

## Montserrat Guillen

### *Curriculum Vitae*

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#### **Address**

Dept. of Econometrics, Riskcenter-IREA  
University of Barcelona  
Av. Diagonal, 690  
08034 Barcelona, Spain

Telf: +34 934 037 039  
Fax: +34 934 021 821  
e-mail: mguillen<at>ub.edu  
<http://www.ub.edu/riskcenter/guillen>

#### **Personal Background**

Birth date: January 25, 1964, female. Citizenship: Spanish, Married, one son.

#### **Summary**

#Years research experience: 30+

#Citations: 1940 (Web of Science), 2087 (Scopus), 6884 (Scholar Google)

h index: 24 (Web of Science), 27 (Scopus), 45 (Google, rank #13 and #8 in insurance and actuarial science, 1# woman)

ResearcherID: E-1407-2011 Scopus Author ID: 7103020782

<http://orcid.org/0000-0002-2644-6268>

#### **Research interests**

Risk, insurance, actuarial statistics, data science, risk analytics, long-term care insurance, statistical methods for insurance and finance, quantitative methods for risk management, longevity, pension-saving investment, telematics, motor insurance.

#### **Education**

University of Barcelona (Spain), PhD Economics, 1992

University of Essex (United Kingdom), MA Social Science Data Analysis, 1993

University of Barcelona (Spain), MSc Mathematics, 1987, esp. Mathematical Statistics

UNED (Spain) MA Risk Management and Insurance, 2006

#### **Academic Positions**

ICREA Academia Distinguished Professor 2012-2016, 2019-2024.

Full Professor – Catedrática de Universidad - Departament of Econometrics, Statistics and Applied Economics, University of Barcelona, 2001-present.

Associate Professor – Profesora Titular de Universidad, UB 1993-2001.

Teaching Assistant, UB 1987-1993.

#### **Visiting Academic Positions**

Honorary Visiting Professor in the Faculty of Actuarial Science and Insurance at City, University of London, 2015-2018 and 2018-present.

Visiting researcher at Consortium from Data Analytics in Risk, the University of California, Berkeley (August 2018).

Visiting Professor, Université Paris II Panthéon-Assas (France), since 1993 (1 month/year) to 2016.

Visiting Researcher, University of Texas at Austin (USA), 1993-1994.

## **Editorial appointments (current and past)**

Editor **SORT (Statistics and Operations Research Transactions)**. 2015-, Co-editor **North American Actuarial Journal**. 2015-, Senior editor **ASTIN Bulletin – The Journal of the International Actuarial Association**. 2009-, Associate editor **Geneva Risk and Insurance Review** 2012-, Associate editor **Insurance: Mathematics and Economics** 2017-, Associate editor **Insurance Markets and Companies: Analyses and Actuarial Computations** 2009-

Member of the editorial board **Anales del Instituto de Actuarios Españoles**. 2008-, Member of the editorial board **Risks**, 2012-, Member of the editorial board **Journal of Financial Risk Management**, 2012-, Associate editor **Insurance and Risk Management Journal** 2011-, Associate editor **Journal of Risk and Insurance**. 2005-2018, Member of the editorial board **The Scientific World Journal**, 2013-2015, Associate editor **Gerencia de Riesgos y Seguros**. 2007-2016, Chief-editor **SORT (Statistics and Operations Research Transactions)**. 2006-2014

## **Other Positions**

Director of Riskcenter, Research Group on Risk in Insurance and Finance; SGR2017-1147; SGR2014-1016, SGR2009-1328, SGR2005-0248. Director, 1998-

Member of the Board of Trustees, Fundación MAPFRE, 2015-

President of the European Group of Risk and Insurance Economists, EGRIE. The Geneva Association, 2011.

Coordinator of the UB team for the AXA Research Fund project “How can private long-term care insurance supplement state systems? The UK as a case study” coordinated by Raphael Wittenberg, PSSRU, London School of Economics 2010-2012.

Coordinator of Research Network on Surveys and Quality of Statistical Information (Catalonia and France), Coordinator, 1997-2005.

PI of UB at the Network on quality and cost-effectiveness in long-term care and dependency prevention UE: VS/2015/0276 coordinated by the London School of Economics and Political Science.

**Number of research periods officially recognized (CNEAI): 5 (2019)**

**Number of I+D transfer periods officially recognized: 1**

## **Summary of local grants**

PB92-0545, CO94-0217, SEC1999-0693 and SEC2001-3672, SEJ2004-05052/ECON, SEJ2007-63298, ECO2010-21787-C03-01, ECO2013-48326-C2-1-P, ECO2016-76203-C2-2-P, **PID2019-105986GB-C21**, DURSI XT97-0001, XT99-0005, XT199-0005, XT2001-0005, XT2003-00057, Fundación BBVA, Recercaixa.

## **International books**

Uribe, J. and Guillen, M. (2020) **Quantile Regression for Cross-Sectional and Time Series Data: Applications in Energy Markets Using R**. SpringerBriefs in Finance. Springer. ISBN: 978-3-030-44503-4

Belles-Sampera, J., Guillén, M., & Santolino, M. (2017) **Risk Quantification and Allocation Methods for Practitioners**. University of Chicago Press Economics Books. Atlantis Studies in Computational Finance and Financial Engineering ISBN: :9789462984059

Frees, E.W, Derrig, R., Meyer, G. (Eds) (2014) **Predictive Modeling Applications in Actuarial Science. Volume I. Regression with Categorical Dependent Variables.** Chapter 3 by Guillen, M. Cambridge University Press.

Bolancé, C., Guillen, M., Gustafsson, J. and Nielsen, J.P. (2012) **Quantitative operational risk models** (with examples in SAS and R), Chapman & Hall/CRC.

<http://www.crcpress.com/product/isbn/9781439895924> ISBN: 978-1-4398-9592-4

(see a review by Alan Penman *Annals of Actuarial Science*, March, 2013)

(see Chinese translation in <http://book.gdqy.edu.cn/NTRdrBookRetrInfo.aspx?BookRecno=929946>)

### Articles accepted in refereed journals (to appear)

- [1] Pesantez-Narvaez, J., Guillen M. and Alzañiz, M. “A Synthetic Penalized Logitboost to Model Mortgage Lending with Imbalanced Data” *Computational Economics*, accepted.

### Published articles

- [2] Sarabia, J.M., Prieto, F., Jardá, V. and Guillen, M. (2021) “Multivariate Classes of GB2 Distributions with Applications” *Mathematics*, 9(1), 72. <https://doi.org/10.3390/math9010072> [D1 1.105 MATHEMATICS]
- [3] Alcañiz, M., Guillen, M., & Santolino, M. (2021) “Differences in the risk profiles of drunk and drug drivers: Evidence from a mandatory roadside survey”, *Accident Analysis & Prevention*, 151, 105947. <https://doi.org/10.1016/j.aap.2020.105947> [D1 3.655 SOCIAL SCIENCES, MULTIDISCIPLINARY]
- [4] Guillen, M., Pérez-Marín, A.M. and Alcañiz, M. (2021) “Percentile charts for speeding based on telematics information” *Accident Analysis & Prevention*, 150, 105865. <https://doi.org/10.1016/j.aap.2020.105865> [D1 3.655 SOCIAL SCIENCES, MULTIDISCIPLINARY]
- [5] Piulachs, X., Andrinopoulou, E. R., Guillén, M. and Rizopoulos, D. (2021) “A Bayesian joint model for zero-inflated integers and left-truncated event times with a time-varying association: Applications to senior health care” *Statistics in Medicine*, 40(1), 147-166. <https://doi.org/10.1002/sim.8767> [Q2 1.783: STATISTICS & PROBABILITY]
- [6] Golden, L.L., Brockett, P.L., Guillen. M. and Manika, D. (2020) “aPRIDIT unsupervised classification with asymmetric valuation of variable discriminatory worth” *Multivariate Behavioral Research*, 55(5), 685-703. <https://doi.org/10.1080/00273171.2019.1665979> [Q1 2.750: STATISTICS & PROBABILITY]
- [7] Bolancé, C., Guillen, M. and Pitarque, A. (2020) “A Sarmanov Distribution with Beta Marginals: An Application to Motor Insurance Pricing”, *Mathematics*, 8(11), 2020. <https://doi.org/10.3390/math8112020> [D1 1.105 MATHEMATICS]
- [8] Arvelo, E., de Armas, J. and Guillen, M. (2020) “Assessing the Distribution of Elderly Requiring Care: A Case Study on the Residents in Barcelona and the Impact of COVID-19”, *International Journal of Environmental Research and Public Health*, 17(20), 7486. <https://doi.org/10.3390/ijerph17207486> [Q2 2.468 PUBLIC, ENVIRONMENTAL AND OCCUPATIONAL HEALTH]
- [9] Uribe, J. M. and Guillen, M. (2020) “Generalized Market Uncertainty Measurement in European Stock Markets in Real Time” *Mathematics*, 8(12), 2148. <https://doi.org/10.3390/math8122148> [D1 1.105 MATHEMATICS]

- [10] Guillen, M., Nielsen, J.P., Pérez-Marín, A.M. and Elpidorou, V. (2020) “Can automobile insurance telematics predict the risk of near-miss events?” *North American Actuarial Journal*, 24, 1, 141-152. <https://doi.org/10.1080/10920277.2019.1627221>
- [11] Pesantez-Narvaez, J. and Guillen M. (2020) “Weighted Logistic Regression to Improve Predictive Performance in Insurance” *Advances in Intelligent Systems and Computing*, 894, 22-34. [https://doi.org/10.1007/978-3-030-15413-4\\_3](https://doi.org/10.1007/978-3-030-15413-4_3)
- [12] Sun, S., Bi, J., Guillen, M. and Pérez-Marín, A. M. (2020) “Assessing driving risk using internet of vehicles data: an analysis based on generalized linear models” *Sensors*, 20(9), 2712. <https://doi.org/10.3390/s20092712> [Q1 3.031: INSTRUMENTS AND INSTRUMENTATION]
- [13] Uribe, J., Mosquera-López, S. and Guillen, M. (2020) “Characterizing electricity market integration in Nord Pool” *Energy*, 208,118368. <https://doi.org/10.1016/j.energy.2020.118368> [D1 6.082:THERMODYNAMICS]
- [14] Pesantez-Narvaez J. and Guillen M. (2020) “Penalized logistic regression to improve predictive capacity of rare events in surveys” *Journal of Intelligent and Fuzzy Systems*, 38(5), 5497-5507. <https://doi.org/10.3233/JIFS-179641> [Q3 1.851 COMPUTER SCIENCE; ARTIFICIAL INTELLIGENCE]
- [15] Monteverde, M., Palloni, A., Guillen, M. and Tomas, S. (2020) “Early poverty and future life expectancy with disability among the elderly in Argentina” *Revista Latinoamericana de Población*, 14(26), 5-22. <https://doi.org/10.31406/relap2020.v14.i1.n26.1>
- [16] Sarabia, J.M., Guillen, M., Chuliá H. and Prieto, F. (2019) “Tail risk measures using flexible parametric distributions” *SORT-Statistics and Operations Research Transactions*, 43, 2, 223-236. <https://doi.org/10.2436/20.8080.02.86>
- [17] Guillen, M., Sarabia, J.M., Prieto, F. and Jordá, V. (2019) “Aggregation of dependent risks with heavy-tail distributions” *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 27, Sup. 1, 77-88. <https://doi.org/10.1142/S021848851940004X>
- [18] Guillen, M., Nielsen, J.P., Ayuso, M. and Pérez-Marín, A.M. (2019) “The use of telematics devices to improve automobile insurance rates” *Risk Analysis*, 39(3), 662-672. <https://doi.org/10.1111/risa.13172>
- [19] Denuit, M., Guillen, M. and Trufin, J. (2019) “Multivariate credibility modeling for usage-based motor insurance pricing with behavioural data” *Annals of Actuarial Science*, 13(2), 378-399. <https://doi-org.sire.ub.edu/10.1017/S1748499518000349>
- [20] Pesantez-Narvaez J., Guillen M. and Alcañiz, M. (2019) “Predicting motor insurance claims using telematics data—XGBoost versus logistic Regression” *Risks* 7(2), 70. <https://doi.org/10.3390/risks7020070>
- [21] Pérez-Marín, A.M., Guillen, M., Alcañiz, M. and Bermúdez, L.I. (2019) “Quantile regression with telematics information to assess the risk of driving above the posted speed limit” *Risks* 7(3), 80. <https://doi.org/10.3390/risks7030080>
- [22] Ayuso, M.M., Guillen M. and Nielsen, J.P. (2019) “Improving automobile insurance ratemaking using telematics: incorporating mileage and driver behaviour data” *Transportation*, 46(3), 735-752. <https://doi.org/10.1007/s11116-018-9890-7>
- [23] Pérez-Marín, A.M., Ayuso M.M. and Guillén, M. (2019) “Do young insured drivers slow down after suffering an accident?” *Transportation Research Part F: Psychology and Behaviour*, 62, 690-699. <https://doi.org/10.1016/j.trf.2019.02.021>
- [24] Pérez-Marín, A.M. and Guillen, M. (2019) “Semi-autonomous vehicles: Usage-based data evidences of what could be expected from eliminating speed limit violations” *Accident Analysis and Prevention*, 123, 99-106. <https://doi.org/10.1016/j.aap.2018.11.005>
- [25] Boonen, T.J., Guillen, M. and Santolino, M. (2019) “Forecasting compositional risk allocations” *Insurance, Mathematics and Economics*, 84, 79-86. <https://doi.org/10.1016/j.insmatheco.2018.10.002>

