ENRIQUE TER HORST

Associate Professor | Finance Area
Joined the School in 2017

ACADEMIC BACKGROUND

2003	Ph.D. in Statistics and Decision Sciences. Duke University (ISDS). Durham, NC, United States.
2001	M.S. in Statistics and Decision Sciences. Duke University (ISDS). Durham, NC, United States.
1999	Master in Finance. Université de Strasbourg, Strasbourg, France.
1998	B.S. in Econometrics (Licence). Université de Strasbourg. Strasbourg, France.

TEACHING EXPERIENCE

Courses Taught in Recent Years

Graduate

Probability and Measure (Teaching assistant) – Duke University

Statistical Inference (Teaching assistant) – Duke University

Statistics and Mathematics – Dortmund University

Financial Statistics and Risk Management – IESA

Risk Management – University of Navarral, KEDGE Business School and CESA (Colombia)

Mathematics for Business – KEDGE Business School

Business Statistics – Hult University

Business and Financial Statistics – CESA (Colombia)

Statistical Methods for Prediction – Universidad Simón Bolivar (Venezuela)

Undergraduate

Probability and Statistical Inference – Duke University

Mathematics for Business – KEDGE Business School

ACADEMIC ACTIVITIES

2017 – to date	Associate Professor (Tenured Senior Researcher "Colciencias»). UASM. Bogotá, Colombia.
2013 - 2017	CESA, Full Professor (Tenured Senior Researcher "Colciencias») Bogotá, Colombia Involved in teaching.
2005 - 2013	Associate Professor. IESA - Instituto de Estudios Superiores de Administracion, Caracas Venezuela.
2012	Visiting Research Professor. UASM. January - June 2012 Bogotá, Colombia.
2009 - 2011	Associate Professor. Euromed Management School. Marseille, France.

OTHER PROFESSIONAL ACTIVITIES

2004 - 2005   Quantitative Strategist. Morgan Stanley, (Research Division). London, United Kingdom.

2003 – 2004   Quantitative Research Analyst. Credit Suisse First Boston. London, United Kingdom.

RESEARCH

- Idiosyncratic and systemic impacts of derivative risks
- Dynamics of the institutional and sovereign credit risk
- Inference in mathematical Finance models
- Bayesian statistics and Bayesian nonparametric statistics
- Risk Management

PUBLICATIONS

Articles in Academic Journals

2022   Garay, U., Molina, G., Puggioni, G., ter Horst, E. (2022 "A Bayesian dynamic hedonic regression model for art prices.» Journal of Business Research, volume 151, p.310-323.

2022   Gunn, L., ter Horst, E., Molina, G., Restrepo, S., Salazar, C., Zambrano, J.D. (2022) "Hierarchical Bayesian Classification Methods to Identify Topics by Journal Quartile with an Application in Biological Sciences.» Education for Information, vol. 38, no. 1, pp. 93-112.

2021   Cortes, M.C., Gonzalez, L.V., Gunn, L., ter Horst, E., Molina, G., Restrepo, S., Zambrano, J.D.(2021) "Assessment of Research Topic Prevalence by Journal Impact Quartile in Oral Health Sciences Using Bayesian Methods.» Sage Open, https://doi.org/10.1177%2F21582440211031868.

2021   Ribamar Siqueira, ter Horst, E., Molina, G., Peña, N., Villamil, M. (2021) "An Examination of the Role of Brand Commitment in the Development of Branding Behavior Among Front-line Employees in the Retail Sector Through the Lens of an Emerging Economy.» Journal of Open Innovation: Technology, Market, and Complexity, 7(2):154, https://doi.org/10.3390/joitmc7020154.

2021   Audeguil, E., ter Horst, E., Mantilla, D., Molina, G. (2021) "Tail-Risk Tracking Error Estimation with Copulas and Implications for Portfolio Insurance.» Intl. J. of Theoretical & Applied Finance (IJTAF), volume 24, No. 03, 2150016.

