José-Manuel REY

MATHEMATICIAN



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1. EDUCATION

1995 **Ph.D. Mathematics**.
Faculty of Mathematics.
Complutense University of Madrid (Spain).
Title of PhD dissertation: *"Geometry of self-similar measures"*.
Qualification: *Cum Laude*. Best thesis award (Faculty of Mathematics).

1989-91 **M.Sc. Applied Mathematics**. (2 years degree).
Department of Mathematics.
Complutense University of Madrid (Spain).

1984-89 **B.Sc. Mathematics**. (5 years degree).
Faculty of Mathematics.
Autonomous University of Madrid (Spain).

2. PROFESSIONAL EXPERIENCE

> 2000 **Associate Professor** (with tenure, accredited as Full Professor).
Department of Economic Analysis.
Complutense University of Madrid (Spain).

> 2015 **Associate Scholar**
Department of Psychology.
Harvard University (USA).

2026 **Visiting Scholar 26-27**.
Universidad de Alcalá (Spain).

2026 **Visiting Scholar** (May-June).
Harvard University (USA).

2025 **Visiting Scholar** (May).
Harvard University (USA).

2024 **Visiting Scholar** (May-June).
Harvard University (USA).

2023 **Visiting Scholar** (June).
Harvard University (USA).

2018 **Visiting Scholar** (April-May).
Harvard University (USA).

2017 **Visiting Scholar** (February-June).
Harvard University (USA).

2016 **Visiting Scholar** (February-April).
Department of Applied Mathematics.
Technical University of Madrid (UPM) (Spain).

2015 **Visiting Scholar** (February-July).
Department of Psychology, and Institute for Quantitative Social Science.
Harvard University (USA).

1999 **Visiting Scholar** (January).
Isaac Newton Institute for Mathematical Sciences.
Cambridge University (UK).

1997-99 **Assistant Professor.**
Department of Economic Analysis.
Complutense University of Madrid (Spain).

1996 **Visiting Scholar** (July-December).
Centre for Nonlinear Dynamics and its Applications.
University College London (UK).

1996 **Visiting Scholar** (April-July).
Mathematical Institute.
University of St. Andrews, Scotland (UK).

1993 **Visiting Researcher** (February-September).
Department of Applied Mathematics.
School of Agricultural Engineering.
Technical University of Madrid (Spain).

1989-96 **Assistant Professor.**
Department of Economic Analysis.
Complutense University of Madrid (Spain).

3. PERSONAL GRANTS

2026 ***Research Fellowship Giner de los Ríos* 2026-27.**
Universidad de Alcalá (Spain).

2026 ***Short-Term Harvard University Faculty Grant* 2025-26.**
Real Colegio Complutense, Harvard University (USA).

2025 ***Short-Term Harvard University Faculty Grant* 2024-25.**
Real Colegio Complutense, Harvard University (USA).

2019 ***Short-Term Harvard University Faculty Grant* 2018-19.**
Real Colegio Complutense, Harvard University (USA).

2018 ***Short-Term Harvard University Faculty Grant* 2017-18.**
Real Colegio Complutense, Harvard University (USA).

2016 ***Research Fellowship* 2016-17.**
Senior Scientist Visiting Program Salvador de Madariaga.
Spanish Ministry of Education.

2014 ***Research Fellowship* 2014-15**.
Real Colegio Complutense, Harvard University (USA).

1996 ***Postdoctoral Grant*** (One Year Abroad).
Complutense University of Madrid.

4. AWARDS

2017 ***Judges' Special Recognition Award*** for the short film "1+1".
2017 Ballston Spa Film Festival, New York (USA).

2009 ***Plus New Writers Award* 2009**.
+Plus Magazine. Cambridge University (UK).

2008 ***Plus New Writers Award* 2008**.
+Plus Magazine. Cambridge University (UK).

1998 ***Doctoral Dissertation Award*** (1995 Best Thesis in Mathematics).
Complutense University of Madrid.

5. TEACHING EXPERIENCE

▷Undergraduate

>1989, Faculty of Economics, Complutense University of Madrid.