- [26] Fondevila-McDonald, Y., Molinero-Ruiz, E., Vergara-Duarte, M., Guillen, M., Ollé-Espluga, L., Menéndez, M. and Benach, J. (2019) “Is there an estimation bias in occupational health and safety surveys? The mode of administration and informants as a source of error” *Sociological Methods and Research*, 48, 1, 185-201. <https://doi.org/10.1177/0049124116672681>
- [27] Pitarque, A., Pérez Marín, A. M., & Guillén, M. (2019) “Regresión cuantílica como punto de partida en los modelos predictivos para el riesgo” *Anales del Instituto de Actuarios Españoles*, 2019, vol. IV, num. 25, p. 77-117.
- [28] Alcañiz, M., Guillen, M. and Santolino, M. (2018) “Prevalence of drug use among drivers based on mandatory, random tests in a roadside survey” *PLoS ONE*, 13, 6, art. no. e0199302. <https://doi.org/10.1371/journal.pone.0199302>
- [29] Bermúdez, Ll., Guillen, M. and Karlis, D. (2018) “Allowing for time and cross dependence assumptions between claim counts in ratemaking models” *Insurance: Mathematics and Economics*, 83, 161-169. <https://doi.org/10.1016/j.insmatheco.2018.06.003>
- [30] Bolancé, C., Guillen, M., Nielsen, J. P. and Thuring, F. (2018) “Price and Profit Optimization for Financial Services” *Risks*, 6(1), 9-29. <https://doi.org/10.3390/risks6010009>
- [31] Chen, A., Vigna, E. and Guillen, M. (2018) “Solvency requirement in a unisex mortality model” *Astin Bulletin*, 48(3), 1219-1243. <https://doi.org/10.1017/asb.2018.11>
- [32] Donnelly, C., Guillen, M., Nielsen, J.P. and Pérez-Marín, A.M. (2018) “Implementing individual savings decisions for retirement with bounds on wealth” *Astin Bulletin*, 48, 1, 111-137. <https://doi.org/10.1017/asb.2017.34>
- [33] Guillen, M., Sarabia, J.M., Belles-Sampera, J. and Prieto, F. (2018) “Distortion Risk Measures for Non-negative Multivariate Risks” *Journal of Operational Risk*, 13, 2, 35–57. <https://doi.org/10.21314/JOP.2018.206>
- [34] Salas-Molina, F., Rodríguez-Aguilar, J. A., Serrà, J., Guillen, M. and Martin, F. J. (2018) “Empirical analysis of daily cash flow time series and its implications for forecasting” *SORT-Statistics and Operations Research Transactions*, 42, 1, 73-98. <https://doi.org/10.2436/20.8080.02.70>
- [35] Schulze-Darup, A., Guillen, M. and Piulachs, X. (2018) “Consumer preferences for electric vehicles in Germany” *International Journal of Transport Economics*, 45, 1, 97-122. <https://doi.org/10.19272/201806701006>
- [36] Torra, V., Guillen, M. and Santolino, M. (2018) “Continuous m-dimensional distorted probabilities” *Information Fusion*, 44, 97-102. <https://doi.org/10.1016/j.inffus.2017.12.004>
- [37] Uribe, J.M., Chuliá, H. and Guillen, M. (2018) “Trends in the quantiles of the life table survivorship function” *European Journal of Population*, 34, 5, 793-817. <https://doi.org/10.1007/s10680-017-9460-2>
- [38] Uribe, J.M., Guillen M. and Mosquera-Lopez, E. (2018) “Uncovering the nonlinear predictive causality between natural gas and electricity prices” *Energy Economics*, 74, 904-916. <https://doi.org/10.1016/j.eneco.2018.07.025>
- [39] Uribe, J. M., Chuliá, H., & Guillen, M. (2017) “Uncertainty, systemic shocks and the global banking sector: Has the crisis modified their relationship?” *Journal of International Financial Markets, Institutions and Money*, 50, 52-68. <https://doi.org/10.1016/j.intfin.2017.09.027>
- [40] Bräutigam, M., Guillen, M. and Nielsen, J.P. (2017) “Facing up to longevity with old actuarial methods: a comparison of pooled funds and income tontines”. *The Geneva Papers on Risk and Insurance: Issues and Practice*, 42, 3, 406-422. <https://doi.org/10.1057/s41288-017-0056-1>
- [41] Boucher, J-P., Côté, S. and Guillen, M. (2017) “Exposure as duration and distance in telematics motor insurance using generalized additive models”, *Risks*, 5(4), 54; <https://doi.org/10.3390/risks5040054>

- [42] Chuliá, H., Guillen, M. and Uribe, J.M. (2017). “Spillovers from the United States to Latin American and G7 Stock Markets: a VAR Quantile Analysis”. *Emerging Markets Review*, 31, 32-46. <https://doi.org/10.1016/j.ememar.2017.01.001>
- [43] Chuliá, H., Guillen, M., and Uribe, J.M. (2017) “Measuring uncertainty in the stock market” *International Review of Economics and Finance*, 48, 18-33. <https://doi.org/10.1016/j.iref.2016.11.003>
- [44] Bolvikén, E. and Guillen, M. (2017) “Risk aggregation in Solvency II through recursive log-normals” *Insurance: Mathematics and Economics*, 73, 20-26. <http://dx.doi.org/10.1016/j.insmatheco.2016.12.006>.
- [45] Piulachs, X., Alemany, R. and Guillen, M. (2017). “Emergency care usage and longevity have opposite effects on health insurance rates”. *Kybernetes*, 46(1), 102-113. <https://doi.org/10.1108/K-06-2016-0149>
- [46] Piulachs, X., Alemany, R., Guillen, M. and Rizopoulos, D. (2017) “Joint models for longitudinal counts and left-truncated time-to event data with applications to health insurance” *Sort-Statistics and Operations Research Transactions*, 41(2), 347-372. <http://dx.doi.org/10.2436/20.8080.02.63> D'Amico, G.; Guillen, M.; Manca, R. (2017) “Multi-state models for evaluating conversion options in life insurance” *Modern Stochastics Theory and Applications*, 4(2), 127-139. <http://dx.doi.org/10.15559/17-VMSTA78>
- [47] Padilla-Barreto, A., Guillen, M. and Bolancé, C. (2017) “Big-data Analytics en seguros” *Anales del Instituto de Actuarios Españoles*, 4 época, 23, 1-19.
- [48] Alemany, R., Bolancé, C., Guillen, M. and Padilla-Barreto, A. E. (2016) “Combining Parametric And Non-Parametric Methods To Compute Value-At-Risk” *Economic Computation and Economic Cybernetics Studies and Research*, 50(4), 61-74.
- [49] Guillen M., Chuliá, H., and Llatje, O (2016) “Seasonal and time-trend variation by gender of alcohol-impaired drivers at sobriety checkpoints” *Journal of Studies on Alcohol and Drugs*, 77, 3, 413-420.
- [50] Belles-Sampera, J., Guillén, M., & Santolino, M. (2016) “The use of flexible quantile-based measures in risk assessment”. *Communications in Statistics-Theory and Methods* 45(6), 1670-1681.
- [51] Guillen, M., Bolancé, C., & Santolino, M. (2016, September). Fundamentals of Risk Measurement and Aggregation for Insurance Applications. *Lecture Notes in Computer Science*, 9880, 15-25.
- [52] Piulachs, X., Alemany, R. and Guillen, M. (2016). “Joint modelling of survival and emergency medical care usage in Spanish insureds aged 65+” *PloS ONE*, 11, 4, e0153234.
- [53] Belles-Sampera, J., Guillen, M. and Santolino, M. (2016) “Compositional methods applied to capital allocation problems” *The Journal of Risk*, 19(2),15-30.
- [54] Chuliá, H., Guillen, M. and Uribe, J.M. (2016) “Modeling longevity risk with generalized dynamic factor models and vine-copulae” *ASTIN Bulletin*, 46,1, 165-190. doi:10.1017/asb.2015.21.
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- [56] Bolancé, C., Guillen, M., Padilla-Barreto, A.E. (2016) “Predicting probability of customer churn in insurance” *Lecture Notes in Business Information Processing*, 254, 82-91.
- [57] Alaminos, E., Ayuso, M. and Guillen, M. (2016) “An estimation of the individual illiquidity risk for the elderly Spanish population with long-term care needs” *Lecture Notes in Business Information Processing*, 254, 71-81.

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- [59] Ayuso, M., Guillen, M. and Pérez-Marín, A. M. (2016) “Telematics and gender discrimination: some usage-based evidence on whether men’s risk of accidents differs from women’s” *Risks*, 4, 2, 1-10.
- [60] Pitt, D., Guillen, M and Bolancé, C. (2016) “Estimation of Parametric and Nonparametric Models for Univariate Loss Distributions in Finance—an approach using R” *Journal of Financial Education*, 42.
- [61] Padilla, A., Bolancé, C. and Guillen M. (2016) “Cuantificación del riesgo para la tarificación en seguros de automóvil” *Anales del Instituto de Actuarios Españoles*, 22, 1-24
- [62] Guillen, M. (2016) “Big data en seguros” *Indice: revista de estadística y sociedad*, 67, 28-30.
- [63] Golden, L. L., Brockett, P. L., Betak, J. F., Alpert, M. I., Guillen, M. and Derrig, R. (2016) “Pridit is a Useful Technique for Detecting Consumer Fraud When No Training Sample Is Available” In *Marketing Challenges in a Turbulent Business Environment* (pp. 305-305). Springer International Publishing.
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- [67] Donnelly, C., Gerrard, R., Guillen, M. and Nielsen, J.P. (2015) “Less is more: Increasing retirement gains by using an upside terminal wealth constraint”, *Insurance: Mathematics and Economics*, 64, 259-267.
- [68] Guelman, L. Guillen, M. and Pérez-Marín, A.M. (2015) “A decision support framework to implement optimal personalized marketing interventions”, *Decision Support Systems*, 72, 24-32. 10.1016/j.dss.2015.01.010
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- [72] Uribe, J.M., Chulià, H. and Guillen, M. (2015) “Asymmetric uncertainty of mortality and longevity in the Spanish population”, *Advances in Intelligent Systems and Computing*, 377, 279-287.
- [73] Donnelly, C., Guillen, M. and Nielsen, J.P. (2014) “Bringing cost transparency to the life annuity market” *Insurance: Mathematics and Economics*, 56, 14-27.

