CURRICULUM VITAE

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Date of birth:	17-March-1967 (La Calera, V Region, Chile)
Foreign languages:	• English • Portuguese • Spanish (native language).
Education:	• Doctor in mathematical sciences (major in statistics and operational research), Universidad de Granada, Spain, under the supervision of Dr. José A. Díaz-García. • Postdoctoral fellow (in statistics for business and industry), McMaster University, Hamilton, Ontario, Canada, under the supervision of Dr. N. Balakrishnan. • Bachelor in statistics, Pontificia Universidad Católica de Valparaíso, Chile.
Current and past positions:	• Full-time Professor (2017-) – School of Industrial Engineering – Pontificia Universidad Católica de Valparaíso – Chile (eii.pucv.cl). • Full Professor (Profesor Titular) (2014-2017) – Faculty of Engineering and Science – Universidad Adolfo Ibáñez – Chile (www.uai.cl). • Full Professor (1993-2014)/Chair of the Department of Statistics (2010-2012)/Founder and Head of the PhD Program in Statistics (2010-2014)/Head of the Master Program in Statistics (2010-2012) – Universidad de Valparaíso – Chile (www.deuv.cl). • Board of Directors and Technical Manager (2015-2016) – G&R Consulting Group – Chile.
Editorial positions:	• Advisory Editor of Stochastic Environmental Research and Risk Assessment (by Springer: www.springerlink.com/content/103283). • Associate Editor of Applied Stochastic Models in Business and Industry (by Wiley: www.wiley.com). • Associate Editor of the Biometrical Letters (by De Gruyter www.degruyter.com/view/j/bile). • Associate Editor of the Brazilian Journal of Probability and Statistics (by the Institute of Mathematical Statistics www.imstat.org/bjps). • Associate Editor of the Colombian Statistical Journal (by the National University of Colombia). • Associate Editor of Communications in Statistics: Simulation and Computation (by Taylor & Francis: www.taylorfrancis.com/journals). • Associate Editor of Communications in Statistics: Theory and Methods (by Taylor & Francis: www.taylorfrancis.com/journals). • Associate Editor Computational Statistics and Data Analysis (by Elsevier: www.elsevier.com/locate/csda).

● Associate Editor of Journal of Applied Statistics (by Taylor & Francis)
(www.taylorfrancis.com/journals).
● Associate Editor of Journal of Statistical Computation and Simulation (by Taylor & Francis).
(www.taylorfrancis.com/journals).
● Associate Editor of the Pakistan Journal of Statistics (www.pakjs.com).
● Associate Editor of REVSTAT Statistical Journal (by the National Institute of Statistics, Portugal).
● Editor of the Chilean Journal of Statistics (2009-2013) (www.soche.cl/chjs).

Other positions, memberships:	● Visiting scholar in the University of North Carolina at Chapel Hill, USA, with Dr. P.K. Sen. ● Visiting scholar in the University of Leeds, UK, with Dr. Robert G. Aykroyd. ● Visiting scholar in the Universidade Federal de Pernambuco, Brazil. ● Visiting scholar in the Universidade Federal de Goiâs, Brazil. ● Member of the expert committee for evaluation of research projects of the National Commission of Scientific and Technology Investigation (Colciencias) of the Colombian government (www.colciencias.gov.co) ● Member of the scholarship committee of the advanced human capital program of the National Commission of Scientific and Technology Investigation (Conicyt) of the Chilean government (www.conicyt.cl) ● Member of the evaluator peer committee of the National Commission of Accreditation of the Chilean government (www.cnachile.cl) and of the Colombian government (www.cna.gov.co). ● Member of the board of directors of the IEEE-Chile (www.ieeechile.cl). ● Past member of the board of directors of the Chilean Statistical Society –SOCHE– (www.soche.cl). ● Member of the finance committee of the International Biometry Society (IBS). ● Member of several scientific societies (SOCHE, ISI, ASA, ABE, SAE, IEEE, IBS, Statistical Modelling). ● Past member of the Committee of Academic Evaluation of the Faculty of Sciences of the Universidad de Valparaíso, Chile. ● Member of numerous national and international scientific committees.
Research interests:	● Big data ● Business intelligence ● Data mining ● Data science ● Distribution theory ● Birnbaum-Saunders, elliptic, inverse Gaussian and Johnson distributions ● Goodness-of-fit methods ● Influence diagnostics ● Inventory stochastic models ● Lifetime methods (reliability, survival, censorship) ● Quality statistical control ● Statistical modeling.
Publications:	More than 110 articles in indexed international statistical journals and book chapters; see details in Appendix II.
Talks:	Over 100 talks and courses in local and international meetings, as well as in diverse international academic centers.
Books:	8 (4 of them in progress).
Projects:	28 research project grants developed in Brazil, Colombia, Chile, Mexico and Portugal; see details in Appendix III.
Thesis supervision:	12 doctoral theses ● 15 master theses ● 30 undergraduate theses.
Thesis committee:	16 doctoral theses (8 from Brazil, 1 from Chile, 4 from Colombia, 3

from Pakistan) • 16 master thesis (1 from Argentina, 5 from Brazil, 10 from Chile) • Over 50 undergraduate theses in Chile and Brazil.

