 (1), 311-330, 2017.
24. Robe-Voinea, E. and **Vernic, R.** – "*Fast Fourier Transform for multivariate aggregate claims*". Computational and Applied Mathematics (COAM) 37 (1), 205-219, March 2018, DOI: 10.1007/s40314-016-0336-6. IF 2015: 0.802.
25. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*On a conjecture related to the ruin probability for nonhomogeneous exponentially distributed claims*". Scandinavian Actuarial Journal vol. 2017 (5), 441-451, 2017.
26. Robe-Voinea, E. and **Vernic, R.** – "*On the recursive evaluation of a certain multivariate compound distribution*". Acta Mathematicae Applicatae Sinica (English Series) 32 (4), 913–920, 2016. IF 2015: 0.25. doi.org/10.1007/s10255-016-0612-7
27. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*How common sense can be misleading in ruin theory*". Annals of the University of Craiova, Mathematics and Computer Science Series 43(1), 2016, 72–81. https://doi.org/10.52846/ami.v43i1.847
28. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*Uper and lower bounds for a finite-type ruin probability in a nonhomogeneous risk process*". Proceedings of the Romanian Academy, Series A, 17 (4), 287–292, 2016. dx.doi.org/10.2139/ssrn.2870737
29. Ratovomirija, G., Tamraz, M. and **Vernic, R.** – "*On some multivariate Sarmanov mixed Erlang reinsurance risks: aggregation and capital allocation*". Insurance Mathematics and Economics 74, 197-209, 2017.
30. Tamraz, M. and **Vernic, R.** – "*On the evaluation of multivariate compound distributions with continuous severity distributions and Sarmanov's counting distribution*". ASTIN Bulletin 48 (2), May 2018 , pp. 841-870.
31. **Vernic, R.** – "*On risk measures and capital allocation for distributions depending on parameters with interval or fuzzy uncertainty*". Applied Soft Computing 64, 199-215, 2018.
32. **Vernic, R.** – *On the evaluation of some multivariate compound distributions with Sarmanov's counting distribution*. Insurance Mathematics and Economics 79, March 2018, pp. 184-193.
33. Denuit, M. and **Vernic, R.** – *Bivariate Bernoulli weighted sums and distribution of single-period tontine benefits*. Methodology and Computing in Applied Probability 20(4), 1403–1416, December 2018.
34. **Vernic, R.** – "*On the Evaluation of the Distribution of a General Multivariate Collective Model: Recursions versus Fast Fourier Transform*". Risks 6 (3), 87, 2018.
35. Bolance C. and **Vernic, R**. – *Multivariate count data generalized linear models: Three approaches based on the Sarmanov distribution*. Insurance Mathematics and Economics 85, 89-103, 2019.
36. **Vernic, R**. – *On a class of bivariate mixed Sarmanov distributions*. Australian & New Zealand Journal of Statistics 62(2), 186-211, June 2020. doi.org/10.1111/anzs.12293