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- Toro, F., Serrano, M. and Guillen, M. (2019) “Who pollutes more? Gender differences in consumptions patterns” IREA-Working paper series IR19/06. [http://www.ub.edu/irea/working\\_papers/2019/201906.pdf](http://www.ub.edu/irea/working_papers/2019/201906.pdf)
- Guillen, M. and Pérez Marín, A. M. (2018) “The transition towards semi-autonomous vehicle insurance: the contribution of usage-based data” UB Economics–Working Papers, 2018, IR18/11.
- Guillen, M., Nielsen, J. P., Ayuso, M. and Pérez Marín, A. M. (2018) “Exposure to risk increases the excess of zero accident claims frequency in automobile insurance” UB Economics–Working Papers, 2018, IR18/10.
- Ayuso, M., Guillén, M. and Nielsen, J. P. (2016) “Improving automobile insurance ratemaking using telematics: incorporating mileage and driver behaviour data” (No. XREAP2016-08).
- Guelman, L., Guillen, M. and Pérez-Marin, A.M. (2014) "Optimal personalized treatment rules for marketing interventions: A review of methods, a new proposal, and an insurance case study", UB Riskcenter Working Papers Series 2014-06.
- Alemany, R., Bolancé, C. and Guillen, M. (2014) "Accounting for severity of risk when pricing insurance products", UB Riskcenter Working Papers Series 2014-05.
- Bolancé, C., Guillen, M. and Pitt, D. (2014) “Non-parametric models for univariate claim severity distributions - an approach using R”, UB Riskcenter Working Papers Series 2014-01.
- Belles-Sampera, J.; Guillen, M.; Merigó, J.M.; Santolino, M. (2013) “Indicators for the characterization of discrete Choquet integrals” Working paper 2013/11, Research Institute of Applied Economics.
- Alcañiz, M.; Guillen, M.; Sánchez-Moscona, D.; Santolino, M.; Llatje, O.; Ramon, Ll. (2013) “Prevalence of alcohol-impaired drivers based on random breath tests in a roadside survey” Working paper 2013/13, Research Institute of Applied Economics.
- Belles-Sampera, J.; Guillen, M. and Santolino, M. (2013) “The use of flexible quantile-based measures in risk assessment” Working paper 2013/23, Research Institute of Applied Economics.
- Belles-Sampera, J.; Guillen, M.; Santolino, M. (2013) “Beyond Value-at-Risk: GlueVaR Distortion Risk Measures” Working paper 2013/02, Research Institute of Applied Economics.
- Alemany, R.; Bolancé, C.; Guillen, M. (2012) “Nonparametric estimation of Value-at-Risk” XREAP2012-19.
- D'Amico, G.; Guillen, M.; Manca, R. (2012) “Discrete time Non-homogeneous Semi-Markov Processes applied to Models for Disability Insurance” XREAP2012-05.

- Ferri, A.; Bermúdez, Ll.; Guillen, M. (2012) "How to use the standard model with own data?" XREAP2012-03.
- Ferri, A.; Guillen, M.; Bermúdez, Ll. (2012) "Solvency Capital estimation and Risk Measures" XREAP2012-02.
- Belles-Sampera, J., Merigó, J.M., Guillen, M. and Santolino, M. (2012) "The connection between distortion risk measures and ordered weighted averaging operators" 31 pag. ISSN 2014-1254 Working paper 2012/01, Research Institute of Applied Economics.
- Guillen, M., Pérez-Marín, A.M. and Alcañiz, M. (2011) "A logistic regression approach to estimating customer profit loss due to lapses in insurance" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-10.
- Ayuso, M., Guillen, M. and Bolancé, C. (2011) "Loss risk through fraud in car insurance" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-08.
- Bermúdez, L., Ferri, A. and Guillen, M. (2011) "A correlation sensitivity analysis of non-life underwriting risk in solvency capital requirement estimation" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-12 and Working paper 2011/13, Research Institute of Applied Economics.
- Guillen, M. and Comas-Herrera, A. (2011) "How much risk is mitigated by LTC Insurance? A case study of the public system in Spain" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-07.
- Pitt, D., Guillen, M. and Bolancé, C. (2011) "Estimation of Parametric and Nonparametric Models for Univariate Claim Severity Distributions - an approach using R" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-06.
- Bolancé, C ; Alemany, R ; and Guillen M. (2010) "Prediction of the economic cost of individual long-term care in the Spanish population" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP2010-8 i Documents de l'Institut de Recerca en Economia Aplicada IREA2010-11.
- Pitt, D.; Guillen, M. (2010) "An introduction to parametric and non-parametric models for bivariate positive insurance claim severity distributions" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2010-8.
- Solé-Auró, A.; Guillen, M.; Crimmins, E.M. (2009) "Health care utilization among immigrants and native-born populations in 11 European countries. Results from the Survey of Health, Ageing and Retirement in Europe Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2009-10 i Documents de l'Institut de Recerca en Economia Aplicada IREA2009-20.
- Bermúdez, Ll.; Guillen, M.; Solé, A. (2007) "Impacto de la inmigración sobre la esperanza de vida en salud y en discapacidad de la población española" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP2007-13.
- Alcañiz, M; Costa, A., Guillen, M.; Luna, C.; Rovira, C. (2006) "Calculation of the variance in surveys of the economic climate" Documents de treball de la Xarxa de Referència en Economia Aplicada CREAP2006-06.
- Guillen, M., Nielsen, J. P., Scheike, T. and Pérez-Marín, A. M. (2006) "Time-varying effects when analysing customer lifetime duration: application to the insurance market", Documents de Treball de l'IREA, 2006/4.
- Bolance, C., Denuit, M., Guillen, M. and Lambert, Ph. (2004) "Bayesian experience rating with dynamic heterogeneity" Working Paper 04-10, Institut des Sciences Actuarielles, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.
- Delwarde, A., Denuit, M., Guillen, M. and Vidiella, A. (2004) "Application of the Poisson log-bilinear projection model to the G5 mortality experience" Working Paper 04-11, Institut des Sciences Actuarielles, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.

## PhD supervision

- Padilla-Barreto, A. (2019) *Cuantificación del riesgo global del asegurado para mejorar la tarificación*, Universitat Politècnica de Catalunya. PhD in Statistics. Industrial PhD. Dir: C. Bolancé / Montserrat Guillen.
- Uribe, J.M. (2018) *Essays on Risk and Uncertainty in Economics and Finance*. University of Barcelona, PhD in Economics. Dir: Helena Chulià / Montserrat Guillen.
- Piulachs, X. (2017) *Joint Modeling of Longitudinal and Time-to-Event Data with Applications in Health Insurance*. University of Barcelona, PhD in Statistics. Dir: Montserrat Guillen / Ramon Alemany.
- Belles-Sampera, J. (2015) Quantitative risk assessment, aggregation functions and capital allocation problems. University of Barcelona, PhD in Business. Dir: Montserrat Guillen / Miguel Santolino.
- Ornelas, A. (2015) La Mortalidad y la longevidad en la Cuantificación del Riesgo Actuarial para la Población de México Dir: Catalina Bolancé / Montserrat Guillen
- Guelman, L. (2015) *Optimal personalized treatment learning models with insurance applications*, University of Barcelona, PhD in Economics.
- Ferri, A. (2012) *Estructuras de dependencia aplicadas a la gestión de riesgos en Solvencia II*. Universitat de Barcelona, PhD in Management. (co-supervisor: Lluís Bermúdez).
- Solé-i-Auró, A. (2009) *The impact of immigration on health, longevity and dependency of the elderly in the Spanish and European population*. Universitat de Barcelona, PhD in Management. (co-supervisor: Elieen M. Crimmins).
- Blay, D. (2009) *Sistemas de cuidados de larga duración para la cobertura y la financiación de las situaciones de dependencia: seguro privado e hipoteca inversa*. Universitat de Barcelona, PhD in Management. **Best thesis award UB**. Awarded by the Catalan Society of Economics with the Insurance Prize in 2011.
- Carrillo, M. (2007) *Una metodología alternativa para la tarificación en el seguro de automóvil en España*. Universitat de Barcelona, PhD in Management.
- Pérez-Marín, A.M. (2006) *Survival methods for the analysis of customer lifetime duration in insurance*, Universitat de Barcelona, PhD in Management (co-supervisor: Jens Perch Nielsen). **Best thesis award UB**.
- Monteverde, M. (2004) *Discapacidades de las personas mayores en España: prevalencia, duraciones e impacto sobre los costes de cuidados de larga duración*, PhD in Economics, Universitat de Barcelona.
- Pujol Jover, M. (2004) *El valor y la fidelidad de los asegurados en el ramo del automóvil*, PhD in Management, Universitat de Barcelona.
- Salsas Forn, P. (1999) *Anàlisi microeconòmica de la insolvència empresarial en la presència de dades atípiques*, PhD in Economics, Universitat de Barcelona.
- Bolancé Losilla, C. (1999) *Estimación núcleo transformada en el análisis del coste de reclamaciones en el seguro del automóvil*, PhD in Management, Universitat de Barcelona.
- Ayuso Gutiérrez, M. (1998) Modelos econométricos de detección del fraude en el seguro del automóvil, PhD in Economics, Universitat de Barcelona. Best thesis award UB.
- Alcañiz Zanón, M. (1996) Modelos de Poisson generalizados con una variable de exposición al riesgo, PhD in Economics, Universitat de Barcelona.

## External/Third party PhD advisor

- Buch-Kromann, T. (2009) [Industrial PhD programme Denmark] *Large loss models for general insurance*. University of Copenhagen.

Thuring, F. (2012) [Industrial PhD programme Denmark] *Profitable customer retention in insurance companies*. Cass Business School, City University, London.

**Master thesis advisor (since 2010)**

- Pitarque Méndez, A. (2019) “La regressió quantílica per a les mesures de risc”. Master in Statistics and Operations Research, UPC-UB.
- Fors Soler, A. (2019) “Modelización de la probabilidad de superar análisis bioquímicos de calidad (en la industria farmacéutica)”. Master in Statistics and Operations Research, UPC-UB.
- Pérez Torre, V. (2018) Analysis of PD-LGD correlation effects on the minimum capital requirement. Master in Actuarial Science and Finance, UB.
- Toro, F. (2018) Who pollutes more? Gender differences in consumptions patterns. Master in Economics, UB (co-supervisor: Monica Serrano)
- Cartanya, A. (2017) Esdeveniments recurrents, predicció i cost-benefici de la publicitat a televisió. Master in Statistics and Operations Research, UPC-UB.
- Vicente, Z. (2014) Efectos del diseño muestral en la Encuesta de Salud de Cataluña. Master in Statistics and Operations Research, UPC-UB.
- Schulze Darup, A. (2014) Consumer Preferences for Electric Vehicles – Evidence from Germany. Master in Economics, UB.
- Vicente, Z. (2014) Efectos del diseño muestral en la Encuesta de Salud de Cataluña. Master in Statistics and Operations Research, UPC-UB.
- Urbina, J. A. (2013) Quantifying Optimal Capital Allocation Principles based on Risk Measures. Master in Statistics and Operations Research, UPC-UB.
- Casanovas, J. (2012) [Measuring Solvency in underwriting risk for credit insurance] La medición de la solvencia del riesgo de suscripción en el ramo de crédito. Master in Business, Finance and Insurance, UB.
- Catot, N. (2011) [Comparison and implementation of different quantitative approaches to credit risk] Comparación e implementación de diferentes aproximaciones cuantitativas al riesgo de crédito. Master in Business, Finance and Insurance, UB. Best thesis award by VidaCaixa.
- Ornelas, A. (2011) [Analysis and pricing of group insurance] Análisis y Tarificación en Seguros de Salud Grupo. Master in Statistics and Operations Research, UB/UPC.
- Malo, N. (2010) [A practical application of methods to quantify operational risk] Aplicación práctica de metodologías para la cuantificación del Riesgo Operacional. Master in Statistics and Operations Research, UB/UPC.

**Detail of grants received (only refereed R+D projects):**

- 2020-2023 Ministerio de Ciencia e Innovación. Agencia Estatal de Investigación. Programas estatales de generación de conocimiento y fortalecimiento científico y tecnológico del sistema de I+D+I “Modelos Predictivos para el riesgo en Seguros y Finanzas” PID2019-105986GB-C21. Director: Montserrat Guillen Estany (16 members).
- 2019-2021 Fundación BBVA. Ayudas a la investigación en Big Data 2018. “Risk Analytics: turning extremes into core knowledge” Director: Montserrat Guillen Estany (5 members).
- 2017-2019 Ministerio de Economía y Competitividad. Programa Estatal de Investigación Científica y Técnica de Excelencia, Subprograma Estatal de Generación de Conocimiento, modalidad 1, Proyectos de I+D. “Cuantificación y análisis de riesgos” ECO2016-76203-C2-2-P Director: Montserrat Guillen Estany (10 members).