Refereeing work:	Over 200 reviews of papers and books for indexed journals and publishers such as Springer and Elsevier; see details in Appendix IV. Over 30 evaluations of research projects from different countries.
Academic experience:	1992-present: experience as lecturer in quality control, operational research and in practically all the topics of statistics.
Consulting experience:	1990-present: experience as statistical consultant and lecturer in several local and international companies and universities.
Business management:	2015-present: member of the board of directors and technical manager of G&R Consulting Group – Chile
Honors and awards:	See details in Appendix V. The most important ones are: (i) To be awarded as The Educator of the Year 2012 in Latin America, Brazil, Portugal and Spain by the Juárez-Lincoln-Martí Prize from USA; (ii) To have an article awarded by Elsevier Publisher to the most cited article during two consecutive periods (2005-2010 and 2006-2011); (iii) To be elected in 2012 as member of the International Statistical Institute; (iv) To be elected in 2012 as senior member of the IEEE; (v) To be elected in 2013 as member of the Award Selection Committee (formed besides by Professors from Australia, Korea, Norway, UK and USA) for The Karl Pearson Prize for Contemporary Research Contribution awarded by the International Statistical Institute, considered as the New Nobel Price in Statistics.

Appendix I: awarded scientific publications

1. **Leiva, V.**, Barros, M., Paula, G.A., Galea, M., 2007. Influence diagnostics in log Birnbaum-Saunders regression models with censored data. Computational Statistics and Data Analysis 51(12):5694-5707. Article awarded by Elsevier to the most cited paper during two consecutive periods: 2005-2010/2006-2011.

2. Balakrishnan, N., **Leiva, V.**, Sanhueza, A., Cabrera, E., 2009. Mixture inverse Gaussian distribution and its transformations, moments and applications. Statistics 43:91-104. Article awarded by Taylor & Francis among the 25 most important papers of the history of "Statistics: A Journal of Theoretical and Applied Statistics" due to the international year of Statistics 2013.

3. Paula, G.A., **Leiva, V.**, Barros, M., Liu, S., 2012. Robust statistical modeling using the Birnbaum-Saunders-t distribution applied to insurance. Applied Stochastic Models in Business and Industry 28:16-34. Article awarded by Wiley to the most cited paper during 2012-2013.

4. Rojas, F., **Leiva, V.**, Quijada, J., Fuentes, M. 2013. Optimization of contribution margins for a food service by adapting inventory management models. Global Conference on Business & Finance Proceedings 8(2):479-487. Article awarded as the best paper (first place like outstanding research) in Session Award Winners, among 600 participants, by the Institute for Business and Finance Research.

5. **Leiva, V.**, Santos-Neto, M., Cysneiros, F.J.A., Barros, M. 2014. Birnbaum-Saunders statistical modelling: a new approach. Statistical Modelling 14(1):21-48. Article awarded by Sage Publisher to the most read paper during the month of February, 2014.

6. Rojas, F., **Leiva, V.** 2015. Inventory management in food companies with demand statistically dependent. Proceeding of the CLADEA 2015:1-19. Awarded as the "Best Paper'" of the track "Operations Management and Value Chain" during the 50th. Annual Assembly of the Latin American Council of Management Schools (CLADEA) 2015.

7. **Leiva, V.**, Rojas, E., Galea, M., Sanhueza, A. 2015. Diagnostics in Birnbaum-Saunders accelerated life models with an application to fatigue data. Applied Stochastic Models in Business and Industry 28:16-34. Article awarded by Wiley to the most cited paper during 2014-2015.

Appendix II: all scientific publications

1. **Leiva, V.**, Lillo, C., Morras, R. On a business confidence index and its analytics: A Chilean case. In Oliveira, T.A., Kitsos, C., Oliveira, A. and Grilo, L.M. *Recent Studies on Risk Analysis and Statistical Modeling*. Springer, New York, pp. 1-20 (in press).

2. **Leiva, V.**, Marchant, C. Multivariate generalized Birnbaum-Saunders models applied to case studies in bio-engineering and industry. In Oliveira, T.A., Kitsos, C., Oliveira, A. and Grilo, L.M. *Recent Studies on Risk Analysis and Statistical Modeling*. Springer, New York, pp. 1-17 (in press).

3. Athayde, E., Azevedo, A., Barros, M., **Leiva, V.** Failure rate of Birnbaum-Saunders distributions: shape, change-point, estimation and robustness. *Brazilian Journal of Probability and Statistics* (in press).

4. Desousa, M., Saulo, H., **Leiva, V.**, Scalco, P. On a tobit-Birnbaum-Saunders model with an application to medical data. *Journal of Applied Statistics* (in press).

5. Huerta, M., **Leiva, V.**, Lillo, C., Rodriguez, M. A beta partial least squares regression model: Diagnostics and application to mining industry data. *Applied Stochastic Models in Business and Industry* (in press).

6. Leao, J., **Leiva, V.**, Saulo, H., Tomazella, V. A survival model with Birnbaum-Saunders frailty for uncensored and censored cancer data. *Brasilian Journal of Probability and Statistics* (in press).

7. Saulo, H., Leao, J., **Leiva, V.**, Aykroyd, R.G. Birnbaum-Saunders autoregressive conditional duration models applied to high-frequency financial data. *Statistical Papers* (in press).

8. Barros, M., Galea, M., **Leiva, V.**, Santos-Neto, M. 2018. Generalized tobit models: Diagnostics and application in econometrics. *Journal of Applied Statistics* 45:145-167.