37. Bolance C. and **Vernic, R**. – *Frequency and severity dependence in the collective risk model: an approach based on Sarmanov distribution*. Mathematics 8(9), 1400, 21 Aug 2020.
38. Alemany, R.; Bolancé, C.; Rodrigo, R.; **Vernic, R**. - *Bivariate Mixed Poisson and Normal Generalised Linear Models with Sarmanov Dependence—An Application to Model Claim Frequency and Optimal Transformed Average Severity*. Mathematics 2021, 9(1), 73.
39. Ionescu, A.F. and **Vernic, R**. – *MOSOSS*: *An Adapted Multi-Objective Symbiotic Organisms Search for Scheduling*. Soft Computing, 25(14), 9591-9607, 2021.
40. Mutali, S. and **Vernic, R**. (2022) - *On the composite Lognormal–Pareto distribution with uncertain threshold*. Communications in Statistics-Simulation and Computation, 51(8), 4492-4508. dx.doi.org/10.1080/03610918.2020.1743860
41. **Vernic, R**., Bolance, C. and Alemany, R.– *Sarmanov distribution for modeling dependence between the frequency and the average severity of insurance claims*. Insurance: Mathematics and Economics, 102, 111-125, 2022.
42. Bâcă. A. and **Vernic, R**. - *On the three-spliced Exponential-Lognormal-Pareto distribution*. Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XXX (3), 21-35. 2022. doi.org/10.2478/auom-2022-0032
43. Badea, A., Bolancé, C., & **Vernic, R**. (2022). On the Bivariate Composite Gumbel–Pareto Distribution. Stats, 5(4), 948-969. doi.org/10.3390/stats5040055
44. **Vernic, R**. (2023). On a fuzzy discretization of continuous distributions with applications to risk models. Computational and Applied Mathematics 42(1), 42:61.
45. Bâcă. A. and **Vernic, R**. (2024) - Modeling data with extreme values using three-spliced distributions. Axioms 13, 473. https://doi.org/10.3390/axioms13070473
46. Raducan, A.-M., **Vernic, R**. and Zbaganu, Gh. (2024) – On a preference relation between random variables related to an investment problem. Acta Mathematica Hungarica 173, 352–365. doi.org/10.1007/s10474-024-01456-5
47. Bolance C., **Vernic, R**. and Bâcă. A. (2025) – On a Bivariate Distribution with Composite Exponential-Pareto Marginals and Dependence in low-cost claims. North American Actuarial Journal . https://doi.org/10.1080/10920277.2025.2490292

Articole publicate în reviste de specialitate internaţionale

48. **Vernic, R.** - "*On the bivariate generalized Poisson distribution*". ASTIN Bulletin, vol. 27, no.1, pag. 23-31, 1997.
49. **Vernic, R.** - "*Recursive evaluation of some bivariate compound distributions*". ASTIN Bulletin, vol. 29, no.2, pag. 315-325, 1999.
50. **Vernic, R.** - "*A multivariate generalization of the generalized Poisson distribution*". ASTIN Bulletin, vol. 30, no.1, pag. 57-67, 2000.
51. Sundt, B. and **Vernic, R.** – *"On error bounds for approximations to multivariate distributions II*". ASTIN Bulletin, vol. 32, no.1, pag. 57-69, 2002 (lucrare prezentată la "5th International Congress on Insurance: Mathematics & Economics, Pennsylvania State University", 23-25 iulie 2001).
52. Sundt, B. and **Vernic, R.** – "*Recursions for compound mixed multivariate Poisson distributions*". Blätter der Deutschen Gesellschaft für Versicherungs und Finanzmathematik XXVI, pag. 665-691, 2004 (lucrare prezentată la "7th International Congress on Insurance: Mathematics & Economics, Lyon", 25-27 iunie 2003).
53. **Vernic, R.** – "*Sundt's class of distributions*". Encyclopedia of Actuarial Science 3, Wiley - Chichester, pag.1635-1637, 2004.
54. Goovaerts, M.; Kaas, R.; Laeven, R.; Tang, Q. and **Vernic, R.** – *"The tail probability of discounted sums of Pareto-like losses in insurance".* Scandinavian Actuarial Journal, no.

6, pag. 446-461, 2005.
55. Dhaene, J.; Ribas, C. and **Vernic, R.** – *"Recursions for the individual risk model".* Acta Mathematicae Applicatae Sinicae - English series, 22 (4), pag. 543-564, 2006.
56. Sundt, B. and **Vernic, R.** – "*Two binomial methods for evaluating the aggregate claims distribution in De Pril's individual risk model*". Belgian Actuarial Bulletin, vol.6, no.1, pag.5-13, 2006 (lucrare prezentată la ASTIN Colloquium, septembrie 2005, Zurich, Elveţia).
57. **Vernic, R.** – "*Individual Risk Models*". Encyclopedia of Quantitative Risk Assessment and Analysis (Melnick, E.and Everitt, B.-eds.), Wiley - Chichester, UK, pp.881-888, 2008.
58. Asimit, A., **Vernic, R.** and Zitikis, R. – "*Evaluating risk measures and capital allocations based on multi-losses driven by a heavy-tailed background risk: The multivariate Pareto-II model*". Risks 1 (1), 14-33, 2013.
59. Ungureanu, D. and **Vernic, R.** – "*On a fuzzy cash flow model with insurance applications*". Decisions in Economics and Finance 38 (1), 39-54, 2015.