- 2015 European Commission “Network on quality and cost effectiveness in long-term care and dependency prevention” VS/2015/0276 coordinated by The London School of Economics and Political Science. UB team P.I.: Montserrat Guillen Estany total cost Eur: 1200571.32 (grant 950457.15), UB 29.210 FBG code: 401465 (10 members).
- 2014 Ministerio de Economía y Competitividad. Programa Estatal de Investigación Científica y Técnica de Excelencia, Subprograma Estatal de Generación de Conocimiento, modalidad 1, Proyectos de I+D. “Riesgos dependientes y aplicaciones” ECO2013-48326-C2-1-P Director: Montserrat Guillen Estany (8 members).
- 2013 Recercaixa “Analysis Cost-Benefit of Functional Home Adaptation in Elderly People” Director: Montserrat Guillen Estany (5 members)
- 2011 Ministerio de Ciencia e Innovación Proyecto de investigación. Acción Complementaria ECO2011-14583-E “European Financial Management Annual Meeting” Director: Marta Gómez Puig (5 members)
- 2010-13 Ministerio de Ciencia e Innovación, Dirección General de Investigación, Proyecto de Investigación ECO2010-21787 “Gestión del riesgo de longevidad y de dependencia” Director: Montserrat Guillen Estany (7 members)
- 2010-2012 AXA Research Fund project “How can private long-term care insurance supplement state systems? The UK as a case study” coordinated by Raphael Wittenberg, PSSRU, London School of Economics.
- 2010-2011 Ministerio de Trabajo e Inmigración, Proyecto de Investigación FIPROS 2009/15. “Hacia la solvencia del sistema de pensiones tras los nuevos retos: envejecimiento y desempleo. Líneas de actuación y calendario de aplicación” Director: Montserrat Guillen Estany (3 members)
- 2007-10 Ministerio de Educación y Ciencia, Dirección General de Investigación, Proyecto de Investigación SEJ 2007-63298/ECON “Riesgos actuariales y financieros en seguros para la vejez” Director: Montserrat Guillen Estany (9 members)
- 2007-2008 Fundación Mapfre. Proyectos de investigación. “Riesgo de negocio ante asegurados con múltiples contratos” (2 members)
- 2008-09 Ministerio de Trabajo y Asuntos Sociales. Instituto de Mayores y Servicios Sociales. Proyectos de Investigación Científica, Desarrollo e Innovación Tecnológica “99/07 Indicadores bivariantes de Dependencia para personas discapacitadas” Director: Catalina Bolancé Losilla (9 members)
- 2006 AGAUR “Geneva Association meeting of the EGRIE” 2006/ARCS1/00025
- 2006 Ministerio de Educación. “European Group of Insurance Economists” SEJ2005-024029-E/ECON Director: Montserrat Guillen Estany
- 2004-07 Ministerio de Ciencia y Tecnología Programa Nacional sobre Estudios Sociales y Económicos “Seguros para la vejez ante cambios demográficos: localización y prestaciones” SEJ2004-05052/ECON Director: Montserrat Guillen Estany (8 members)
- 2005-06 Ministerio de Trabajo y Asuntos Sociales. Instituto de Mayores y Servicios Sociales. Proyectos de Investigación Científica, Desarrollo e Innovación Tecnológica “Alternativas de cofinanciación de los costes de la dependencia en España” Director: Catalina Bolancé Losilla (11 members)
- 2005-06 Ministerio de Trabajo y Asuntos Sociales. Instituto de Mayores y Servicios Sociales. Proyectos de Investigación Científica, Desarrollo e Innovación Tecnológica “Indicadores de dependencia y de calidad de vida” Director: Montserrat Guillen Estany (11 members)
- 2003-05 Comissió Interdepartamental de Recerca i Innovació Tecnològica de la Generalitat de Catalunya (CIRIT) ; Generalitat de Catalunya ; Xarxes temàtiques “Enquestes i Qualitat de la Informació Estadística” XT2003-00057. Coordinator: Montserrat Guillen Estany (9 research groups)
- 2002-04 “Longevidad y estado de salud: Medición de la esperanza de vida según grados de discapacidad” Fundación BBVA. Director: Montserrat Guillen Estany (11 members)

- 2003 “Causas, evolución y análisis comparativo de la dependencia en la población española de mayor edad” Ministerio de Trabajo y Asuntos Sociales. Instituto de Migraciones y Servicios Sociales. Director: Montserrat Guillen Estany (9 members).
- 2002-04 Ministerio de Ciencia y Tecnología Programa Nacional sobre estudios Sociales y Económicos “El seguro de dependencia en España: longevidad y demanda de prestaciones” SEC2001-3672 Director: Montserrat Guillen Estany (8 members)
- 2001-03 Comissió Interdepartamental de Recerca i Innovació Tecnològica de la Generalitat de Catalunya (CIRIT) ; Generalitat de Catalunya ; Xarxes temàtiques “Enquestes i Qualitat de la Informació Estadística” XT2001-0005 and XTI99-005. Coordinator: Montserrat Guillen Estany (9 research groups)
- 2001-02 Departament d'Universitats, Recerca i Societat de la Informació; Generalitat de Catalunya ; Qualitat docent a les Universitats de Catalunya”Noves tecnologies en l'aprenentatge de l'Estadística: Elaboració de recursos i mesura del seu impacte” DOGC-3453-12719 Director: Ramon Alemany Leira (15 members)
- 2000-01 Comissió Interdepartamental de Recerca i Innovació Tecnològica de la Generalitat de Catalunya (CIRIT) ; Generalitat de Catalunya ; Xarxes temàtiques i Xarxes Temàtiques interregionals “Enquestes i Qualitat de la Informació Estadística” XT99-0005 and XTI99-005. Coordinator: Montserrat Guillen Estany (11 research groups)
- 1999-2000 Comisión Interministerial de Ciencia y Tecnología (CICYT), Programa Nacional sobre estudios Sociales y Económicos “Causas y efectos del envejecimiento de la población” SEC1999-0693 Director: Montserrat Guillen Estany (7 members)
- 1998-99 Comissió Interdepartamental de Recerca i Innovació Tecnològica de la Generalitat de Catalunya (CIRIT) ; Generalitat de Catalunya ; Xarxes temàtiques “Enquestes i Qualitat de la Informació Estadística” XT97-0001. Coordinator: Montserrat Guillen Estany (9 research groups)
- 1995 Ministerio de Educación y Ciencia, Ayudas a la Investigación “Curso de Análisis de Datos Textuales y Cualitativos Aplicado a las Ciencias Sociales y Jurídicas” CO94-0217 Director: Montserrat Guillen Estany
- 1993-95 Secretaría de Estado de Universidades e Investigación, Programa Nacional de Promoción General del Conocimiento “Modelos econométricos para la cuantificación, seguimiento y control del riesgo en entidades de depósito y aseguradoras” PB92-0545 Director: Montserrat Guillen Estany (4 members)
- 1990-92 Secretaría de Estado de Universidades e Investigación, Programa Nacional de Promoción General del Conocimiento “Modelos de ecuaciones estructurales con datos no-normales y poblaciones heterogéneas” PS89-0040. Director: Albert Satorra (3 members)

## Participation in meetings

### a) Keynote speaker

- Guillen, M. (2020) ““Conditional tail expectation regression models for vehicle excess speed in driving data”” OICA, Lyon-online <https://oica.univ-lyon1.fr/program/> (April 28)
- Guillen, M. (2020) “Can telematics Data Identify Risky Drivers?” Data Science Seminar XEuope. (September 6).
- Guillen, M. (2020) “Modelos predictivos del riesgo y aplicaciones a los seguros” Funcas, Madrid, on-line. (October 8) <https://www.youtube.com/watch?v=PwbkUPe3hfo>
- Guillen, M. (2019) “How will telematics and driving data change ratemaking in automobile insurance?” Ulm University. Mathematics and Actuarial science Seminar (December 5)

- Guillen, M. (2019) “Driving data for automobile insurance: will telematics change ratemaking?” SAA Annual Meeting 2019. Lucerne (Switzerland) (August 30).
- Guillen, M. (2019) “Driving data for automobile insurance: will telematics change ratemaking?” EM-Lyon. Lyon (France) (March 7).
- Guillen, M. (2019) “Driving Data: telematics to improve insurance rates” SFRA 2019 Colloquium and International Workshop on Machine Learning for Risk and Insurance, Scottish Financial Risk Academy, International Centre for Mathematical Sciences, Edinburgh (United Kingdom) (February 4).
- Guillen, M. (2018) “Is motor insurance ratemaking going to change with telematics and semi-autonomous vehicles?” Consortium for Data Analytics in Risk, Center for Risk Management Research, University of California, Berkeley (USA) (August 28)
- Guillen, M. (2018) “Driving data: from Poisson to risk regression models” Workshop Data Science, Instituto de Matemáticas de la Universidad de Sevilla, Sevilla (September 13-14).
- Guillen, M. (2018) “Data Science in Insurance”, Graduate School of Global Insurance and Pension's, SKKU, Seoul (Korea) (October, 13).
- Guillen, M. (2018) “Uncertainty advantage: Insurers should face technological innovations” Modern applied statistics: A seminar in the honour of Erik Bølviken at his 70<sup>th</sup> birthday. University of Oslo, Oslo (Norway) (June 8).
- Guillen, M. (2018) “Uncertainty advantage: the insurance industry faces technological innovation” University of Tel-Aviv (Israel) in the meeting of the Spanish Real Academia de Ciencias Económicas y Financieras, under the chair of Prof. Dr. Jean Askenasyj, Tel-Aviv (Israel) (May 16).
- Guillen, M. (2017) “Big mistakes of data analytics when applied to risk and insurance” Actuarial Science Seminar, National Bank of Belgium, Brussels (Belgium) [Plenary session] (Sept. 14)
- Guillen, M. (2017) “Per què les grans empreses necessiten un Chief Data & Analytics Officer?” Estadística i Data Science: l'evolució o l'extinció dels estadístics. Societat Catalana d'Estadística, Barcelona, (June 1).
- Guillen, M. (2016) “Fundamentals of risk measurement and aggregation for insurance applications” University of Andorra. 13<sup>th</sup> International Conference on Modeling Decisions for Artificial Intelligence. (September, 19-21)- [Plenary session] (joint paper with C. Bolancé and M. Santolino).
- Guillen, M. (2016) “How much risk is too much?” Science and Society Lecture Series. University of Liverpool (March, 15)
- Guillen, M., Guelman, L.; Pérez-Marín, A.M. (2015) “Uplift predictive modeling in pricing, retention and cross selling of insurance policies” Actuarial and Financial Mathematics Conferences. Brussels (February, 5-6).[Plenary session].
- Guillen, M. (2015) “Pricing and marketing insurance in the digital era” Plenary session “The 19th International Congress on Insurance: Mathematics and Economics – IME 2015”. University of Liverpool, United Kingdom, (June 24-26). [Plenary session].
- Guillen, M. and Guelman, L. (2014) “New trends in Predictive Modelling: the Success Story of Uplift Models” R in insurance conference. London. (July, 14).
- Guillen, M. (2010) “Envelliment, dependència i previsió de la despesa individual” *Jornada d'Atenció a la Dependència: qualitat dels serveis, un repte per a la sostenibilitat*, organized by La Unió at auditori de l'IDEC, Universitat Pompeu Fabra, Barcelona (May, 19).
- Guillen, M. (2010) “El cost de la dependència” Curs sobre el cost de la salut. “Els juliols” Universitat de Barcelona. (July, 16).
- Guillen, M. (2009) “Previsión del gasto individual en cuidados de larga duración” *II Congreso Internacional Dependencia y Calidad de Vida*, Pamplona (May, 11-13).

- Guillen, M. (2008) “Transformation kernel density estimation of actuarial loss functions” *International conference MAF2008. Mathematical and Statistical Methods for Actuarial Science and Finance*. Venice (March, 26-28). Plenary session.
- Guillen, M.; Ayuso, M. (2007) “The use of statistics to detect fraud in insurance”, *World meeting of the ISI*, Lisbon (August 22-30). Invited session.
- Guillen, M. (2004) “Fraud in insurance” *ASTIN 2004 invited lecture*. Bergen, Norway (June, 6-10).
- Guillen, M. (2002) “Methods to detect automobile insurance fraud” *Second Actuarial Congress of Actuarial Science and Finance at Samos*. Karlovassi, Greece. (September, 20-22). Invited session.