9. Lillo, C., **Leiva, V.**, Nicolis, O., Aykroyd, R.G. 2018. L-moments of the Birnbaum-Saunders distribution and its extreme value version: Estimation, goodness of fit and application to earthquake data. *Journal of Applied Statistics* 45(2):187-209.

10. Marchant, C., **Leiva, V.**, Cysneiros, F.J.A., Liu, S. (2018) Robust multivariate control charts based on Birnbaum-Saunders distributions. *Journal of Statistical Computation and Simulation* 88(1):182-202.

11. Bourguingon, M., Leao, J., **Leiva, V.** 2017. Santos-Neto, M. The transmuted Birnbaum-Saunders distribution. *REVSTAT – Statistical Journal* 15(4):601-628.

12. Fierro, R., **Leiva, V.** 2017. A stochastic methodology for risk assessment of a large earthquake when a long time has elapsed. *Stochastic Environmental Research and Risk Assessment* 31(9):2327-2336.

13. **Leiva, V.**, Ruggeri, F., Saulo, H., Vivanco, J.F. 2017. A methodology based on the Birnbaum-Saunders distribution for reliability analysis applied to nano-materials. *Reliability Engineering and System Safety* 157:192-201.

14. **Leiva, V.**, Saulo, H. 2017. Environmental applications based on Birnbaum-Saunders models. In Adhikari, M.R., Chaubey, Y.P. and Adhikari, A. *Mathematical and Statistical Applications in Life Sciences and Engineering*. Springer, Singapore, pp 283-304.

15. Garcia-Papani, F., Uribe-Opazo, M., **Leiva, V.**, Aykroyd, R.G. 2017. Birnbaum-Saunders spatial modelling and diagnostics applied to agricultural engineering data. *Stochastic Environmental Research and Risk Assessment* 31(1):105-124.

16. Leao, J., **Leiva, V.**, Saulo, H., Tomazella, V. 2017. Birnbaum-Saunders frailty regression models: Diagnostics and application to medical data. *Biometrical Journal* 59(2):291-314.

17. **Leiva, V.**, 2016. *The Birnbaum-Saunders Distribution*. Academic Press, New York.

18. **Leiva, V.**, 2016. Business intelligence and its connection with the area of services. *Center of Experiences and Services: Universidad Adolfo Ibáñez*, April, 1-9. Available at `www.cesuai.cl`.

19. **Leiva, V.**, Ferreira, M., Gomes, M.I., Lillo, C. 2016. Extreme value Birnbaum-Saunders regression models applied to environmental data. *Stochastic Environmental Research and Risk Assessment* 30(3):1045-1058.

20. **Leiva, V.**, Liu, S., Shi, L., Cysneiros, F.J.A. 2016. Diagnostics in elliptical regression models with stochastic restrictions applied to econometrics. *Journal of Applied Statistics* 43(4):627-642.

21. **Leiva, V.**, Santos-Neto, M., Cysneiros, F.J.A., Barros, M. 2016. A methodology for stochastic inventory models based on a zero-adjusted Birnbaum-Saunders distribution. *Applied Stochastic Models in Business and Industry* 32(1):74-89.

22. **Leiva, V.**, Vivanco, J.F. 2016. Fatigue models. *Wiley StatsRef: Statistics Reference Online* 1-10. Available at `http://dx.doi.org/10.1002/9781118445112.stat02141.pub2`

23. Khosravi, M., **Leiva, V.**, Jamalizadeh, A., Porcu, E. 2016. A nonlinear Birnbaum-Saunders model based on a bivariate construction and its characteristics. *Communications in Statistics - Theory and Methods* 45(3):772-793.

24. Liu, S., **Leiva, V.**, Ma, T., Welsh, A. 2016. Influence diagnostic analysis in the possibly heteroskedastic linear model with exact restrictions. *Statistical Methods and Applications* 25(2):227-249.

25. Marchant, C., **Leiva, V.**, Cysneiros, F.J.A. 2016. A multivariate log-linear model for Birnbaum-Saunders distributions. *IEEE Transactions on Reliability* 65(2):816-827.

26. Marchant, C., **Leiva, V.**, Cysneiros, F.J.A., Vivanco, J.F. 2016. Diagnostics in multivariate Birnbaum-Saunders regression models. *Journal of Applied Statistics* 43(15):2829-2849.

27. Rojas, F., **Leiva, V.** 2016. Inventory management in food companies with statistically dependent demand. *Academia Revista Latinoamericana de Administración* 29(4):1-36.

28. Santos-Neto, M., Cysneiros, F.J.A., **Leiva, V.**, Barros, M. Reparameterized Birnbaum-Saunders regression models with varying precision. *Electronic Journal of Statistics* 10(2):2825-2855.

29. Wanke, P., Ewbank, H., **Leiva, V.**, Rojas, F. 2016 Inventory management for new products with triangularly distributed demand and lead-time. *Computers and Operations Research* 69:97-108.

30. **Leiva, V.**, Marchant, C., Ruggeri, F., Saulo, H. 2015. A criterion for environmental assessment using Birnbaum-Saunders attribute control charts. *Environmetrics* 26(7):463-476.

31. **Leiva, V.**, Oliveira, A. np-charts for attribute control. 2015. *Wiley StatsRef: Statistics Reference Online* 1-8. Available at `http://dx.doi.org/10.1002/9781118445112.stat07828`.