Articole publicate în reviste naţionale

Studii şi Cercetări Matematice / Mathematical Reports

60. **Vernic, R.** - "*Loi multinomiale négative. Etude et appliquation en assurance automobile*". Studii şi Cercetări Matematice 48, nr. 1, pag. 129-144, 1996.
61. **Vernic, R.**- "*Lois de Poisson Généralisées-Mélange. Application dans les Assurances*". Studii şi Cercetări Matematice 49, nr. 3-4, pag. 299-306, 1997.
62. **Vernic, R.** - "*Plusieurs lois de Poisson Généralisées-Mélange et leur application dans les Assurances*". Mathematical Reports 1(51), no. 3, pag. 463-472, 1999.
63. **Vernic, R.** - "*Restricted generalized Poisson distribution and Bonus-Malus system*". Mathematical Reports 2(52), no. 3, pag. 391-398, 2000.
64. **Vernic, R.** - "*On the evaluation of some bivariate compound Poisson distributions*". Mathematical Reports 4(54), no. 3, pag. 311-320, 2002.
65. **Vernic, R.** – *"On a bivariate generalization of Sundt's class of counting distributions".* Mathematical Reports 6(56), no. 2, pag. 185-201, 2004 (lucrare prezentată la "2nd Conference in Actuarial Science & Finance in Samos", 20-22 septembrie 2002).
66. Enăchescu D. şi **Vernic, R.** – *"Approximating the distribution of a randomly weighted sum of random variables using kernel and neural network methods".* Mathematical Reports 8 (58), no. 1, pag. 37-47, 2006.

Revue Roumaine

67. **Vernic, R.** - "*On the asymptotic ruin probability with some specific stochastic discount factors*". Revue Roumaine de Mathématiques Pures et Applliquées, vol. 52, no. 4, pag. 479-495, 2007 (lucrare prezentată la al 8lea Colocviu Franco-Roman de Matematici Aplicate, 28-31 august 2006, Chambery, Franţa).

Anale Universitare

68. **Vernic, R.** - "*Test séquentiel du rapport des probabilités de Wald (T.S.R.P.W.) pour la moyenne d'une loi normale. Etude de simulation du temps d'arrêt*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol.1, pag.173-179, 1993.
69. **Vernic, R.** - "*A problem on random survivorship nonhomogeneous group benefits*". Analele Universităţii Bucureşti, seria Matematică, anul XLIV, pag. 93-96, 1995.
70. **Vernic, R.** - "*Error bounds for the approximation of bi and multivariate distributions*". Supliment la Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. IX, fasc.2,

pag. 243-248, 2001 (volum dedicat celei de-a XXV-a Conferinţe Naţionale de Mecanica Solidelor, 20-23 septembrie 2001).