## b) International Congresses and Symposia

- Pesántez-Narváez, J., Alcañiz, M. and Guillén, M. (2019) “Is XGBoost better than logistic regression to predict claiming in motor insurance with telematics data?” XXVIII Congreso Nacional de Estadística e Investigación Operativa SEIO) y XII Jornadas de Estadística Pública. Alcoy, September 3-6.
- Pesantez-Narvaez, J. and Guillen, M. (2019) “Penalized logistic regression to improve predictive capacity in survey” V Conferencia de Matemáticos Ecuatorianos en Paris V-Conmate-P. Paris, April 18-19.
- Pesantez-Narvaez, J., Guillen., M. (2019) “Migration vs Cooperatives: Two paths towards economic security in Ecuador?” 34th National Conference for Labour Economics. Novara, September 12-13.
- Sarabia, J.M., Guillen, M., Gómez-Deniz, E., Prieto, F. and Jorda, V. (2019) “On three background risk models with semiheavy tailed marginals” 23rd International Congress on Insurance: Mathematics and Economics (IME), Munich, July 10-12.
- Denuit, M., Guillen, M., Truffin, J. (2019) “Multivariate credibility modeling for usage-based motor insurance pricing with behavioral data” 23rd International Congress on Insurance: Mathematics and Economics (IME), Munich, July 10-12.
- Guillen, M. (2018) “The transition towards semi-autonomous vehicle insurance: the contribution of usage-based data” International Congress of Actuaries, Berlin (Germany), June 4-8, 2018. (co-author A.M. Pérez-Marín) **Best paper award in Non-Life Section**.
- Pesantez, J. and Guillen, M. (2018) “Weighted logistic regression to improve predictive performance in insurance” MS’18 AMSE Girona, Girona, June 28-29, 2018.
- Bolancé, C., Guillen, M., Frees, E. and Valdez, E. (2018) “Modelización conjunta basada en cópula gaussiana para calcular el precio de varios ramos de seguros” Congreso Internacional de la SEIO, Oviedo, May 29-June 1, 2018.
- Guillen, M and Pérez-Marín, A.M. (2018) “The Contribution of Usage-based Data Analytics to benchmark Semi-autonomous Vehicle Insurance” MAF, eighth international conference on mathematical and statistical methods for actuarial sciences and finance. Madrid, April 4-6, 2018.
- Bolancé, C, Cao, R. and Guillen, M. (2018) “Estimación máximo-verosímil condicionada del modelo lineal generalizado con función de ligadura no paramétrica” RISK 2018, 7th Workshop on Risk Management and Insurance, Santander, April 25-27, 2018.
- Sarabia J.M., Guillen, M., Prieto, F. and Jorda, V. (2018) “Modelling dependent risks with heavy-tail marginals” RISK 2018, 7th Workshop on Risk Management and Insurance, Santander, April 25-27, 2018.
- Guillen, M. (2017) “Data Science and the Natural Evolution of Automobile Insurance” Big Data in Applied Economics, UAB, Bellaterra (Barcelona), October, 20, 2017.

- Guillen, M. (2017) “Solvency Requirement in a Unisex Stochastic Mortality Model” (joint with Elena Vigna and An Chen) International Actuarial Association Life Section Colloquium “Long-Term Saving in an Ageing World”, Barcelona, October 22-24, 2017.
- Guillen, M. (2017) (“A Non-Homogeneous Semi-Markov Approach for the Calculation of the Balance Sheet of a Health Fund” (joint with Guglielmo D’Amico, Fulvio Gismondi, Jacques Janssen, Raimondo Manca and Ernesto Volpe di Prignano) International Actuarial Association Life Section Colloquium “Long-Term Saving in an Ageing World”, Barcelona, October 22-24, 2017.
- Arroyo-Cañada, F.J., Pesantez, J., Argila A.M., Solé, M. and Guillen, M. (2017) “Visualizing web-based evaluation of hotel reputation in Barcelona” 2nd On/Off International Conference in Marketing Decision Making. Barcelona, Octubre 5, 2017.
- Piulachs, X., Rizopoulos, D., Andrinopoulou, E.R. and Guillen M. (2017) “Simultaneous modeling of counts with excess zeroes and left-truncated survival data with time-varying effects” XVI Spanish Biometrics Conference – CEB2017, Sevilla, September 14-16, 2017.
- Guillen, M. (2017) “Telematics and the natural evolution of pricing in motor insurance” Workshop on « Data science in Finance and Insurance » Louvain-la-Neuve (Belgium), September 15, 2017.
- Padilla-Barreto, A., Bolancé, M. and Guillen, M. (2017) “Joint modelling for customer lapses in the insurance sector” 21<sup>st</sup> Annual APRIA conference, Poznan (Poland), July 31, August 2, 2017.
- Bermúdez, L., Guillen, M. and Karlis, D. (2017) “A bivariate INAR(1) regression model for insurance claim counts” 21st International Congress on Insurance: Mathematics and Economics – IME 2017 Vienna (Austria), July 3–5, 2017.
- Frees, E.W., Valdez, E., Bolancé, C. and Guillen, M. (2017) “Joint Modeling of Customer Loyalty and Risk in Personal Insurance” 21st International Congress on Insurance: Mathematics and Economics – IME 2017 Vienna (Austria), July 3–5, 2017.
- Aleman, R.; Ayuso, M.; Guillen, M. (2017) “Impact of road traffic injuries on disability rates and long-term care costs in Spain”. IV Workshop on the evaluation of public policies for sustainability long-term care in Spain. Albacete (Spain), June 29-30.
- Ayuso, M.; Guillen, M.; Valero, D. (2017) “What can determine the decisions in the management of savings after retirement?”. VI Congreso Internacional Dependencia y Calidad de Vida. Madrid (Spain), May 23-24.
- Bermúdez, L., Guillen, M. and Karlis, D. (2017) “A bivariate INAR(1) regression model for insurance claim counts” Recent Developments in Dependence Modelling with Applications in Finance and Insurance - Fourth Edition, Aegina (Greece), 22-23 May.
- Guillen, M. (2017) “Aggregating and disaggregating risks and the role of the tail” [Plenary session] (joint paper with C. Bolancé and M. Santolino). Recent Developments in Dependence Modelling with Applications in Finance and Insurance - Fourth Edition, Aegina (Greece), May, 21-23.
- Guillén, M., Nielsen, J.P., Perez-Marin, A.M. (2016) “A methodological overview for quantifying the risk of an accident in usage-based insurance” CFE CFStatistics Conference, Seville, December 9-11.
- Santolino, M., Bolance, C., Guillén, M. (2016) “Aggregating and disaggregating risks” CFE CFStatistics Conference, Seville, December 9-11.
- Alaminos, E.; Aleman, R., Ayuso, M.; Guillen, M. (2016) “Cost-benefit analysis of functional adaptation at home for reducing assistance needs and preventing falls: the case of Barcelona”. 4th ILPN International Conference on Evidence-based Policy in Long-term Care. London (UK), September 4-7.

- Alaminos, E.; Alemany, R., Ayuso, M.; Guillen, M. (2016) "Gender inequalities in the elderly Spanish population budgets: special incidence on pensions and long term care". II Workshop on Pensions and Insurance, Barcelona (Spain), July 14-15.
- Bolancé, C., Guillen, M., Padilla-Barreto, A.E. (2016) "Predicting probability of customer churn in insurance" International Conference, MS 2016, Teruel (Spain) (July 4-5).
- Alaminos, E., Ayuso, M. and Guillen, M. (2016) "An estimation of the individual illiquidity risk for the elderly Spanish population with long-term care needs" International Conference, MS 2016, Teruel (Spain) (July 4-5).
- Belles-Sampera, J., Guillen, M., Santolino, M. (2016) "Capital allocation principles and compositional data" AFMath, Brussels (Belgium), Feb 5-6 [Poster session].
- Alemany, R., Guillen, M., Piulachs, X. (2015) "Joint modelling approach for analyzing the effect of background health status on elderly insureds", Workshop on Flexible Models for Longitudinal and Survival Data with Applications in Biostatistics, Coventry (United Kingdom), July 27-29. ) [Poster session].
- Guillen, M., Chuliá, H., Uribe, J.M. (2015) "Modeling Longevity Risk with Generalized Dynamic Factor Models and Vine-Copulas" ICRA & Risk- Barcelona (Spain) (May 26-29).
- Guillen, M., Chuliá, H., Uribe, J.M. (2015) "Measuring uncertainty in the stock market" AFFI-Cergy-Paris (France) (June 1-3).
- Guillen, M. ; Chuliá, H.; Uribe, J.M. (2015) "Measuring uncertainty in the stock market" EFMA- Breukelen-Amsterdam (The Netherlands) (June 24-27).
- Guillen, M. ; Chuliá, H.; Uribe, J.M. (2015) "Asymmetric Uncertainty in Longevity and Mortality of the Spanish Population" SIGEF- Girona (Spain) (July 6-8).
- Piulachs, X., Alemany, R., Guillen, M. and Serrat, C. (2015). Joint Modeling of Health Care Usage and Longevity Uncertainty for an Insurance Portfolio. SIGEF. Girona (July 6-8).
- Guillen, M., Guelman, L. and Pérez-Marín, A.M. (2015) "Decision Support Models for Optimal Personalized Marketing Interventions in Insurance" World Risk and Insurance Economics Congress, Munich (August 3-6).
- Guillen, M. (2014) "Uplift models for predictive modelling" Risk Management and Insurance Workshop. Barcelona. (July, 16).
- Ornelas, A.; Guillen, M. (2013) "Aplicación del modelo Brass type a la mortalidad de la población asegurada mexicana" RIESGO 2013/RISK 2013, Las Palmas de Gran Canaria (October 17-18).
- Guelman, L.; Guillen, M.; Pérez-Marín, A.M. (2013) "Enhancing customer loyalty in insurance with advanced uplift models" APRIA- New York (USA) (July 28-31).
- Belles-Sampera, J.; Guillen, M.; Santolino, M. (2013) "Generalizing Some Usual Risk Measures in Financial and Insurance Applications" MS 2013. International Conference on Modeling and Simulation in Engineering, Economics, and Management. Castellón (June 6-7).
- Merigó, J.M.; Guillen, M.; Sarabia, J.M. (2013) "A Generalization of the Variance by using the Ordered Weighted Average" MS 2013. International Conference on Modeling and Simulation in Engineering, Economics, and Management. Castellón (June 6-7).
- Ornelas, A.; Guillen, M.; Alcañiz, M. (2013) "Implications of unisex assumptions in the analysis of longevity for insurance portfolios" MS 2013. International Conference on Modeling and Simulation in Engineering, Economics, and Management. Castellón (June 6-7).
- Alemany, R.; Bolancé, M.; Guillen, M. (2013) "Can we use kernel smoothing to estimate Value-at-Risk and Tail-Value-at-Risk?" 2013 Astin Colloquium, The Hague (The Netherlands) (May, 21-24).