2021   Gunn, L., Molina, G., ter Horst, E. Markossian, T. (2021) \Respecting Opposing Viewpoints through Debate and Discussion of Controversial Public Health Issues: A Double-Blinded Active Learning Design.»' College Teaching, volume 70, issue 2.

2021   Bautista, R., Gzyl, H., ter Horst, E., Molina, G. (2021) \Electrical power diversi cation: An approach based on the method of maximum entropy in the mean.» Entropy, 23(3), p.1-11.

2021   Mantilla D, ter Horst E. (2021) Asset Dependency Structures And Portfolio Insurance Strategies. International Journal of Theoretical and Applied Finance (ISSN 0219-0249) 24 (3), pp. --28.

2020   Reinoso-Carvalho, F., Gunn, L., ter Horst, E., Spence, C. (2020) \Sonic seasoning in the absence of a comparison stimulus: Opening possibilities for greater applicability.» Foods, volume 9, p.1-20.

2020   Casarin, R., Camargo, J.E., Molina, G., ter Horst, E. (2020) \A framework for information synthesis into sentiment indicators using text mining methods.» Communications in Statistics - Theory and Methods, DOI: 10.1080/03610926.2020.1837878.

2020   Alexandridis, A., Gzyl, H., ter Horst, E., Molina, G. (2020) \Extracting Pricing Densities for Weather Derivatives Pricing using the Maximum Entropy Method.» Journal of the Operational Research Society, p.1-17.

2020   Reinoso-Carvalho, F., Gunn, L., Molina, G., Narumi, T., Spence, C., ter Horst, E., Wagemans, J. (2020) \A sprinkle of emotions vs a pinch of crossmodality: Towards globally meaningful sonic seasoning strategies for enhanced multisensory tasting experiences.» Journal of Business Research, volume 117, p.389-399.

2020   Gunn, L., Molina, G., ter Horst, E. Markossian, T. (2020) \Associations between majors of graduating seniors and average SATs of incoming students within higher education in the U.S.» Heliyon, volume 6, Issue 5.

2020   Ja e, K., ter Horst, E., Molina, G., Zambrano, JD (2020) \A Network Analysis of Research Productivity by Country, Discipline, and Wealth.» Plos One, volume 15 Issue 5.

2020   Ribamar Siqueira, ter Horst, E., Molina, G., Pe~na, N. (2020) \A 2020 perspective on \Spreading the word: How customer experience in a traditional retail setting in uences consumer traditional and electronic word-of-mouth intention.» Electronic Commerce Research and Applications, Volume 40, March, April 2020, 100930.

2020   Ribamar Siqueira, ter Horst, E., Molina G., Losada, M., Amado Mateus, M. (2020) \A Bayesian examination of the relationship of internal and external touchpoints in the customer experience process across various service environments.» Journal of Retailing and Consumer Services, Volume 53, March 2020, 102009.

2020   Espinasa, R., Casarin, R., Molina, G., ter Horst, E., Rigobon, R. (2020) \Multilayer Network Analysis of Oil Linkages.» the Econometrics Journal, Volume 23, Issue 2, p.269 296.

2019   Casarin, R., Camargo, J., Correa, J.C., ter Horst, E., Dakduk, S., Molina, G. (2019) \What makes a tweet be retweeted? A Bayesian trigram analysis to understanding tweet propagation during the 2015 Colombian political campaign.» the Journal of Information Science.

2019   Ribamar Siqueira, ter Horst, E., Molina, G., Peña, N.``Spreading the Word: How Customer Experience in a Traditional Retail Setting Impacts: Traditional and Electronic Word-of-mouth Intention.", forthcoming Electronic Commerce Research and Applications.

2019   Gzyl, H., Molina, G., ter Horst, E. (2019) ``A Model-Free, non-Parametric Method for Determination of the Distribution of Asset Returns." Physica A: Statistical Mechanics and its Applications, volume 517, p.210-221.

| 2019 | Ter Horst E. (2017) 2019 Informs Alio International Conference. Energy Economics (ISSN 0140-9883) 66 (-), pp. 431-449. |

2019   Gunn L., Ter Horst E., Markossian T., Molina G. Online interest regarding violent attacks, gun control, and gun purchase: A causal analysis. Plos One. doi. org/10.1371/journal.pone.0207924.