71. **Vernic, R.** - "*Evaluating the bivariate compound generalized Poisson distribution*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. IX, pag. 181-192, 2001.
72. **Vernic, R.** – "*On the Poisson-Gontcharoff distribution*". Buletinul Ştiinţific al Universităţii din Piteşti, seria Matematică şi Informatică, nr.7, pag. 185-194, 2001.
73. **Vernic, R.** - "*On some actuarial models involving sums of dependent risks*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. X (2), pag. 123-136, 2002.
74. **Vernic, R.** – *"Arithmetizing continuous distributions: numerical aspects"*. Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XI (2), pag. 189-194, 2003.
75. **Vernic, R.** - "*On a method for the approximation of the sums of random variables in actuarial finance*". Analele Universităţii Bucureşti, seria Informatică, anul LIII, nr. 1, pag. 83-91, 2004 (lucrare prezentată la cea de-a 7-a Conferinţă a Societăţii de Probabilităţi şi Statistică din România, 20-21 februarie 2004).
76. **Vernic, R.** - "*Comparing Convolutions with Dhaene-Vandebroek and De Pril's recursions from a computational point of view*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XII (1), pag. 99-114, 2004.
77. **Vernic, R.** - "*On the evaluation of the distribution of a product of random variables*". Buletinul Ştiinţific al Universităţii din Piteşti, seria Matematică şi Informatică nr.10, pag. 117-122, 2004.
78. **Vernic, R.** – "*On the multivariate Skew-Normal distribution and its scale mixtures*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XIII (2), pag. 83 -96, 2005. (lucrare prezentată la cea de-a 8-a Conferinţa SPSR, 22-23 aprilie, Bucureşti 2005).
79. **Vernic, R.** and E. Băutu - "*A note on an asymptotic formula for the ruin probability*". Analele Universităţii Bucureşti, seria Informatică, anul LIV, pag. 111-124, 2005 (lucrare prezentată la cea de-a 9-a Conferinţă a Societăţii de Probabilităţi şi Statistică din România, 28-29 aprilie 2006).
80. Teodorescu, S. and **Vernic, R.** – "*A composite Exponential-Pareto distribution*". Analele Universităţii "Ovidius" Constanţa, seria Matematică, vol. XIV (1), pag. 99 -108, 2006.
81. Teodorescu, S. and **Vernic, R.** – "*On the truncated composite Exponential-Pareto distributions*". Buletinul Ştiinţific al Universităţii din Piteşti, seria Matematică şi Informatică nr.12, pag. 161-172, 2006.
82. **Vernic, R. – "***Tail Conditional Expectation for the bivariate Pareto distribution of first kind*". Buletinul Ştiinţific al Universităţii din Piteşti, seria Matematică şi Informatică nr.14, pag.239-252, 2008 (lucrare prezentată la a 11-a Conferinţa SPSR, aprilie, Bucureşti 2008).
83. E. Băutu and **Vernic, R.** - "*Approximating the financial situation of an insurance portfolio: an evolutionary approach*". Analele Universităţii Bucureşti, seria Matematică-Informatică, anul LVII, pag. 101-110, 2008 (prezentata la 5th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, 10-13 septembrie 2006, Constanţa).
84. **Vernic, R.** - "*An estimation method for the parameters of the Skew-Normal distribution*". Analele Universităţii Bucureşti, seria Matematică-Informatică, anul LVII, pag. 79-87, 2008.