- **Dynamic Optimization and Game Theory** (Dual degree Economics and Mathematics. 4th year, 6 year degree).
  [yrs. 18/19, 19/20, 20/21, 21/22, 22/23, 23/24, 24/25, 25/26, 26/27]
- **Game Theory and Optimization** (4th year, 4 year degree).
  [yrs. 12/13, 13/14, 14/15, 15/16, 16/17, 17/18, 18/19, 19/20, 20/21, 21/22, 22/23, 23/24, 24/25, 25/26, 26/27]
- **Mathematics III** (Optimization and Dynamics) (2nd year, 4 year degree). **[in English]**
  [yrs. 9/10, 10/11, 11/12, 12/13, 13/14, 14/15, 15/16, 23/24, 25/26, 26/27]
- **Mathematics III** (Optimization and Dynamics) (2nd year, 4 year degree).
  [yrs. 11/12, 12/13, 14/15, 17/18, 18/19, 19/20, 20/21. 21/22, 22/23, 23/24, 24/25]
- **Microeconomics III** (Production Theory) (2nd year, 4 year degree).
  [yr. 13/14]
- **Game Theory** (3rd year, former 5 year degree).
  [yrs. 03/04, 04/05, 05/06, 06/07, 07/08, 08/09, 09/10, 10/11, 11/12, 12/13].
- **Dynamic Optimization** (3rd year, former 5 year degree).
  [yrs. 00/01, 01/02, 02/03, 03/04, 04/05, 05/06, 06/07, 07/08, 08/09, 09/10, 10/11].
- **Dynamical Systems** (2nd year, former 5 year degree).
  [yrs. 91/92, 92/93, 94/95, 95/96, 96/97, 99/00, 00/01, 01/02].
- **Introduction to Mathematics for Economics** (1st year, former 5 year degree).
  [yrs. 02/03, 03/04, 04/05, 05/06, 06/07, 07/08, 08/09]

- **Mathematical Programming** (2nd year, former 5 year degree).
  [yrs. 01/02, 02/03, 03/04, 04/05,09/10]
- **Mathematical Analysis** (1st year, former 5 year degree).
  [yrs. 89/90, 90/91, 91/92, 95/96, 98/99, 00/01, 02/03, 06/07]
- **Linear Algebra** (1st year, former 5 year degree)
  [yrs. 96/97, 97/98, 98/99, 99/00]

▷Posgraduate

- **Mathematical Tools for Economic Analysis**
  Postgraduate Program in Central Banking
  CEMFI. Bank of Spain.
  [yrs. 25/26, 26/27]
- **Social Communication of Science.**
  Master's Degree in Data Analysis and Communication.
  Universidad CEU San Pablo.
  [yrs. 23/24, 24-25, 25/26]
- **Mathematical Methods for Economic Analysis.**
  M.Sc. Public Economics,
  Institute of Fiscal Studies. Ministry of Finance (Spain).
  [yrs. 92/93, 93/94, 94/95]
- **Nonlinear Time Series Analysis.**
  Ph.D. program, Department of Economic Analysis.
  Complutense University of Madrid
  [yrs. 97/98, 98/99]
- **Economic Dynamics.**
  Ph.D. program, Department of Economic Analysis.
  Complutense University of Madrid
  [yrs. 98/99, 99/00]

6. FUNDED RESEARCH PROJECTS

15. **2024** An interactive web application for the prospective analysis and simulation of personal well-being.
Funding: Avante Forte Services S.A. Spain.
PI: José-Manuel Rey (Complutense University of Madrid.)

14. **2016-19** Analysis and modelling of soil attributes and formation factors by fractal techniques, data mining and mathematical morphology.
Funding agency: Ministry of Science and Innovation, Spain. Ref. AGL2015-69697-P
PI: Miguel Angel Martín (Technical University of Madrid.)

13. **2012-15** Analysis, parameterization and modelling of soil and its physical properties by means of fractal techniques and affine mathematical methods.
Funding agency: Ministry of Science and Innovation, Spain. Ref. AGL2011-25175
PI: Miguel Angel Martín (Technical University of Madrid.)

12. **2009-12** Stochastic calculus with applications to Social Sciences.
Funding agency: Ministry of Science and Innovation, Spain. Ref. MTM2009-12672.
PI: Manuel Morán (Complutense University of Madrid.)