2019   Camargo J., González M., Guzmán A., Ter Horst E., Trujillo, M.A. Topics and methods in economics, finance, and business journals: A content analysis enquiry. Heliyon. Vol: 4. doi.org/10.1016/j. heliyon. 2018.e01062.

2018   Gzyl, H., Ter Horst, E., Molina, G. A Model-Free, non-Parametric Method for Density Determination, with Application to Asset Returns. Physica A. Vol 517. Pp 210-221.

2018   Gunn, L., Gzyl H., Ter Horst, E., Ariza, M., Molina, G. Maximum Entropy in the Mean Methods in Propensity Score Matching for Interval and Noisy Data. Journal Communications in Statistics.

2018   Gzyl, H., Ter Horst, E., Molina G. «Risk neutral measure determination from price ranges: Single period market models». Entropy. Pp 21.

2018   Casarin, R., Molina G., Ter Horst E. A Bayesian Time-varying Approach to Risk Neutral Density Estimation. Journal of the Royal Statistical Society. Vol 182. Pages 165 – 195.

2017   Echeverri, L., ter Horst, E., Mohamad, Z., Molina, G., Nation Branding: Unvailing Factors that Affect the Image of Colombia from a Foreign Perspective.» Tourism Planning & Development, p.1 - 21.

2017   Espinasa, R., Guerra Reyes, S., Ter Horst, E., Manzano, O., Molina, G., Rigobon, R. A. Micro-Based Model for World Oil Market.» Journal of Energy Economics, 66, p.431 - 449.

2017   Gzyl, H., Ter Horst, E., Molina, G. (2017) Inferring probability densities from expert opinion.» Applied Mathematical Modelling, 43, p.306 - 320.

2017   Dakduk, S., Malave, J., Molina, G., Ter Horst, E., Santalla, Z. (2017) Customer Behavior in Electronic Commerce: A Bayesian Approach.» The Journal of Theoretical and Applied Electronic Commerce Research, 11(2), p.1-20.

2016   Garay, U., Molina, G., Rodríguez, A., Ter Horst, E. (2016) Bayesian Nonparametric Measurement of Hedge Fund Returns.» Econometrics, 4(1), 13.

2016   Gramacy, B. and Malone, S. and Ter Horst, E. (2016) Timing Foreign Exchange Markets.» Econometrics, 4(1), 15.

2015   Casarin, R., Leisen, F., Molina, G., Ter Horst, E. (2015) A Bayesian Beta Markov Random Field calibration of the term structure of implied risk neutral densities.» Bayesian Analysis, Vol. 10, Number 4, p.791 – 819.

2015   Rodríguez, A., E. ter Horst, S. Malone. (2015) Statistical inference in structural credit risk models: Likelihood and Bayesian approaches. the Journal of Financial Econometrics, vol. 13(4), p.839 - 867.

2015   Gzyl, H., Molina G., ter Horst, E. (2015) «A spectral measure estimation problem in rheology.» Physica A: Statistical Mechanics and its Applications, vol. 434, p.129 - 133.