85. **Vernic, R.** and Ungureanu, D. – **"***On two particular fuzzy numbers derived from probability distributions*". Buletinul Ştiinţific al Universităţii din Piteşti, seria Matematică şi Informatică nr. 17, pag. 101-112, 2011. dx.doi.org/10.1007/s10203-014-0157-2

Alte reviste naţionale

1. Gheorghiu, I. and **Vernic, R.** – *"A diabetes mortality study using generalized linear models"*. Seminar Series in Mathematics and Computer Science (Ovidius University) 1, 45-56, 2013.

Articole publicate în volume ale conferinţelor internaţionale

1. **Vernic, R.** - "*Arithmetizing bivariate distributions*". Bulletins for Applied&Computer Mathematics (BAM-2048), Proceedings of the PAMM-Conference PC-139/2002 Constanţa, pag. 189-194, 2002.
2. **Vernic, R.** and Pelican, E. - "*Arithmetizing continuous distributions: numerical aspects of the rounding method*". ROMAI Journal 1, 2 (2005), pag. 191-200. Lucrare prezentată la Conferinţa CAIM Piteşti, octombrie 2004.
3. **Vernic, R.** and Pelican, E. - "*On the bivariate Skew-Normal and Log-Skew-Normal distributions*". Proceedings of the conference "Trends and Challenges in Applied Mathematics (ICTCAM)", Bucharest, Romania, 20-23 June 2007, pag.357-360.
4. Pelican E. şi **Vernic, R.** – "*The bivariate skew-normal distribution. Numerical aspects*". Proceedings of the Sixth Congress of Romanian Mathematicians, Bucharest (2007), vol. 1, apărut la Ed. Academiei Române 2009, pp. 365–372.
5. **Vernic, R.** and Pelican, E. - "*An estimation procedure for Sarmanov's distribution parameters*". Proceedings of the 9th Balkan Conference on Operational Research (BALCOR)", Constanţa, Romania, 2-6 September 2009.
6. Teodorescu, S. and **Vernic, R.** – "*On composite Pareto models*". COMPSTAT 2010 Proceedings, pag.1661-1668, http://www.compstat2010.fr/ (19th International Conference on Computational Statistics, Paris France, August 22-27, 2010, ISBN 978-3-7908-2603-6)
7. **Vernic, R.** – "*On Sarmanov's distribution and the asymptotic ultimate ruin probability*". Proceedings of the 7-th Workshop on Mathematical Modelling of Environmental and Life Sciences Problems, 22 -25 Octombrie, Constanţa, 2008, pp.273-281 (Ed. Academiei, 2010).
8. Pelican E. şi **Vernic, R.** – "*Parameters estimation for the bivariate Sarmanov distribution with normal-type marginals*". ROMAI Journal 9 (2), 2013, pag. 155-165. Lucrare prezentată la Conferinţa CAIM Bucureşti, septembrie 2013.
9. Badea, A., Bolancé, C., **Vernic, R**. (2023). *Bivariate Composite distributions with Pareto tail for modeling bivariate data*. International Scientific Journal "Mathematical Modeling", year VII, issue 3, 87-89. Proceedings of the VII International Scientific Ccnference on Mathematical Modeling - MATHMODEL 23, 06–09 December 2023, Borovets, Bulgaria.
10. Badea A., Pelican E. and **Vernic, R**. (2024) *Exploring sum-product networks for image classification. Applications*. Proceedings of SYNASC 2024: 26th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, September 16-19 2024, West University Timișoara, Romania. DOI 10.1109/SYNASC65383.2024.00071