- Guillen, M.; Guelman, L.; Pérez-Marín, A.M. (2013) “Customer retention and price elasticity. Are motor insurance policies homogeneous with respect to loyalty?” 2013 Astin Colloquium, The Hague (The Netherlands) (May, 21-24). Invited session.
- Thuring, F.; Nielsen, J.P.; Guillen, M.; Bolancé, C. (2013) “Segmenting and selecting cross-sale prospects using dynamic pricing” International Conference on Operations Research and Enterprise Systems (ICORES), Barcelona (Spain) (February, 16-18).
- Belles-Sampera, J.; Guillen, M.; Santolino, M. (2013) “A generalization of some quantile-based measures commonly used in financial and insurance applications”. ASMDA, Mataró (Spain) (June 25-28).
- Ornelas, A.; Guillen, M. (2013) “Male-female compositional balance in the analysis of longevity for an insurance portfolio:the case of Mexican life tables”. ASMDA, Mataró (Spain) (June 25-28).
- Aleman, R.; Ayuso M.; Guillen (2012) “Technical support and home adaptation for the elderly needing care in Barcelona” 2nd International Conference on Evidence-based Policy in Long-term Care, London (United Kingdom) (September, 5-8).
- Guillen, M.; Comas-Herrera, A. (2012) “How much risk is mitigated by LTC protection schemes? A methodological note and a case study of the public LTC system in Spain” EGRIE Meeting european Group of risk and Insurance Economists, Palma de Mallorca (September, 17-19).
- Alcañiz, M.; Guillen, M.; Pérez-Marín, A.M. (2012) “A logistic regression approach to estimating customer profit loss due to lapses in insurance” XXV EURO conference, Vilnius (Lithuania) (July, 8-11).
- Belles-Sampere, J.; Guillen, M.; Santolino, M.; Merigó, J.M. (2012) “The connection between distortion risk measures and ordered weighted averaging operators” The European Financial Management Association EFMA 2012 Annual Meeting. Barcelona, Spain. (June 27-30).
- Bermúdez, Ll.; Ferri, T.; Guillen, M. (2012) “Underestimation of the solvency capital and risk measurements” The European Financial Management Association EFMA 2012 Annual Meeting. Barcelona, Spain. (June 27-30).
- Aleman, R.; Alcañiz, M.; Guillen, M. (2012) “The statistical accuracy of surveys on business and economic perspectives: a case study” XXVI Annual Conference of the Academy European Academy of Management and Business Economics. Barcelona, Spain (June 5-7).
- Bermúdez, Ll.; Ferri, T.; Guillen, M. (2012) “Underestimation of the solvency capital and risk measurements” MS’ 2012 NewYork, USA (May 30-June 1).
- Guelman, L.; Guillen, M.; Pérez-Marín, A.M. (2012) “Random forests for uplift modeling: an insurance customer retention case” MS’ 2012 NewYork, USA (May 30-June 1).
- Ayuso, M.; Pérez-Marín, A.M.; Guillen, M. (2011) "Calculation of scenarios for portfolio lapse, when considering contagion between cancelations in non-life insurance" *4th Workshop on Risk Management and Insurance*, Seville, Spain (October, 20-21). **Awarded with Best paper in Insurance Prize.**
- Bolancé, C.; Ayuso, M.; Guillen M. (2011) “Non parametric approach to analyzing operational risk losses” 40th ASTIN Colloquium. International Actuarial Association,, Madrid, Spain (June 19-22).
- Bermúdez, L.; Ferri, A.; Guillen, M. (2011) “A correlation analysis for non life underwriting module SCR” 40th ASTIN Colloquium. International Actuarial Association,, Madrid, Spain (June 19-22).
- Alcañiz, M.; Bolancé, C.; Guillen, M.; Pérez-Marín, A.M.; Planas, D. (2011) “Una experiencia fuera del aula: reflexiones del estudiante sobre su aprendizaje” III Congreso Internacional UNIVEST 2011, La autogestión del aprendizaje, Girona, (Spain), June, 16-17.

- Pinquet, J.; Guillen, M.; Ayuso, M. (2010) "Commitment and Lapse Behavior in Long-Term Insurance: A Case Study" *World Risk and Insurance Economics Congress*, Singapore (July, 25-29).
- Guillen, M. (2010) "The Spanish reform 3 years on" *International Conference on Evidence-Based Policy in Long-Term Care London School of Economics*, London, United Kingdom (September, 8-11).
- Solé-i-Auró, A.; Guillen, M.; Crimmins, E. (2010) "How does health care usage differ among immigrants and native-born elderly populations in eleven European countries? Results from the SHARE Study" *International Conference on Evidence-Based Policy in Long-Term Care London School of Economics*, London, United Kingdom (September, 8-11).
- Bolancé, C.; Alemany, R.; Guillen, M. (2010) "Prediction of the economic cost of long-term care from an individual perspective in the Spanish general population" *International Conference on Evidence-Based Policy in Long-Term Care London School of Economics*, London, United Kingdom (September, 8-11).
- Boucher, J.P.; Guillen, M. (2010) "A Survey on Models for Panel Count Data with Applications to Insurance" *6th Conference in Actuarial Science & Finance on Samos*. Samos, Greece (June, 3-6).
- D'Amico, G.; Manca, R.; Guillen, M. (2010) "Initial and final backward non-homogeneous semi-Markov processes for disability insurance models" *International Symposium on Stochastic Models in Reliability Engineering, Life Science and Operations Management (SMRLO'10)*, Beer Sheva, Israel (February, 8-11).
- D'Amico, G.; Manca, R.; Guillen, M. (2009) "A Non-homogeneous semi-Markov disability insurance models" *ASMDA – 2009, XIII International Conference*, Vilnius Lithuania (June 30- July 3).
- Boucher, J.P.; Guillen, M. (2009) "Number of accidents or number of claims? An approach with zero-inflated Poisson models for panel data" *Astin Colloquium*, Helsinki, Finland (June, 1-4).
- Bolancé, C.; Guillen, M. (2008) "Transformation kernel estimation of insurance risk" *International Seminar of Nonparametric Inference*, Vigo (November, 5-7).
- Guillen, M.; Pinquet, J. (2008) "Long-term care: risk description of a Spanish portfolio and economic analysis of the timing of insurance purchase" *Longevity Conference*, Amsterdam (Naarden) (September, 25).
- Guillen, M.; Pinquet, J. (2008) "Long-term care: risk description of a Spanish portfolio and economic analysis of the timing of insurance purchase" *The 35th Seminar of the European Group of Risk and Insurance Economists (EGRIE)*, Toulouse (September, 15-17).
- Ayuso, M.; Guillen, M.; Santolino, M. (2007) "Individual prediction of automobile bodily injury claims liabilities", *34<sup>th</sup> European Meeting of Risk and Insurance Economists*, Cologne (September 17-19).
- Bolancé, C.; Guillen, M.; Pelican, E.; Vernic, R. (2007) "Skewed bivariate models and nonparametric estimation for capital allocation" *11<sup>th</sup> International Congress on Insurance Mathematics and Economics*, Piraeus (July 10-12).
- Guillen, M.; Nielsen, J.P.; Pérez-Marín, A.M. (2007) "Automatic and efficient pension saving schemes" *Workshop on Integrated Risk Management*, Tilburg, Holland (April, 11-13).
- Sarabia, J.M.; Guillen, M. (2006) "Joint modelling of the total amount and the number of claims by conditionals" *10th International Congress on Insurance: Mathematics and Economics*, Leuven, Belgium (July, 18-20).
- Guillen, M.; Nielsen, J.P.; Scheike, T.; Pérez-Marín, A.M. (2006) "Time-varying effects when analysing customer lifetime duration in non-life insurance" *10th International Congress on Insurance: Mathematics and Economics*, Leuven, Belgium (July, 18-20).



- Pinquet, J.; Ayuso, M.; Guillen, M. (2006) "Selection bias and auditing policies on insurance claims" *10th International Congress on Insurance: Mathematics and Economics*, Leuven, Belgium (July, 18-20).
- Boucher, J.P.; Denuit, M.; Guillen, M. (2006) "Hurdle and zero-inflated models for panel data" *International Conference on Mathematical and Statistical Modeling in Honor of Enrique Castillo (ICMSM 2006)*, Ciudad Real (June 28-30).
- Pinquet, J.; Guillen, M.; Denuit, M.; Brouhns, N. (2005) "ARIA Bonus Malus" *Annual Meeting of the Casualty Actuarial Society*, Baltimore, USA (November 13,-16).
- Pinquet, J.; Ayuso, M.; Guillen, M. (2005) "Selection bias and auditing policies on insurance claims" *36th International ASTIN Colloquium*, Zurich, Switzerland (September, 5-7).
- Guillen, M.; Nielsen, J.; Pérez-Marín, A. (2005) "The naive local constant modified Nelson-Aalen estimator to the analysis of customer retention" *International Seminar on Nonparametric Inference*, A Coruña (July 13-15).
- Bolance, C.; Buch-Larsen, T.; Guillen, M.; Nielsen, J.P. (2005) "Kernel density estimation for heavy-tailed distributions using the Champernowne transformation" *International Seminar on Nonparametric Inference*, A Coruña (July 13-15).
- Palloni, A.; Guillen, M.; Monteverde, M.; Ayuso, M.; White, R. (2005) "A microsimulation model to estimate errors in cross sectional estimates of disability-adjusted life expectancy" *Population Association of America Meeting*, Philadelphia, USA (March 31-April 2).
- Monteverde, M.; Guillen, M.; Ayuso, M. (2005) "El envejecimiento de la población y los costes de cuidados de larga duración en España" *XXV International Population Conference of the IUSSP*, Tours, France, (July 18-23).
- Palloni, A., Guillen, M., Monteverde, M.; Ayuso, M. (2005) "The returns of longitudinal information on the elderly: a microsimulation model to estimate errors in cross-sectional estimates of disability-adjusted life expectancy" *XXV International Population Conference of the IUSSP*, Tours, France (July 18-23).
- Delwarde, A.; Denuit, M.; Guillen, M.; Vidiella-i-Anguera, A. (2005) "Application of the Poisson log-bilinear projection model to the G5 mortality experience" *First World Risk and Insurance Economics Congress Inaugural Meeting*, Salt Lake City, Utah, USA (August, 7-11).
- Pinquet, J., Ayuso, M. and Guillen, M. (2005) "Selection bias and auditing policies on insurance claims" *First World Risk and Insurance Economics Congress Inaugural Meeting*, Salt Lake City, Utah, USA (August, 7-11).
- Monteverde, M.; Ayuso, M.; Guillen, M. (2004) "Esperanzas de vida con discapacidad y costes de cuidados de larga duración" *Congreso Hispano Luso de Derecho de Seguros*. Madrid (November 11-12).
- Jorgensen; P.L.; Nielsen, J.; Guillen, M. (2004) "Return smoothing mechanisms: in life and pension insurance: Path-dependent contingent claims", *8<sup>th</sup> meeting on Insurance, Mathematics and Economics*, Roma, Italia (June, 14-16).
- Pérez-Marín, A.M.; Nielsen, J.; Guillen, M. (2004) "Multiplicative hazard models for studying the evolution of mortality" *8<sup>th</sup> meeting on Insurance, Mathematics and Economics*, Roma, Italia (June, 14-16).
- Ayuso, M; Guillen, M.; Viaene, S.; Van Gheel, D. (2004) "Measuring the performance of some alternative insurance fraud fighting strategies" *31<sup>st</sup> Seminar of the European Group of Insurance Economists*, Marseille, France (September, 20-22).
- Vidiella-i-Anguera, A.; Guillen, M. (2003) "Forecasting Spanish natural life expectancy" *7<sup>th</sup> meeting on Insurance, Mathematics and Economics*, Lyon, France (June 25-27, 2003).

- Guillen, M.; Nielsen, J.P.; Pérez-Marín, A.M.; Parner, J. (2003) "The analysis of customer survival time in the insurance company after a policy cancellation" *7<sup>th</sup> meeting on Insurance, Mathematics and Economics*, Lyon, France (June 25-27, 2003).
- Guillen, M. (2002) "Discrete choice models for automobile insurance" *Insurance Fraud Conference. Insurance Claim Fraud: Developing the models and mining the data*. Newport, Rhode Island, USA. (November, 7-8).
- Guillen, M.; Dengsoe, C.; Parner, J.; Pérez-Marín, A. M. (2002) "Customer loyalty in the insurance industry" *Second Actuarial Congress of Actuarial Science and Finance at Samos*. Karlovassi, Greece. (September, 20-22).
- Albarran, I.; Ayuso, M.; Guillen, M.; Monteverde, M. (2002) "Measuring longevity and disability in the Spanish population with residual life expectancy" *Sixth meeting of Insurance: Mathematics and Economics*, Lisboa, Portugal. (July, 15-17).
- Pinquet, J.; Bolancé, C.; Guillen, M. (2002) "Time-varying credibility for frequency risk models" *Sixth meeting of Insurance: Mathematics and Economics*, Lisboa, Portugal. (July, 15-17).
- Fledelius, P.; Guillen, M.; Nielsen, J.P.; Voguelius, M. (2002) "Two-dimensional hazard estimation for longevity analysis" *International Congress of Actuaries*, Cancun, Mexico. (March 17-22).
- Pinquet, J.; Guillen, M.; Bolance, M. (2001) "Long-range contagion for automobile insurance data. Estimation and implications for experience rating" *Fifth meeting of Insurance: Mathematics and Economics*, Penn State, USA.
- Artis, M.; Bolance, C.; Guillen, M. (2000) "A comparison of bonus-malus systems when using the cost of claims" *Fourth meeting of Insurance: Mathematics and Economics*, Barcelona.
- Artis, M.; Ayuso, M.; Guillen, M. (2000) "Detection of automobile insurance fraud with discrete choice models and misclassified claims" *Fourth meeting of Insurance: Mathematics and Economics*, Barcelona.
- Bolancé, C.; Guillen, M.; Nielsen, J.P. (2000) "Kernel density estimation of actuarial loss functions" *Fourth international meeting of Insurance: Mathematics and Economics*, Barcelona.
- Bolancé, C.; Guillen, M.; Nielsen, J.P. (2000) "Kernel density estimation of actuarial loss functions" *International Seminar on Nonparametric Statistics*, Santiago de Compostela.
- Bolancé, C.; Guillen, M.; Nielsen, J.P. (2000) "Estimation of actuarial loss function and the tail index using transformation in kernel density estimation" *Sixth International Conference on Computing in Economics and Finance*, Barcelona.
- Ayuso, M.; Guillen, M.; Salsas, P. (1999) "A binary choice model with omission errors for the detection of insurance fraud" *MS'99 International Conference on Modelling and Simulation*, Santiago de Compostela.
- Ayuso, M.; Artís, M.; Guillen, M. (1999) "Discrete choice models for automobile insurance fraud and the problem of misclassification" *IAIFA International Association of Insurance Fraud Agencies Meeting*, Brussels, Belgium.
- Felipe, A.; Guillen, M.; Nielsen, J.P. (1999) "Comparison of Danish and Spanish Longevity Trends based on Kernel Hazard Estimation" *III International Meeting of Insurance: Mathematics and Economics*, London, England.
- Ayuso, M.; Guillen, M. (1999) "A discrete choice with misclassification for automobile insurance fraud detection" *26th Seminar of the European Group of Insurance Economists*, Madrid.
- Felipe, A.; Guillen, M. (1999) "Longevity convergence in the European Union" *26th Seminar of the European Group of Insurance Economists*, Madrid.
- Felipe, A.; Guillen, M.; Artís, M. (1998) "Recent mortality trends in the Spanish population" *26th International Congress of Actuaries*, Birmingham, England.