2015	Gzyl, H., Molina, G., ter Horst, E. (2015) Application of the maximum entropy method in the mean to classification problems.» Physica A: Statistical Mechanics and its Applications, vol. 437C, p.101 - 108.
2015	Echeverri, L., ter Horst, E., Parra, J. (2015) Imagen pais de Colombia desde la perspectiva extranjera.» Arbor, Vol. 191, No. 773, 114142. ISSN: 02101963.
2015	Gzyl, H., ter Horst, E., Villasana, M. (2015) Numerical determination of hitting time distributions from their Laplace transforms: One dimensional discusions.» Physica A: Statistical Mechanics and its Applications, vol. 419, p. 594 – 602.
2014	ter Horst, E. and Molina, G. (2014) «Discussion on a Tractable State-Space Model for Symmetric Positive-Definite Matrices» (Invited discussion paper) Bayesian Analysis, 9, No. 4, p.809 - 818.
2014	Gzyl, H. and ter Horst, E. (2014) Numerical determination of hitting time distributions from their Laplace transform.» Physica A: Statistical Mechanics and its Applications, vol. 410, p.244 - 252.
2014	Gzyl, H. and ter Horst, E. (2014) A Relationship between the Ordinary Maximum Entropy Method and the Method of Maximum Entropy in the Mean.» Entropy, 16(2), p.1123-1133.
2013	Gramacy, R., Malone, S. and ter Horst, E (2013) «Exchange Rate Fundamentals, Forecasting, and Speculation: Bayesian models in Black Markets.» Journal of Applied Econometrics, vol. 29, issue 1, p.22-41.
2012	ter Horst, E., Rodríguez, A., Gzyl, H. and Molina, G.(2012) «Stochastic Volatility Models including open, close, high and low prices.» Quantitative Finance, vol. 12, Issue 2, p.199-212. Special Issue: Themed Issue on Volatility.
2011	Rodríguez, A., ter Horst, E. (2011) «Measuring Expectations in Options Markets: An Application to the S&P500 Index.» Quantitative Finance, vol. 11, issue 9, p.1393 – 1405.
2010	García, I., Trigo, L., Costanzo, S., ter Horst, E. (2010) «Procesos Gaussianos en la Predicción de las Fluctuaciones de la Economía Mexicana «, El Trimestre Económico, vol. LXXVII (3), No. 307, July - September 2010, pp. 585 - 602.
2010	Malone, S. and ter Horst, E. (2010) «The Black Market for Dollars in Venezuela.» Emerging Markets Finance and Trade, September-October 2010, vol. 46, No. 5, pp. 67 - 89.
2009	Garay, U. and ter Horst, E. (2009) «Real Estate and Private Equity: A review of the diversification benefits and some recent developments.» Journal of Alternative Investments, Spring 2009.
2009	Gzyl, H., Molina, G., ter Horst, E. (2009) «Assessment and Propagation of Input Uncertainty in Tree-based Option Pricing Models.», Applied Stochastic Models in Business and Industry, Vol. 25, Issue 3, p 275 - 308.
2009	Gzyl, H., ter Horst, E. (2009) «Noise Corrected Estimation: Filtering additive measurement noise», Journal of Probability and Statistics.
2009	Rodríguez, A., Malone, S., ter Horst, E. (2009) «What executives should know about structural credit risk models and their limitations: a primer with examples.» Journal of Financial Transformation, vol. 27, pages 58 - 62.

| 2008 | Rodríguez, A., ter Horst, E. (2008) «Bayesian Dynamic Density Estimation.», Bayesian Analysis, vol. 3, No. 2, p.339 - 366. |
| 2008 | Gzyl, H., ter Horst, E., Malone, S. (2008) «Bayesian parameter inference for models of the Black and Scholes type», Applied Stochastic Models in Business and Industry, vol. 24, issue 6, p 507 - 524. |