Conferinţe invitate la manifestări internaţionale

1. **Vernic, R.** – "*Recursive evaluation of some bivariate compound distributions*". Journée de contact FNRS-Groupe "Sciences Actuarielles", UCL Belgia, 16 mai 2001.
2. **Vernic, R.** – *"Risk capital decomposition based on the Conditional Tail Expectation for some multivariate models"*. 2nd Workshop on Actuarial Science and Risk Measures, University of Piraeus, Grecia, 14 mai 2011.
3. **Vernic, R.** – *"On the multivariate Sarmanov distribution and its actuarial applications"*. MATTEX 2018, Universitatea Konstantin Preslavsky din Shumen, Bulgaria, 25-27 octombrie 2018. (plenary talk)

Prelegeri invitate

University of Waterloo, Canada - "*Multivariate Skew-Normal distributions with applications*

in insurance", 19 iulie 2005.
University of Barcelona, Spania - "*Multivariate Skew-Normal distributions with applications in insurance*", 16 iunie 2006.
University of Lausanne, Elvetia – "CTE-*based capital allocation for some multivariate models*", 30 mai 2016.
KU Leuven, Belgia – "*On Sarmanov's distribution and its actuarial applications*", 9 noiembrie 2017.

Alte lucrări prezentate la conferinţe/simpozioane/preprinturi

1. **Vernic, R.** – "*Sur une certaine classe de répartitions conjuguées ayant des appliquations dans les assurances*". A IV-a Conferinţă de Analiză Neliniară, Analiză Numerică şi Matematici Aplicate, Constanţa, 26-30 aprilie 1995.
2. **Vernic, R.** – "*Aspecte practice privind calculul recursiv al repartiţiilor compuse în actuariat*". Minisimpozion Itinerant, Universitatea Ovidius Constanţa, 17 ianuarie 2002.
3. **Vernic, R.** – "*Aspecte practice privind utilizarea unor relaţii de recurenţă bidimensionale*". Workshop de Matematici Aplicate şi Informatică, Academia Navală "Mircea cel Bătrân", 14 iunie 2002.
4. **Vernic, R.** - "*Asupra evaluării recursive a unor repartiţii Poisson mixte multidimensionale*". A 6-a Conferinţă a Societăţii de Probabilităţi şi Statistică din România, 21-22 februarie 2003.
5. Goovaerts, M.; Kaas, R.; Tang, Q. and **Vernic, R.** – "*Estimates for the tail probability of lognormally discounted sums of Pareto-like losses*". 8th International Congress on Insurance: Mathematics & Economics, Rome, 2004 (versiune anterioară lucrării acceptate de Scandinavian Actuarial Journal).
6. **Vernic, R.** – "*The development of research into actuarial mathematics in Romania*". The Academic Symposium "The new democracies and new research in Romania and Bulgaria", University College of Utrecht, 21 April 2004.
7. Enăchescu D. şi **Vernic, R.** – "*Some methods for approximating the distribution of a randomly weighted sum of random variables*". A 8-a Conferinţa SPSR, 22-23 aprilie, Bucureşti 2005.
8. Teodorescu, S. and **Vernic, R.** – "*The EM algorithm for loss distributions modelling*". Preprint series in Computer Science and Applied Mathematics 03-2005, Ovidius University of Constanta.
9. Enăchescu D. şi **Vernic, R.** – "*Some methods for approximating the financial situation of an insurance portfolio*". A 9-a Conferinţa SPSR, 28-29 aprilie, Bucureşti 2006.
10. **Vernic, R.** şi Pelican E. - "*The Log-Skew-Normal distribution: actuarial aplication*". A 10-a Conferinţa SPSR, 13-14 aprilie, Bucureşti 2007.
11. Bolance C., Guillen M., Pelican E. and **Vernic R**. – *"Skewed bivariate models and nonparametric estimation for capital allocation".* International Congress on Insurance: Mathematics and Economics, 10-12 iulie, Atena 2007.
12. Teodorescu, S. and **Vernic, R.** - "*On composite Pareto models*". A 12-a Conferinţa SPSR, 10 aprilie, Constanţa 2009.
13. **Vernic, R.** and Teodorescu, S. - "*LogNormal mixture models with insurance applications*". A 12-a Conferinţa SPSR, 10 aprilie, Constanţa 2009.
14. **Vernic, R.** - "*On estimating the parameters of a bivariate Pareto distribution by the EM algorithm*". A 13-a Conferinţa SPSR, 16 aprilie, UTCB, Bucureşti 2010.
15. **Vernic, R.** - "*Portfolio Optimization in the Presence of Pareto-like Claims and Dependent Return Rates on Investment*". Romanian-American Workshop "Applications in Statsitics", May 13, 2010, ISMMA, Bucharest.