32. **Leiva, V.**, Oliveira, T. p-charts for attribute control. 2015. *Wiley StatsRef: Statistics Reference Online* 1-6. Available at `http://dx.doi.org/10.1002/9781118445112.stat07827`.

33. **Leiva, V.**, Saunders, S.C. Cumulative damage models. 2015. *Wiley StatsRef: Statistics Reference Online* 1-10. Available at `http://dx.doi.org/10.1002/9781118445112.stat02136.pub2`

34. **Leiva, V.**, Tejo, M., Guiraud, P., Schmachtenberg, O., Orio, P., Marmolejo, F. 2015. Modeling neural activity with cumulative damage distributions. *Biological Cybernetics* 109(4):421-433.

35. Fierro, R., **Leiva, V.**, Balakrishnan, N. 2015. Statistical inference on a stochastic epidemic model. *Communications in Statistics - Simulation and Computation* 44(9):2297-2314.

36. Fierro, R., **Leiva, V.**, Moeller, J. 2015. The Hawkes process with different exciting functions and its asymptotic behavior. *Journal of Applied Probability* 52(1):37-54.

37. Rojas, F., **Leiva, V.**, Wanke, P., Marchant, C. 2015. Optimization of contribution margins in food services by modeling independent component demand. *Colombian Journal of Statistics* 38(1):1-25.

38. Sanchez, L., **Leiva, V.**, Caro-Lopera, F.J., Cysneiros, F.J.A. 2015. On matrix-variate Birnbaum-Saunders distributions and their estimation and application. *Brasilian Journal of Probability and Statistics* 29(4):790-812.

39. Saulo, H., **Leiva, V.**, Ruggeri, F. 2015. Monitoring environmental risk by a methodology based on control charts. In Kitsos C, Oliveira TA, Rigas A, Gulati S (eds.) Theory and Practice of Risk Assessment. Springer Proceedings in Mathematics and Statistics 136. Springer, Switzerland, pp 177-197.

40. Wanke, P., **Leiva, V.** 2015. Exploring the potential use of the Birnbaum-Saunders distribution in inventory management. *Mathematical Problems in Engineering* Article ID 827246.

41. Barros, M., **Leiva, V.**, Ospina, R., Tsuyuguchi, A. 2014. Goodness-of-fit tests for the Birnbaum-Saunders distribution with censored reliability data. *IEEE Transactions on Reliability* 63(2):543-554.

42. Castro-Kuriss, C., **Leiva, V.**, Athayde, E. 2014. Graphical tools to assess goodness-of-fit in non-location-scale distributions. *Colombian Journal of Statistics* (special issue on current topics in statistical graphics) 37(2):341-365.

43. Coelho, J., Branco, F., Oliveira, T.A., **Leiva, V.**, 2014. A computational tool useful for simulating data from non-standard distributions. *Biometrie und Medizinische Informatik* 23:75-97.

44. Frutos, E., Galindo, M.P., **Leiva, V.** 2014. An interactive biplot implementation in R for modeling genotype-by-environment interaction. *Stochastic Environmental Research and Risk Assessment* 28(7):1629-1641.

45. **Leiva, V.**, Marchant, C., Saulo, H., Aslam, M., Rojas, F. 2014. Capability indices for Birnbaum-Saunders processes applied to electronic and food industries. *Journal of Applied Statistics* 41(9): 1881-1902.

46. **Leiva, V.**, Rojas, E., Galea, M., Sanhueza, A. 2014. Diagnostics in Birnbaum-Saunders accelerated life models with an application to fatigue data. *Applied Stochastic Models in Business and Industry* 30(2):115-131.

47. **Leiva, V.**, Santos-Neto, M., Cysneiros, F.J.A., Barros, M. 2014. Birnbaum-Saunders statistical modelling: a new approach. *Statistical Modelling* 14(1):21-48.

48. **Leiva, V.**, Saulo, H., Leao, J., Marchant, C. 2014 A family of autoregressive conditional duration models applied to financial data. *Computational Statistics and Data Analysis* 79:175-191.

49. Nieto, A.B., **Leiva, V.**, Galindo, M.P., Vicente-Galindo, P. 2014. A methodology for biplots based on bootstrapping with R. *Colombian Journal of Statistics* (special issue on current topics in statistical graphics) 37(2):367-397.

50. Santos-Neto, M., Cysneiros, F.J.A., **Leiva, V.**, Barros, M. 2014. On a reparameterized Birnbaum-Saunders distribution and its moments, estimation and applications. *REVSTAT - Statistical Journal* 12(3): 247-272.

51. Fierro, R., **Leiva, V.**, Ruggeri, F., Sanhueza, A. 2013. On a Birnbaum-Saunders distribution arising from a non-homogeneous Poisson process. *Statistics and Probability Letters* 83:1233-1239.

52. Kelmansky, D., Martinez, E., **Leiva, V.** 2013. A new variance stabilizing transformation for gene expression data analysis. *Statistical Applications in Genetics and Molecular Biology* 12(6):653-666.

53. **Leiva, V.**, Porcu, E., 2013. Discussion on experimental designs for identifying causal mechanisms: Part I. *Journal of the Royal Statistical Society Series A* 176:5-51.

54. Marchant, C., Bertin, K., **Leiva, V.**, Saulo, H. 2013. Generalized Birnbaum-Saunders kernel density estimators and an analysis of financial data. *Computational Statistics and Data Analysis* 63:1-15.