- Borrás, J.M.; Guillen, M.; Sánchez, V.; Juncá, S.; Vicente, R. (1997) "Educational level, voluntary private insurance and opportunistic screening for cancer in Catalonia (Spain)" *EUPHA European Public Association 1997 Annual Meeting*, Pamplona.
- Soldevilla, C.; Guillen, M.(1997) "Consumer Credit Scoring Using Artificial Neural Networks" *III International Meeting of Artificial Intelligence in Accounting, Finance and Tax*, Huelva.
- Salsas, P.; Guillen, M.; Alemany, R. (1997) "Outliers, Perfect and Deleting Value in Logistic Binary Choice Models" *European Meeting of the Econometric Society*, Toulouse, France.
- Artís, M.; Felipe, A.; Guillen, M. (1997) "Time-dependent mortality patterns in the Spanish population: 1975-1993" *Seminar of Mortality*, Edimburgh, Scotland.
- Artís, M.; Ayuso, M.; Guillen, M. (1997) "Modelling different types of automobile fraud behaviour in the Spanish market" *First International Conference on Insurance: Mathematics and Economics Conference*, Amsterdam, The Netherlands.
- Garven, J.; Guillen, M. (1995) "Ownership Structure and Distribution Systems in Property Liability Insurance: A bivariate Probit Approach" *22nd Seminar of the European Group of Risk and Insurance and Economists*, Geneva, Switzerland.
- Guillen, M.; Junca, S.; Aragay, J.M. (1995) "Modelling counts in a complex health survey design" *Meeting of the International Society for Clinical Biostatistics*, Barcelona.
- Guillen, M.; Junca, S. (1995) "Strategies for variance estimation in a complex health survey design" *Meeting of the International Society for Clinical Biostatistics*, Barcelona.
- Garven, J.; Guillen, M. (1995) "Ownership structure and distribution systems in property-liability insurance" *American Risk and Insurance Association*, Seattle, USA.
- Upton, G.; Guillen, M. (1993) "Graphical models: Exploratory techniques" *1993 Meeting of the Psychometric Society*, Barcelona.
- Arcarons, J.; Alemany, R.; Guillen, M. (1993) "Information production about households economies" *29th Conference of the Applied Econometrics Association*, Luxembourg.
- Artís, M.; Guillen, M. (1993) "Models of event counts applied to credit scoring systems" *29th Conference of the Applied Econometrics Association*, Luxembourg.
- Artís, M.; Guillen, M. (1992) "Count Data Models for a Credit Scoring System" *Workshop on Econometrics of Duration, Count and Transition Models in the European Conference Series in Econometrics and Quantitative Economics*, Paris, France.
- Artís, M.; Guillen, M.; Martínez, J.M. (1991) "A model for credit scoring: an aplication of discriminant analysis" *19th. European Meeting of Statiscians de la Bernouilli Society for Mathematical Statistics and Probability*, Barcelona.
- Guillen, M.; Satorra, A.(1989) "Robustness properties of Normal Theory inference in Regression Models with Errors-in-Variables" *27th International Atlantic Economic Conference*, Barcelona.
- Guillen, M.; Satorra, A. (1988) "Regression Models with Errors in Variables: A Monte Carlo Evaluation of Alternative Estimation and Testing Methods" *SMABS-88 Society of Multivariate Analysis in the Behavioral Sciences Conference*, Groningen, Holanda.

### c) Local meetings

- De Armas, J., Guillen,M.; Ramalhinho H. (2020) "Distribución geográfica de la población mayor, servicios de atención e incidencia de casos en la COVID19: el caso de la ciudad de Barcelon" Jornadas de envejecimiento Seminario Académico 2020 sobre Envejecimiento y COVID19. Madrid-online, December 16. <https://mapfre.vancastvideo.com/event/wM1L64TF/1615?lang=1335>

- Guillen, M. (2019) "Pagar por kilómetro es el futuro de los seguros de automóviles". Simposio de Investigación de la Real Academia Europea de Doctores, Caldes de Malavella, Barcelona (Febrero 14).
- Guillen, M. (2018) "Hem tingut SORT, 15 anys!", Societat Catalana d'Estadística, Institut d'Estudis Catalans, Barcelona (Octubre 6).
- Guillen, M. (2018) "Dependencia en la encrucijada" Col·legi d'Economistes de Catalunya. Foro de Foros, Barcelona (April, 18).
- Belles-Sampera, J.; Guillen, M.; Santolino, M. (2013) "GlueVar risk measures in insurance and financial applications" *IV Congreso Ibérico de Actuarios*, Barcelona (June 19-20).
- Ornelas, A.; Guillen, M.; Alcañiz, M. (2013) "Repercusiones del uso de tablas de mortalidad Unisex en el riesgo de longevidad" *IV Congreso Ibérico de Actuarios*, Barcelona (June 19-20).
- Alemany, R.; Bolancé, C.; Guillen, M. (2013) "Using kernel smoothing to estimate Value at Risk and Tail Value at Risk" *IV Congreso Ibérico de Actuarios*, Barcelona (June 19-20).
- Guillen, M. (2012) Curso de GLM con aplicaciones al Pricing, a la fidelización y a la detección del fraude. Instituto de Actuarios Españoles. Madrid, Spain (June 1-2).
- Ayuso, M.; Guillen, M.; Pérez-Marín, A.M. (2011) "Metodología para el cálculo de escenarios de caída de cartera en Solvencia II en presencia de contagio entre cancelaciones" *III Congreso Ibérico de Actuarios*, Madrid (June 16-18).
- Bolancé, C.; Guillen, M.; Pérez-Marín, A.M. (2010) "Estimación núcleo transformada para aproximaciones no-paramétricas de las medidas de riesgo" *XXXII Congreso Nacional de Estadística e Investigación Operativa y VI Jornadas de Estadística Pública*, La Coruña (September, 14-17).
- Guillen, M. (2010) Relator. Jornada de la dependencia. Fundación Caser, Madrid (May 26).
- Bolancé, C.; Guillen, M. (2009) "Estimación núcleo transformada para aproximar el riesgo de pérdida" *RIESGO, Tercera Reunión de Investigación en Seguros y Gestión de Riesgos*, Madrid (June, 18-19).
- Guillen, M.; Pérez-Marín, A. (2009) "Riesgo de negocio en asegurados con múltiples contratos" *RIESGO, Tercera Reunión de Investigación en Seguros y Gestión de Riesgos*, Madrid (June, 18-19).
- Ayuso, M.; Guillen, M.; Alcañiz, M. (2009) "The impact of traffic violations on the cost of traffic accidents with victims" *XII Encuentro de Economía Aplicada*, Madrid (June 4-6).
- Guillen, M.; Pinquet, J. (2008) "Long-term care: risk description of a Spanish portfolio and economic analysis of the timing of insurance purchase" *XI Encuentro de Economía Aplicada*, Salamanca (June, 5-7).
- Alcañiz, M.; Guillen, M.; Suriñach, J. (2008) "Construcción de índices de estacionamiento ilegal en Barcelona" *2º Congreso Internacional "Los Ciudadanos y la Gestión de la Movilidad"*, Madrid (Septiembre, 29-30).
- Guillen, M. (2007) "¿Cuánto gastamos, pública y privadamente, y cuánto gastaremos en dependencia? Proyecciones demográficas y de gasto estimado" *Jornada "Oportunidades de financiación para las personas mayores ante la nueva Ley de Dependencia: sostenibilidad del sistema"*, Fundación Edad & Vida, Madrid (November, 29).
- Bermúdez, Ll.; Guillen, M.; Solé, A. (2007) "El impacto del desconocimiento de la tasa de prevalencia de las discapacidades en la población inmigrante sobre la esperanza de vida en salud en España" *9º Congreso de la Sociedad Española de Geriatria y Gerontología*, Palma de Mallorca (June, 6-9).
- Guillen, M.; Nielsen, J.P.; Pérez-Marín, A.M. (2007) "Automatic and efficient pension saving schemes" *RIESGO, Segunda Reunión de Investigación en Seguros y Gestión de Riesgos* Castro Urdiales, Cantabria (April, 18-20).

- Alcaniz, M.; Guillen, M.; Luna, C.; Rovira, C. (2006) "Cálculo de varianzas en encuestas de clima económico" *XV JECAS Jornadas de Estadística de las Comunidades Autónomas*, Palma de Mallorca (October, 18-21).
- Bolancé, C.; Guillen, M. (2006) "Influencia de las Asignaturas de Estadística en las Probabilidades de Abandono de los Estudiantes en las Titulaciones en Administración y Dirección de Empresas y en Economía" *V Congr s Internacional de Docencia Universit ria i Innovaci *, Barcelona (July, 5-7).
- Sans, M.; Ayuso, M.; Guillen, M. (2005) "Necesidades de formaci n cointinua para los miembros de la SCMFIC". *XXV Congreso de la Sociedad Espa ola de Medicina Familiar y Comunitaria*, Santiago de Compostela (November 23-26).
- P rez-Mar n, A.; Guillen, M.; Nielsen, J. (2005) "Una alternativa al estimador de Nelson-Aalen para el an lisis de la retenci n de clientes en el sector asegurador" *1  Reuni n de Investigaci n y gesti n de Riesgos (RIESGO 2005)*, Barcelona (October, 6-7).
- Beltran, M.; Bolanc , C., Costa, A. y Guillen, M. (2004) "Data mining en econom a. Una aplicaci n al comercio exterior" *9  Congreso de Econom a de Castilla y Le n*, Palencia (November, 25-27).
- Guillen, M.; Nielsen, J.P; P rez-Marin, A.M. (2003) "Una alternativa al estimador Nelson-Aalen" *27  Congreso de la Sociedad Espa ola de Estad stica e Investigaci n Operativa*. L rida.
- Costa, A., Garc a, I; Guillen, M. (2003) "Modelos de comportamiento en el uso de las TIC de los internautas catalanes" *27  Congreso de la Sociedad Espa ola de Estad stica e Investigaci n Operativa*. L rida.
- Ayuso, M.; Guillen, M. (2000) "Errores de respuesta en la clasificaci n de siniestros fraudulentos en el seguro del autom vil" *Jornada de modelizaci n econ mica aplicada*, Madrid.
- Bolance, C.; Guillen, M. (2000) "An lisis de la distribuci n de salarios en Espa a mediante procedimientos no-param tricos" *III Encuentro de Econom a Aplicada*, Valencia.
- Alca niz, M.; Guillen, M. (1999) "La siniestralidad en una poblaci n del  rea Metropolitana de Barcelona: caracter sticas de los accidentes de tr fico de L'Hospitalet de Llobregat" *III Congreso de Ingenier a de los Transportes. El Transporte del Siglo XXI*, Barcelona.
- Bolanc , C.; Guillen, M. (1998) "Estimaci n de n cleo transformada para variables asim tricas: una aplicaci n a las rentas laborales en Espa a" *XXIV Congreso Nacional de Estad stica e Investigaci n Operativa*, Almer a.
- Bolanc , C.; Guillen, M. (1998) "Transformation in kernel density estimation based on skewness: an application to labor earnings in Spain" *XXIII Simposio de An lisis Econ mico*, Barcelona.
- Guillen, M.; Soldevilla, C. (1996) "On the performance of bachpropagation networks in econometric analysis" *ITHURS '96*, Leon.
- Alca niz, M.; Guillen, M. (1996) "An lisis del impacto de las Rondas de Barcelona sobre la siniestralidad" *II Symposium de Ingenier a de los Transportes*, Madrid.
- Ayuso, M.; Guillen, M. (1995) "Modelos de Elecci n del Fraude en el Seguro de Autom vles" *IX Reuni n ASEPELT-ESPA A*, Santiago de Compostela.
- Alca niz, M.; Guillen, M. (1995) "Estimaci n de modelos para el n mero de sucesos con una variable de exposici n al riesgo" *XXII Congreso Nacional de Estad stica e Investigaci n Operativa*, Sevilla.
- Guillen, M.; Art s, M. (1992) "La utilizaci n de modelos alternativos para la elaboraci n de sistemas de concesi n de cr ditos" *I Congreso Iberoamericano de Estad stica e Investigaci n Operativa y XX Reuni n Nacional de Estad stica e Investigaci n Operativa*, C ceres.
- Guillen, M.; Murillo, C. (1991) "Las alternativas de modelizaci n para los datos de enumeraci n" *XIX Reuni n Nacional de Estad stica e Investigaci n Operativa*, Segovia.