16. Tang, Q. and **Vernic, R.** - "*The Finite-Time Ruin Probability in the Presence of Heavy-tailed Claims and Dependent Return Rates on Risky Investment*". 6th Conference in Actuarial Science & Finance on Samos, June 3 - 6, 2010.
17. Tang, Q. and **Vernic, R.** - "*The finite time ruin probability with heavy-tailes and dependent return rates*". 3rd International Gerber-Shiu Workshop, University of Waterloo, June 14-16 2010.
18. **Vernic, R.** (coautori Asimit, A., Furman, E.)- "*On a multivariate Pareto distribution: estimation methods*". 14th International Congress on Insurance: Mathematics and Economics, June 17- 19, 2010, University of Toronto.
19. Asimit, A., Furman, E., Tang, Q. and **Vernic, R.** - "*Tail-based risk capital allocations: an asymptotic approach*". 14th International Congress on Insurance: Mathematics and Economics, June 17- 19, 2010, University of Toronto.
20. **Vernic, R.** and Ungureanu, D. - "*A fuzzy approach to the ruin problem*". A 14-a Conferinţă SPSR, ASE Bucureşti, 29 aprilie 2011.
21. **Vernic, R.** and Pelican, E. – "*Statistical inference for the bivariate Sarmanov distribution: a real data study*". A 15-a Conferinţă SPSR, Universitatea din Bucureşti, 27 aprilie 2012.
22. **Vernic, R.** – "*On the bivariate Sarmanov distribution with log-logistic marginals: an actuarial application*". A 16-a Conferinţă SPSR, ASE Bucureşti, 26 aprilie 2013.
23. Robe-Voinea, E. and **Vernic, R.** – "*Fast Fourier Transforms for bivariate aggregate losses. A Matlab application*". A 16-a Conferinţă SPSR, ASE Bucureşti, 26 aprilie 2013.
24. Robe-Voinea, E. and **Vernic, R.** – "*Fast Fourier Transform for multivariate aggregate losses*". A 17-a Conferinţă SPSR, UTCB Bucureşti, 25 aprilie 2014.
25. Robe-Voinea, E. and **Vernic, R.** – "*What if different types of claims simultaneously affect an insurance portfolio*?". A 18-a Conferinţă SPSR, Universitatea din Bucureşti, 8 mai 2015.
26. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. – "*On the ruin probability for nonhomogeneous Erlang claims and arbitrary inter-claim revenues. Computational aspects*". A 18-a Conferinţă SPSR, Universitatea din Bucureşti, 8 mai 2015.
27. Raducan, A.-M., **Vernic, R.** and Zbaganu, Gh. –"*On a conjecture related to the ruin probability for nonhomogeneous Erlang claims and arbitrary inter-claim revenues*". Conferinta Internationala de Actuariat si Asigurari, ASE, 22 iunie 2015.
28. **Vernic, R.** – "*On the relation between the order of claims arrival and the ruin probability in a nonhomogeneous risk process*". 19th International Congress on Insurance: Mathematics and Economics, June 24- 26, 2015, University of Liverpool.
29. Robe-Voinea, E. and **Vernic, R.** – "*On the recursive evaluation of a certain multivariate compound distribution*". The Eighth Congress of Romanian Mathematicians, June 28-July 1, 2015, "Alexandru Ioan Cuza" University of Iasi.
30. Robe-Voinea, E. and **Vernic, R.** – "*A recursive procedure for a compound risk model with compound-type severity distributions*". The 12th Balkan Conference on Operational Research BALCOR 2015, 9-13 September 2015, Constanta, Romania.
31. **Vernic, R.** – "*Evaluating the ruin probability in a nonhomogeneous risk process*". First Romanian-Turkish Mathematics Colloquium, October 14-15, 2015, Constanta, Romania.
32. **Vernic, R.** – "*Conditional Tail Expectation for Sarmanov's distribution*". A 19-a Conferinţă SPSR, UTCB Bucureşti, 27 mai 2016.
33. Robe-Voinea, E. and **Vernic, R.** – "*Risk analysis based on the Monte Carlo method for a ship design project*". A 19-a Conferinţă SPSR, UTCB Bucureşti, 27 mai 2016.
34. Robe-Voinea, E., Pintilie, A. and **Vernic, R.** – "*A Short Ship Design Risk Analysis Using the Monte Carlo Method*". Design for Safety - 6th International Maritime Conference, 28-30 November, 2016, Hamburg, Germany.
35. Robe-Voinea, E. and **Vernic, R.** – "*On the optimization of an algorithm designed for the*

evaluation of a multivariate compound distribution". A 20-a Conferinţă SPSR, Academia Forţelor Aeriene „Henri Coandă" Braşov, 28-29 aprilie 2017.