55. Marchant, C., **Leiva, V.**, Cavieres, M.F., Sanhueza, A. 2013. Air contaminant statistical distributions with application to PM10 in Santiago, Chile. *Reviews of Environmental Contamination and Toxicology* 223:1-31.

56. Porcu, E., **Leiva, V.**, 2013. Discussion on experimental designs for identifying causal mechanisms: Part II. *Journal of the Royal Statistical Society Series A* 176:5-51.

57. Rojas, F., **Leiva, V.**, Quijada, J., Fuentes, M. 2013. Optimization contribution margins of food service by adapting inventory management models. Global Conference on Business & Finance Proceedings 8(2):479-487.

58. Saulo, H., **Leiva, V.**, Ziegelmann, F.A., Marchant, C. 2013. A nonparametric method for estimating asymmetric densities based on skewed Birnbaum-Saunders distributions applied to environmental data. *Stochastic Environmental Research and Risk Assessment* 27:1479-149.

59. Vilca, F., Rodrigues-Motta, A., **Leiva, V.** 2013. On a variance stabilizing model and its application to genomic data. *Journal of Applied Statistics* 40:2354-2371.

60. Athayde, E., Azevedo, C., **Leiva, V.**, Sanhueza, A. 2012. About Birnbaum-Saunders distributions based on the Johnson system. *Communications in Statistics: Theory and Methods* 41:2061-2079.

61. Azevedo, C., **Leiva, V.**, Athayde, E., Balakrishnan, N. 2012. Shape and change point analyses of the Birnbaum-Saunders-t hazard rate and associated estimation. *Computational Statistics and Data Analysis* 56:3887-3897.

62. Caro-Lopera, F.J., **Leiva, V.**, Balakrishnan, N. 2012. Connection between the Hadamard and matrix products with an application to a matrix-variate Birnbaum-Saunders distribution. *Journal of Multivariate Analysis* 104:126-139.

63. Catalan, M., Galindo, M.P., Martin, J. **Leiva, V.** 2012. Integration methods of odds ratio based on meta-analysis using fixed and random effect models useful in public health. *Colombian Journal of Statistics* (special issue on biostatistics) 35:205-222.

64. Ferreira, M., Gomes, M.I., **Leiva, V.** 2012. On an extreme value version of the Birnbaum-Saunders distribution. *REVSTAT – Statistical Journal* 10:181-210.

65. Gomes, M.I., Ferreira, M., **Leiva, V.** 2012. The extreme value Birnbaum-Saunders model and its moments and application in biometry. *Biometrical Letters* 49:81-94.

66. Gomes, M.I., Ferreira, M., **Leiva, V.**, 2012. The extreme value Birnbaum-Saunders model in athletics. *Proceedings in 59th ISI World Statistics Congress* STS084:2867-2872.

67. **Leiva, V.**, Ponce, M.G., Marchant, C., Bustos, O. 2012. Fatigue statistical distributions useful for modeling diameter and mortality of trees. *Colombian Journal of Statistics* 35:349-367.

68. Paula, G.A., **Leiva, V.**, Barros, M., Liu, S. 2012. Robust statistical modeling using the Birnbaum-Saunders-t distribution applied to insurance. *Applied Stochastic Models in Business and Industry* 28:16-34

69. Santos-Neto, M., Cysneiros F.J.A., **Leiva, V.**, Ahmed, S.E. 2012. On new parameterizations of the Birnbaum-Saunders distribution. *Pakistan Journal of Statistics* 28:1-26.

70. Balakrishnan, N., Gupta, R. Kundu, D., **Leiva, V.**, Sanhueza, A. 2011. On some mixture models based on the Birnbaum-Saunders distribution and associated inference. *Journal of Statistical Planning and Inference* 141:2175-2190.

71. Castillo, N.O., Gomez, H.W., **Leiva, V.**, Sanhueza, A. 2011 On the Fernandez-Steel distribution: Inference and application. *Computational Statistics and Data Analysis* 55:2951-2961.

72. **Leiva, V.**, Athayde, E., Azevedo, C., Marchant, C. 2011. Modeling wind energy flux by a Birnbaum-Saunders distribution with unknown shift parameter. *Journal of Applied Statistics* 38:2819-2838.

73. **Leiva, V.**, Soto, G., Cabrera, E., Cabrera, G. 2011. New control charts based on the Birnbaum-Saunders distribution and their implementation in R code. *Colombian Journal of Statistics* 34:147-176.

74. Riquelme, M., **Leiva, V.**, Galea, M., Sanhueza, A. 2011. Influence diagnostics on the coefficient of variation of elliptically contoured distributions. *Journal of Applied Statistics* 38:513-532.

75. Sanhueza, A., **Leiva, V.**, López-Kleine, L. 2011. On the Student-t mixture inverse Gaussian model and an application to bacterium-based protein production. *Colombian Journal of Statistics* 34:177-195.

76. Santana, L., Vilca, F., **Leiva, V.**, 2011. Influence analysis in skew-Birnbaum-Saunders regression models and applications. *Journal of Applied Statistics* 38:1633-1649.

77. Vilca, F., Santana, L., **Leiva, V.**, Balakrishnan, N. 2011. Estimation of extreme percentiles in Birnbaum-Saunders distributions. *Computational Statistics and Data Analysis* 55:1665-1678.