- Artís, M.; Guillen, M.; Martínez, J.M. (1991) “Modelos de clasificación para la concesión de créditos” *V Reunión de la Asociación Científica Europea de Economía Aplicada ASEPELT-España*, Las Palmas de Gran Canaria.
- Guillen, M.; Murillo, C. (1990) “Análisis Empírico de la demanda sanitaria: comparación entre modelos Tobit y modelos de Poisson” *Modelos de Variable Dependiente Limitada: Aportaciones Econométricas en Investigación Aplicada*. Universidad de La Laguna, Santa Cruz de Tenerife.
- Guillen, M. (1990) “Revisión del software existente para modelos cualitativos” *Modelos de Variable Dependiente Limitada: Aportaciones Econométricas en Investigación Aplicada*. Universidad de La Laguna, Santa Cruz de Tenerife.
- Guillen, M.; Murillo, C. (1989) “Modelos 'count data' en la estimación del número de consultas médicas” *Tercera Reunión de la Asociación Científica Europea de Economía Aplicada ASEPELT-España*, Sevilla.

### **Participation in research contracts**

IKI Media, 2018, Emergent Systems, 2016. Grupo Catalana-Occidente, 2010-2011, 2014. Dirección General de Tráfico, 2006. Agrupació Mutua, 2007. CIDEM, Generalitat de Catalunya, 2005-2010. Novartis Farmacéutica, S.A., 2004. BSM, 2004-2006. Royal & Sun Alliance, EMEA Research, 2001-2005. Museu de la Ciència, Fundació La Caixa 2001-2004. Catalana Occidente, 2000-2003. Institut Municipal de Salut i Qualitat de Vida, 2000. Entitat Autònoma de Jocs i Apostes de la Generalitat de Catalunya, 2000. Ajuntament de Barcelona, 1997-1999. Principal Internacional España, S.A., 1998. Mapfre, 1996-2002. Automobile Insurers Bureau of Massachusetts, 1995. Servei Català de la Salut, 1994- 2003, 2006-2011. Diputació Provincial de Barcelona, 1992. Institut d'Estadística de Catalunya, 1991-2002, 2006, 2009-2010. VidaCaixa, 2011, GESOP, 2012. Actuarial Modelling, 2014.

### **Recent Refereeing**

African Journal of Business Management, American Journal of Epidemiology, Anales del Instituto de Actuarios Españoles, Annals of Actuarial Science, Applied Economics, Applied Financial Economics, Astin Bulletin, Australian and New Zealand Journal of Statistics, Cybernetics & Systems, Communications in Statistics, Cuadernos Actuariales, Decision Analytics Journal, Data Mining and Knowledge Discovery, European Actuarial Journal, European Journal of Political Economy, Gaceta Sanitaria, Hacienda Pública Española, Insurance: Mathematics and Economics, Insurance Markets and Companies, International Journal of Business Continuity and Risk Management, International Journal of Management Science, International Journal of Quality, Statistics, and Reliability, Journal of Actuarial Practice, Journal of AI and Data, Journal of Applied Statistics, Journal of Banking and Finance, Journal of Epidemiology and Community Health, Journal of Retailing and Consumer Services, Journal of Risk, Journal of Risk and Insurance, Management Science, Medicina Clinica, Moneda y Crédito, North American Actuarial Journal, OMEGA, Revista Economía Aplicada, Revista Internacional de Sociología, Scandinavian Actuarial Journal, Scandinavian Journal of Statistics, SORT Statistics and Operations Research Transactions, The Scientific World Journal, Theory and Decision, Investigaciones Regionales, Revista Economía Aplicada, The Geneva Papers on Risk and Insurance – Issues and Practice.

Academic Press, The Geneva Association, EGRIE, Ernst Meyer Awards, John Wiley & Sons, Robert C. Witt Award American Risk and Insurance Association, Robert I. Mehr Award American Risk and Insurance Association, Springer.

## Visited institutions

2020 UIB.  
2019 EM-Lyon, Heriot-Watt University, City University of London  
2018 Universidad de Cantabria, University of Oslo, University of California, Berkeley, Consortium for Data Analytics in Risk (August).  
2017 Université Catholique de Louvain, Universidad de Cantabria, University of Chicago.  
2016 London School of Economics and Political Science, University of Liverpool, City University London, University of Andorra.  
2015 University of Pennsylvania, University of Liverpool, Université de Louvain-La Neuve, University of Oslo.  
2014 Universidad de Cantabria, Cass Business School.  
2013 Universitat de València, Universidad Loyola, Université de Paris Panthéon-Assas.  
2012 Université de Paris II, University of Michigan  
2011 Université de Paris-Dauphine & Paris-Panthéon, Universidad Pablo de Olavide, Universitat de les Illes Balears.  
2010 University of Aurora at Chicago, Illinois, Universitat de València, Université de Paris-Dauphine & Paris-Panthéon.  
2009 Universidad de Cantabria, Université de Paris-II-Assas, Universitat de València, Universidad de Sevilla, Universidad de Deusto  
2008 Université Paris-Dauphine, Université de Québec à Montréal, Universidad Complutense de Madrid  
2007 University of Rome “La Sapienza”, Universidad de Valencia, Universidad de las Palmas de Gran Canaria, Heriot-Watt University, Université Catholique de Louvain, Universidad de Cantabria, University of Tilburg  
2006 Porto ANJE - Associação Nacional de Jovens Empresários – Lisbon Instituto de Formação Actuarial, Université de Paris-Panthéon, University of Oxford Nuffield College, Universidad de las Palmas de Gran Canaria  
2005 Université de Paris- Panthéon, Université de Paris Nanterre, Université Catholique de Louvain, Max Planck Institute for Demographic Research, University of Copenhagen, Universidad Complutense de Madrid  
2004 Université de Paris- Panthéon, Université de Paris Nanterre  
2003 Université de Paris Panthéon, Universitat d’Alacant, Universitat de Valencia  
2002: Automobile Insurers Bureau of Massachusetts, Institut de Statistique (Université Catholique de Louvain), Université de Paris Nanterre  
2001: Università di Roma La Sapienza, Universitat de València, CODAN  
Universidad Autónoma de Madrid, City University, Instituto Superior de Economia e Gestao (Universidades Técnica de Lisboa), University of Texas at Austin, Universidad Nacional Autónoma de México, University of Cambridge

## Awards

Bob Altling von Geusau Prize sponsored by the AFIR-ERM Section of the IAA for “Implementing Individual Savings Decisions for Retirement with Bounds on Wealth” published in the ASTIN Bulletin (Volume 48, Issue 1). AFIR-ERM colloquium in Paris from 10 to 14 May 2020  
International Congress of Actuaries, best paper award, 2018.  
SCOR prize to best research, 2016.  
Edad&Vida prize to managing savings after retirement, 2016  
ICREA Academia distinction 2011 and 2019

Prize Fundació Edat&Vida Higinio Ranventós to “Strategies for Managing Savings after Retirement” 2016.

Prize to the best Master Thesis supervision. VidaCaixa, 2011.

Prize to the Best Paper in Insurance presented at RISK, 2011.

Premio Internacional de Seguros Julio Castelo Matrán. Fundació MAPFRE, 2004.

Best paper published by the American Risk and Insurance Association. Casualty Actuarial Society, 2003.

Premi Ferran Armengol i Tubau de la Societat Catalana d’Economia. Institut d’Estudis Catalans, 2002.

Premi memorial Àngels Jiménez de Seguretat Viària. Ajuntament de Barcelona, 1996.

## **Other activities**

Member of PhD thesis committees (U. Barcelona, U. Autònoma de Madrid, City University, U. Catholique de Louvain, U. Extremadura, U. Las Palmas de Gran Canaria, U. Paris-Nanterre, Heriot-Watt University, Universidad Complutense de Madrid, University of Texas at Austin, Universidad Politècnica de Catalunya, Universidad Autònoma de Barcelona, U. Valencia, U. Cantabria, U Deusto).

External reviewer for the ANEP, AGAUR (Agència de Gestió d’Ajuts Universitaris i de Recerca), Consejería de Innovación, Ciencia y Empresa de la Junta de Andalucía, ACSUCYL, Agencia de Calidad Universitaria de Castilla y León, Natural Sciences and Engineering Research Council of Canada. External advisor for the University of Aarhus and the University of Copenhagen.

General Coordinator of Doctoral Programmes, Faculty of Economics (University of Barcelona) 2001-2004.

Vice-president of the Divisió de Ciències Jurídiques Econòmiques i Socials. University of Barcelona, 2002-2003.

Chief of Studies of Statistics, University of Barcelona, 1996-2002.

Academic Secretary at the Department of Econometrics, University of Barcelona, 1991-1993.

Member of the jury: Premio Internacional de Seguros Julio Castelo Matrán, 2006, 2017.

Organizer of several meetings: RISK2018, ICRA 6/RISK(2015), IALS-IAA (2015), WRIEC (2015), International Conference on Modelling and Simulation (2013), RISK (2013), ASTIN (2013). RISK (2011), EFMA (2012), EGRIE (2012), (BIRMss) Barcelona Insurance and Risk Management Summer School (since 2010), RIESGO, Tercera Reunión de Investigación en Seguros y Gestión de Riesgos (2009), IWSM International Workshop on Statistical Modelling (2007), RIESGO, Segunda Reunión de Investigación en Seguros y Gestión de Riesgos (2007), EGRIE 33<sup>rd</sup> Meeting of the European Group of Insurance Economists / local organizer committee (2006) RIESGO: Primera Reunión de Investigación en Seguros y Gestión de Riesgos (2005), Advanced statistical methods in the insurance industry (2004), Jornadas franco-catalanas sobre Estadística a l’Euroregió (2004) , Research and training in failure time methods in the new millennium (2002), Jornadas internacionales sobre Data Mining (2001), Primer Encuentro de Economía Aplicada (1999), Jornadas internacionales sobre Generación de la información estadística (1998).

Member of American Risk and Insurance Association, American Statistical Association, Societat Catalana d’Estadística, Societat Catalana de Matemàtiques and International Actuarial Association (sections ASTIN and LIFE).

President of the Audit Committee of Cevasa.

Honorary Member of the Catalan College of Actuaries.



Member of the Royal European Academy of Doctors and Numerary Academician of the Spanish Royal Academy of Economics and Finance (Real Academia de Ciencias Económicas y Financieras). Vice-secretary general of RACEF.

**Languages**

Spanish (native), Catalan (native), English (proficiency), French (proficiency), Russian (intermediate level) and German (basic level).