Conference Presentations

2019	"A Micro-Based Model for World Oil Market." Informs Alio International Conference, Cancun, Mexico (June 2019).
2019	"Estimating the Determinants of Art Prices through a Bayesian Dynamic Hedonic Regression Model." 11th Workshop on Bayesian Inference in Stochastic Processes (June2019), Madrid, Spain.
2018	"A Bayesian time-varying approach to risk neutral density estimation." Workshop Advances in Bayesian Modelling, University Ca'Foscari, Venize, Italy (July 2018).
2018	"Predicting instantaneous photosynthetic photon flux density for days with different degree of overall cloudiness: a bayesian nonparametric approach." ISBA, Edinburgh, United Kingdom (June 2018).
2017	"World Oil Linkages." ESOBE, Maastricht, Netherlands (October 2017).
2017	"Timing Foreign Exchange Markets." 10th Workshop on Bayesian Inference in Stochastic Processes (July),
2016	9th Workshop on Bayesian Inference in Stochastic Processes (June 2015), Istanbul, Turkey.
2016	"A Bayesian Time-varying Approach to Risk Neutral Density Estimation." ISBA 2016, International Society for Bayesian Analysis 13 - 17 June, 2016. Forte Village Resort Convention Center Sardinia, Italy.
2014	ISBA-George Box Research Workshop on Frontiers of Statistics (May), Washington, DC, USA.
2014	"Term Structures of Implied Risk Neutral Densities." International Society for Bayesian Analysis World Meeting, ISBA (July), Cancun Convention Center.
2013	ESOBE, Oslo, Norway (August 2013).
2013	Midwest Finance Association Conference, Chicago, USA.
2013	"Timing Foreign Exchange Markets." Royal Economic Society, London, UK 2013.
2012	Campus for Finance Research Conference 13, WHU Otto Beisheim School of Management, Vallendar, Germany.
2012	Seminar on Bayesian Inference in Econometrics and Statistics (SBIES),California (April 2012).
2012	BISP 7, Madrid, Spain (Sept 2011).
2011	"Exchange Rate Fundamentals, Forecasting, and Speculation: Bayesian models in Black Markets." ESOBE, Louvain, Belgium (Nov 2011).
2010	ISBIS-2010 International Symposium on Business and Industrial Statistics, Portoroz, Slovenia (July 2010).

2010	HEC Paris, Finance and Statistics, Second Workshop (October 2010).
2010	Universidad de Elche, XXXVIII Simposio de la Asociación Espñoola de Economía (November 2010).
2010	"The Garch structural credit risk model: estimation, benchmarking, and application to the 2007-2008 credit crunch." Institut fur Angewandte Statistik, Linz, Austria (December 2010).
2010	Valencia International Meetings on Bayesian Statistics, Benidorm, Spain (June 2010).
2010	DAGStat2010, Technische Universitat Dortmund, Germany (March 2010).
2009	XVII Finance Forum IESE, Madrid, Spain (November 2009).
2009	"Stochastic Volatility Models including open, close, high and low prices". XXXIV Simposio de la Asociación Española de Economía (December 2009).
2009	"Measuring Expectations In Options Markets: An Application to the S&P500 Index."BISP6. Bressanone, Italy (June 2009).
2009	13th International Congress on Insurance: Mathematics and Economics (May 2009). Istanbul, Turkey.
2008	ISBIS-2008 International Symposium on Business and Industrial Statistics with special emphasis on Quantitative Analytics for Banking, Finance and Insurance. Prague, Czech Republic, 1 - 4 July 2008.
2008	"Bayesian Dynamic Density Estimation." MCMSki 2008. Bormio, Italy (January 2008).
2007	Objective Bayes 2007. Rome, Italy.
2007	"Assessment and Propagation of Input Uncertainty in Tree-based Option Pricing Models".BISP5. Valencia, Spain (June 2007).
2006	"Bayesian inference for Levy processes in option pricing." Valencia International Meetings on Bayesian Statistics. Benidorm, Spain (June 2006).
2004	"A Levy generalization of compound Poisson processes in finance. Theory & applications". 6th World Congress of the Bernouilli Society for Mathematical Statistics and Probability & 67th Annual Meeting of the Institute of Mathematical Statistics. Barcelona, Spain (Jul-Aug 2004).

SCHOLARSHIPS AND ACADEMIC DISTINCTIONS

1999	Graduated with honors. Master in Finance. Université de Strasbourg, Strasbourg, France.
1998	Graduated with honors. B.S. in Econometrics (Licence). Université de Strasbourg. Strasbourg, France.

PARTICIPATION IN BOARDS, COMMITTEES AND ASSOCIATIONS

2018 – 2020	Vice Dean for Research at the School of Management, Universidad de los Andes.
2015 – 2017	International Society for Bayesian Analysis, elected Secretary for the Economics, Finance, and Business section.
2007 – 2012	Member of the Search and Hiring Committee for new faculty at the IESA.