78. Villegas, C., Paula, G.A., **Leiva, V.** 2011. Birnbaum-Saunders mixed models for censored reliability data analysis. *IEEE Transactions on Reliability* 60:748-758.

79. Barros, M., Galea, M., Gonzalez, M., **Leiva, V.** 2010. Influence diagnostics in the tobit censored response model. *Statistical Methods and Applications* 19:379-397.

80. Castro-Kuriss, C., Kelmansky, D., **Leiva, V.**, Martinez, E. 2010. On a goodness-of-fit test for normality with unknown parameters and censored data. *Journal of Applied Statistics* 37:1193-1211.

81. **Leiva, V.**, Sanhueza, A. Kotz, S., Araneda, N. 2010. A unified mixture model based on the inverse gaussian distribution. *Pakistan Journal of Statistics* 26:445-460.

82. Vilca, F., Sanhueza, A., **Leiva, V.**, Christakos, G. 2010. An extended Birnbaum-Saunders model and its application in the study of environmental quality in Santiago, Chile. *Stochastic Environmental Research and Risk Assessment* 24:771-782.

83. Ahmed, S.E., Castro-Kuriss, C., Flores, E., **Leiva, V.**, Sanhueza, A. 2010. A truncated version of the Birnbaum-Saunders distribution with an application in financial risk. *Pakistan Journal of Statistics* 26:293-311.

84. Kotz, S., **Leiva, V.**, Sanhueza, A. 2010. Two new mixture models related to the inverse Gaussian distribution. *Methodology and Computing in Applied Probability* 12:199-212.

85. **Leiva, V.**, Vilca, F., Balakrishnan, N., Sanhueza, A. 2010. A skewed sinh-normal distribution and its properties and application to air pollution. *Communications in Statistics: Theory and Methods* 39:426-443.

86. **Leiva, V.**, Sanhueza, A., Sen, P.K., Araneda, N. 2010. M-procedures in the general multivariate nonlinear regression model. *Pakistan Journal of Statistics* 26:1-13.

87. Balakrishnan, N., **Leiva, V.**, Sanhueza, A., Cabrera, E. 2009. Mixture inverse Gaussian distribution and its transformations, moments and applications. *Statistics* 43:91-104.

88. Balakrishnan, N., **Leiva, V.**, Sanhueza, A., Vilca, F. 2009. Estimation in the Birnbaum-Saunders distribution based on scale-mixture of normals and the EM-algorithm. *Statistics and Operations Research Transactions* 33:171-192.

89. Barros, M., Paula, G.A., **Leiva, V.** 2009. An R implementation for generalized Birnbaum-Saunders distributions. *Computational Statistics and Data Analysis* 53:1511-1528.

90. Castro-Kuriss, C., Kelmansky, D., **Leiva, V.**, Martinez, E. 2009. A new goodness-of-fit test for censored data with an application in monitoring processes. *Communications in Statistics: Simulation and Computation* 38:1161-1177.

91. Guiraud, P., **Leiva, V.**, Fierro, R. 2009. A non-central version of the Birnbaum-Saunders distribution for reliability analysis. *IEEE Transactions on Reliability* 58:152-160.

92. **Leiva, V.**, Sanhueza, A., Angulo, J.M. 2009. A length-biased version of the Birnbaum-Saunders distribution with application in water quality. *Stochastic Environmental Research and Risk Assessment* 23:299-307.

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Appendix III: research projects

1. Title: "On new characterizations of cumulative damage models and their applications to contamination, mining and natural catastrophes". Supported by Fondecyt 1160868. During: 2016-2020. Investigator (type): Víctor Leiva (main investigator).

2. Title: "Modelagem e diagnóstico em regressão". Supported by CNPq Projeto Universal N. 476781/2013-2, Brazilian government. During: 2013-2014. Investigator (type): Víctor Leiva (co-investigator).

3. Title: "Multivariate and matrix-variate Birnbaum-Saunders distributions: characterization, modeling and diagnostics". Supported by Fondecyt 1120879, Chilean government. During: 2012-2016. Investigator (type): Víctor Leiva (main investigator).

4. Title: "Statistical modelling based on a reparameterized version of the Birnbaum-Saunders distribution". Supported by 400034/2013-1-CNPq, Brazilian government. During: 2013. Investigator (type): Víctor Leiva - Francisco Cysneiros (main investigators).

5. Title: "Statistical modelling based on a reparameterized version of the Birnbaum-Saunders distribution". Supported by FACEPE-APV-0005-1.02/13, Pernambuco, Brazil. During: 2013. Investigators: Víctor Leiva - Francisco Cysneiros (main investigators).

6. Title: "Spatio-temporal models based on random fields evolving on the sphere with applications to contamination, mining and natural catastrophes". Supported by Fondecyt 1130647, Chilean government. During: 2013-2017. Investigator (type): Víctor Leiva (coinvestigator).

7. Title: "Caracterización de un nuevo modelo de vida acelerada con aplicación a las ciencias agrarias". Supported by UCM-434153, Universidad Católica del Maule, Chile. During: 2013-2014. Investigator (type): Víctor Leiva (assistant investigator).

8. Title: "Modelagem Mista Elíptica e Semiparamétrica". Supported by Universal/CNPq 14/2011 - Projeto: 473306/2011-5, CNPq, Brazil. During: 2012-2013. Investigator (type): Víctor Leiva (assistant investigator).