36. Bolance C. and **Vernic R**. – " *Multivariate count data generalized linear models: Two approaches based on Sarmanov's distribution"*. 21 International Congress on Insurance: Mathematics and Economics, 3-5 iulie, Viena 2017.
37. **Vernic, R.** – "*On the evaluation of some multivariate compound distributions with Sarmanov counting distribution*". A 21-a Conferinţă SPSR, ASE Bucureşti, 13-14 aprilie 2018.
38. **Vernic, R.** – *"On the exact and approximate evaluation of some multivariate compound distributions with Sarmanov's counting distribution"*. MATTEX 2018, Universitatea Konstantin Preslavsky din Shumen, Bulgaria, 25-27 octombrie 2018.
39. **Vernic, R.** *On a collective model with dependent frequency and claim amounts (Asupra unui model colectiv cu frecvenţa dependentă de valoarea cererilor).* A 22-a Conferinţă SPSR, IMAR Bucureşti, 10-11 mai 2019.
40. **Vernic, R.** *Sarmanov distribution for modeling dependence between the frequency and the severity of insurance claims.* 23 International Congress on Insurance: Mathematics and Economics, 10-12 iulie, Munich 2019.
41. Pelican E. and **Vernic R**. - *A neural network approach to prediction from some composite regression models*. StatMod2020, Statistical Modeling with Applications, ISMMA Bucureşti, 6-7 Noiembrie 2020 (online).
42. **Vernic, R**. *Frequency and severity dependence in the collective risk model: three approaches based on the Sarmanov distribution*. 24th IME Congress, July 5-9, 2021 (virtual event).
43. **Vernic, R**. *On a Bivariate Sarmanov Distribution with Composite Marginals for Bivariate Auto Insurance Costs*. 25th International Congress on Insurance: Mathematics and Economics, July 12th–15th 2022, Online.
44. Bâcă A. and **Vernic, R**. Extreme values modeling using the Gamma-Lognormal-Pareto three-spliced distribution. CAIM - the 29th Conference On Applied And Industrial Mathematics, Chisinau, Republic of Moldova, August 25-27, 2022, online. https://caim2022.ust.md/#general-information
45. **Vernic, R**. and Bolance C. *Extending composite distributions to the bivariate setting*. Statistical Modeling with Applications - StatMod2023, September 29-30, 2023; ISMMA, Bucharest, Romania. https://statmod2023.sciencesconf.org/
46. Răducanu A, **Vernic, R**. and Zbăganu G. *A new order relation between random variables applied to an investment problem*. Statistical Modeling with Applications - StatMod2023, September 29-30, 2023; ISMMA, Bucharest, Romania.
47. Badea A., Bolancé C. and **Vernic, R**. *Bivariate composite distributions with Pareto tail for modeling bivariate data*. Mathematical Modeling Conference - MATHMODEL 2023, 6-9 December 2023, Borovets, Bulgaria.
48. Bâcă A., Bolancé C. and **Vernic, R.** *On the bivariate Farlie-Gumbel-Morgenstern distribution with alternative composite Exponential-Pareto marginals*. 16th International Conference of the ERCIM WG on Computational and Methodological Statistics - CFE-CMStatistics 2023, University of Applied Sciences, Berlin, Germany, 16-18 December 2023.
49. Badea A., Pelican E. and **Vernic, R**. *Exploring sum-product networks for image classification. Applications*. SYNASC 2024: 26th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, September 16-19 2024, West University Timişoara, Romania.
50. Bâcă A. and **Vernic, R.** *Modelling the Danish data set using three-spliced distributions*. Statistical Modeling with Applications - StatMod2024, 24–25 September, University of

Belgrade, Belgrade, Serbia, 2024.

51. Badea A., Pelican E. and **Vernic, R**. *Mixed Sum-Product and Convolutional Networks for Classification Problems*. ECCO-2024: International Conference on Electronics, Communications and Computing, Universitatea Tehnica Moldova, 17-18 October, 2024, Chisinau.
52. Bolance C., **Vernic R**., Badea A. – *Modelling joint actuarial costs using a bivariate Lognormal-Pareto distribution*. SEIO 2025 Congress (congress of the Spanish Society of Statistics and Operational Research), Lleida Spain. https://seio2025.com/en/papers/3009/modelling-joint-actuarial-costs-using-a-bivariate-lognormal-pareto-distribution

4° Proiecte de cercetare

Bursă de cercetare individuală

Vernic, R. – "*Approximating distributions and estimating the ruin probability in the framework of asset-liability management for dependent lines of insurance business",* grant individual de cercetare oferit de NWO (Organizaţia Olandeză pentru Cercetare Ştiinţifică) prin CNCSIS, nr. 048.031.2003.001, 2004.

Contract de cercetare cu Ministerul Învăţământului

Mihăilescu, I.F., Răbâea, A. şi **Vernic, R.** - *"Cercetări privind utilizarea optimă a informaţiei meteorologice şi adoptarea deciziilor economice"*, faza II/1994, nr. 3031/B10.

Granturi ale Academiei Române

Leahu A. şi **Vernic, R.** – "*Procese Aleatoare şi Statistica lor în Fiabilitatea Softului şi Actuariat"*, GAR 12/2005-2006.
Leahu A. şi **Vernic, R.** – "*Procese Stocastice şi Repartiţii aplicate în Fiabilitate şi Actuariat: simularea şi analiza lor statistică"*, GAR 24/2007.

Vernic, R. – formator în cadrul proiectului EU-RO-FORMARE 2008 (*Dezvoltarea formării continue pentru personalul din învăţământul preuniversitar*), finanţat de Uniunea Europeană şi Guvernul României prin programul PHARE RO 2005/017-553.04.01.02.04.02. - *Coeziune economică şi socială.*

Data Semnatura

Prof. Univ. Dr. Raluca Vernic