9. Title: "Estudos avançados em modelos de regressao: métodos de diagnóstico e teoria assintótica". Supported by Prosul 490098 - CNPq, Brazil. During: 2011-2012. Investigator (type): Víctor Leiva (assistant investigator).

10. Title: "Distribuciones asimétricas de matrices aleatorias y aspectos relacionados". Supported by Universidad de Medellín, Colombia, y Universidad de Valparaíso, Chile. During: 2011-2013. Investigator (type): Víctor Leiva (assistant investigator).

11. Title: "Optimización de costos de venta y márgenes de contribución en un servicio de alimentación colectiva mediante diseño de un sistema de abastecimiento y política de inventarios". Supported by DIPUV 43/2010, Universidad de Valparaíso, Chile. During: 2011-2012. Investigator (type): Víctor Leiva (assistant investigator).

12. Title: "Robust statistical modeling of the failure rate using the Birnbaum-Saunders-t distribution". Supported Research Centre of Mathematics of the University of Minho through the FCT Pluriannual Funding Program. During: 2010. Investigator (type): Víctor Leiva (investigator).

13. Title: "New families of distributions on the inverse Gaussian model: theory, methodology and application". Supported by Fondecyt 1090265, Chilean government. During: 2009-2013. Investigator (type): Víctor Leiva (assistant investigator).

14. Title: "Modelos de regressão Birnbaum-Saunders generalizados". Supported by Edital MCT/CNPq 14/2008, CNPq, Brazil. During: 2009-2011. Investigator (type): Víctor Leiva (assistant investigator).

15. Title: "Desenvolvimento de Métodos de Diagnóstico e Teoria Assintótica em Modelos de Regressão". Supported by Edital MCT/CNPq /No 011/2008, Prosul, Brazil. During: 2009-2011. Investigator (type): Víctor Leiva (assistant investigator).

16. Title: "Modelos de regresión con respuesta censurada no-normal". Supported by DIPUV 27/2006, Universidad de Valparaíso, Chile. During: 2008-2009. Investigator (type): Víctor Leiva (main investigator).

17. Title: "Sistemas dinámicos en redes: análisis teórico y aplicaciones en neurociencias". Supported by DIPUV 50/2007, Universidad de Valparaíso, Chile. During: 2008-2009. Investigator (type): Víctor Leiva (assistant investigator).

18. Title: "Caracterización de una nueva familia de distribuciones de vida del tipo Gaussiana inversa". Supported by DIUFRO 080061, Universidad de La Frontera, Chile. During: 2008-2009. Investigator (type): Víctor Leiva (assistant investigator).

19. Title: "Diagnóstico de influência em modelos de regressão de contornos elípticos". Supported by CNPq 471296/2006-6, Brazil. During: 2006-2008. Investigator (type): Víctor Leiva (assistant investigator).

20. Title: "Multivariate extensions of the generalized Birnbaum-Saunders distribution and their characterization and applicability". Supported by Fondecyt 1080326, Chilean government. During: 2008-2011. Investigator (type): Víctor Leiva (main investigator).

21. Title: "Characterization and applications of a new family of life distributions based on the elliptically contoured distributions". Supported by Fondecyt 1050862, Chilean government. During: 2005-2007. Investigator (type): Víctor Leiva (main investigator).

22. Title: "Inferencia sobre el coeficiente de variación de poblaciones elípticas". Supported by DIPUCM 200601, Universidad Católica del Maule, Chile. During: 2004-2006. Investigator (type): Víctor Leiva (assistant investigator).
23. Title: "Modelos de regresión con respuesta censurada y su diagnóstico". Supported by DIPUV 42/2004, Universidad de Valparaíso, Chile. During: 2004-2006. Investigator (type): Víctor Leiva (main investigator).
24. Title: "Validação de modelos estatísticos". Supported by Prosul, Brazil. During: 2004-2004. Investigator (type): Víctor Leiva (assistant investigator).
25. Title: "Toxicología reproductiva y del desarrollo embrionario de una formulación comercial del herbicida ácido 2,4-dicloro fenoxiacético (2,4-d)". Supported by DIPUV 22/2002, Universidad de Valparaíso, Chile. During: 2002-2003. Investigator (type): Víctor Leiva (assistant investigator).
26. Title: "Distribuciones elípticas utilizadas como modelos de vida". Supported by DIPUV 21/2002, Universidad de Valparaíso, Chile. During: 2002-2003. Investigator (type): Víctor Leiva (main investigator).
27. Title: "Distribuciones elípticas sesgadas: su uso como distribuciones de vida". Supported by UAAAN 02.03.0308.2627, México. During: 2002-2002. Investigator (type): Víctor Leiva (assistant investigator).
28. Title: "Inferencia sobre el coeficiente de variación en poblaciones elípticas". Supported by DIPUV 33/2000, Universidad de Valparaíso, Chile. During: 2000-2001. Investigator (type): Víctor Leiva (main investigator).

Appendix IV: refereeing work

- Reviewer of manuscripts submitted to the following statistical journals (in alphabetic order):

    1. Advances in Decision Sciences.
    2. Applied Mathematical Modelling.
    3. Applied Stochastic Models in Business and Industry.
    4. Brazilian Journal of Probability and Statistics (8 times).
    5. Chilean Journal of Statistics (4 times).
    6. Communications in Statistics (26 times).
    7. Computational Statistics and Data Analysis (84 times).
    8. Computational Statistics.
    9. Hacettepe Journal of Mathematics and Statistics.
    10. IEEE Transactions on Reliability (2 times).
    11. International Journal of Mathematics and Mathematical Sciences.
    12. International Journal of Quality, Statistics, and Reliability.
    13. Journal of Applied Statistics (5 times).
    14. Journal of Multivariate Analysis (5 times).
    15. Journal of Commerce and Social Sciences.
    16. Journal of Statistical Computation and Simulation (5 times).
    17. Journal of Statistical Planning and Inference (3 times).
    18. Journal of Statistical Theory and Practice.
    19. Lifetime Data Analysis (2 times).
    20. Pakistan Journal of Statistics (6 times).
    21. Mathematical Problems in Engineering.
    22. Metron.
    23. Reviews of Environmental Contamination and Toxicology.
    24. Revista Colombiana de Estadistica.

25. REVSTAT Statistical Journal.
26. Risk Analysis (2 times).
27. Springer Proceedings in Mathematics and Statistics (3 times).
28. Statistics (4 times).
29. Statistics and Operations Research Transactions.
30. Statistics and Probability Letters (4 times).
31. Statistica Neerlandica (2 times).
32. Statistical Papers (2 times).
33. Statistical Modeling.
34. Statistical Methodology (3 times).
35. Stochastic Environmental Research and Risk Assessment (21 times).
36. Among others.

- Reviewer of book proposals submitted to Springer (4 times) and Elsevier (1 time).
- Reviewer of projects for FONDECYT of the Chilean government (10 times).
- Reviewer of projects for Colciencias of the Colombian government (15 times).
- Reviewer of projects for MECESUP (improvement of the quality of the Chilean education) of the Chilean Education Ministry (4 times).
- Reviewer of projects for several Chilean, Colombian, and Mexican universities (over 10 times).

Appendix V: honors and awards

- 1985-1989: Recipient of scholarship (statistician, Catholic University of Valparaíso-Chile).
- 1996-1999: Recipient of scholarship from the International Cooperation Agency of the Spanish government (doctorate in statistics, University of Granada, Spain).
- 1999: Ph.D. thesis with highest honors and with the special distinction "cum laude" for unanimity of the thesis committee.
- 1999: Ph.D. thesis postulated to the best doctoral thesis award from the University of Granada, Spain.
- 2010: Article awarded by Elsevier Publisher entitled "Influence diagnostics in log-Birnbaum-Saunders regression models with censored data" by Leiva, Barros, Paula and Galea, published in Computational Statistics and Data Analysis, Vol. 51, pp. 5694-5707, 2007, to the most cited paper during two consecutive periods: 2005-2010/2006-2011.
- 2008-2014: Awarded as the most productive researcher in the University of Valparaíso, Chile, during seven consecutive periods.
- 2011: Elected member of the International Statistical Institute.
- 2012: Elected senior member of the IEEE Society.
- 2012: Awarded as the educator of the year 2012 in Latin America, Spain and Portugal by the Juárez-Lincoln-Martí Prize.
- 2012: Article awarded by Wiley entitled "Robust statistical modeling using the Birnbaum-Saunders-t distribution applied to insurance" by Paula, Leiva, Barros and Liu, published in Applied Stochastic Models in Business and Industry Vol. 28, pp. 16-34, 2012, to the most cited paper during 2012-2013.
- 2013: Article awarded by Taylor & Francis Publisher entitled "Mixture inverse Gaussian distribution and its transformations, moments and applications" by Balakrishnan, Leiva, Sanhueza and Cabrera, published in Statistics, Vol. 43, pp. 91-104, 2009, elected among the 25 most important articles of the history of "Statistics: A Journal of Theoretical and Applied Statistics" due to the international year of Statistics 2013.
- 2013: Member of the Award Selection Committee (formed besides by Professors from Australia, Korea, Norway, UK and USA) for The Karl Pearson Prize for Contemporary Research Contribution awarded by The International Statistical Institute.

- 2013: Article awarded as the Best (first place, outstanding research) in Session Award Winners, among 600 participants, by the Institute for Business and Finance Research entitled "A methodology for supply logistics based on random inventory management models applied to food services" by Rojas, Leiva, Fuentes and Quijada, presented in the Global Conference on Business and Finance, Costa Rica, 2013.
- 2014: Article awarded by Sage Publisher entitled "Birnbaum-Saunders statistical modelling: a new approach" by Leiva, Santos-Neto, Cysneiros and Barros, published in Statistical Modelling, Vol. 14(1), pp. 21-48, 2014, to the most cited read during the month of February.
- 2015: Article awarded as the "Best Paper" the track "Operations Management and Value Chain" during the 50th. Annual Assembly of the Latin American Council of Management Schools (CLADEA) 2015.
- 2015: Awarded as the "Best Researcher 2015" .
- 2015: Awarded as the "Outstanding Contribution in Research" of the Faculty of Engineering and Sciences of the Adolfo Ibáñez University, Chile
- 2016: Article awarded by Wiley entitled "Diagnostics in Birnbaum-Saunders accelerated life models with an application to fatigue data" by Leiva, Rojas, Galea and Sanhueza, published in Applied Stochastic Models in Business and Industry; Vol. 28, pp. 16-34, 2015, to the most cited paper during 2014-2015.

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