11. **2007-10** Porous structure, hydraulic properties and pollutant transport in structured soils: parameterization, modelling and simulation by fractal and affine methods.
Funding agency: Ministry of Science and Technology, Spain. Ref. AGL2007-62648.
PI: Miguel Angel Martín (Technical University of Madrid.)

10. **2007** Scale Dependences in Soil and Hydrologic Systems.
Funding agency: Ministry of Science and Technology, Spain. Ref. AGL2007-28609E.
PI: Miguel Angel Martín (Technical University of Madrid.)

9. **2007-10** Nonlinear stochastic equilibria: economic and environmental applications**.**
Funding agency: Ministry of Science and Technology, Spain. Ref. MTM2006-02372.
PI: Manuel Morán (Complutense University of Madrid.)

8. **2004-07** Fractal analysis and modelling of soil-water interaction. Application to the quantitative characterization of illuviation processes and their impact.
Funding agency: Ministry of Science and Technology, Spain. Ref. AGL2004-04079/AGR.
PI: Miguel Angel Martín (Technical University of Madrid.)

7. **2003-06** Dynamics and geometry of stochastic equilibria.
Funding agency: Ministry of Science and Technology, Spain. Ref. BFM2003-08204.
PI: Manuel Morán (Complutense University of Madrid.)

6. **2000-03** Separation of deterministic components in time series processing.
Funding agency: Ministry of Science and Technology, Spain. Ref. BX2000-0639.
PI: Manuel Morán (Complutense University of Madrid.)

5. **2000-03** Fractal parametrization and modelling to quantify soil quality and to simulate soil degradation processes.
Funding agency: Ministry of Science and Technology, Spain. Ref. REN2000–1542.
PI: Miguel Angel Martín (Technical University of Madrid.)

4. **2000-03** Fractal modelling and testing of soil hydraulic pedotransfer functions in order to quantify degradation of soils at the southern region of Madrid.
Funding agency: Comunidad Autónoma de Madrid, Spain.
PI: Miguel Angel Martín (Technical University of Madrid.)

3. **1998-00** Analysis of spatial correlations in time series.
Funding agency: Ministry of Science and Technology, Spain. Ref. DGES PB97-0301.
PI: Manuel Morán (Complutense University of Madrid.)

2. **1996-98** Nonlinear analysis of time series for financial markets.
Funding agency: Ministry of Science and Technology, Spain. Ref. DGES PS95-0193.
PI: Manuel Morán (Complutense University of Madrid.)

1. **1992-94** Detection of deterministic chaos in sea wave height time series.
Funding agency: Public Entity Spanish Ports, Ministry of Public Works and Transports.
PI: Manuel Morán (Complutense University of Madrid.)

7. LIST OF PUBLICATIONS

7.1 ARTICLES in REFEREED JOURNALS

37. The Gravity of Love: Intrinsic Decay and Counteracting Effort in Long-Term Romantic Relationships.
Jorge Herrera de la Cruz, José-Manuel **Rey.**
Research Square (2026)
https://doi.org/10.21203/rs.3.rs-11046337/v1

36. Emotional Trade-offs in Successful Romantic Relationships: A Differential Game Approach.
Jorge Herrera de la Cruz, José-Manuel **Rey.**
Mathematics (2025) 13(23, 3745
https://doi.org/10.3390/math13233745

35. A computational stochastic dynamic model to assess the risk of breakup in a romantic relationship.
Jorge Herrera de la Cruz, José-Manuel **Rey.**
Mathematical Methods in the Applied Sciences (2023) 1-18
https://doi.org/10.1002/mma.9292

34. Controlling forever love.
Jorge Herrera de la Cruz, José-Manuel **Rey.**
PLoS ONE 16(12): e0260529. (2021)
https://doi.org/10.1371/journal. pone.0260529

33. (Quasi)uniqueness and Restoring Dynamics of Price-Dispersion Equilibria under Search Costs.
Francisco Álvarez and José-Manuel **Rey.**
Journal of Mathematical Economics 81C (2019) 1-13
https://www.sciencedirect.com/science/article/abs/pii/S0304406818301368

32. Evolutionary Dynamics of Price Dispersion with Market-Dependent Costs.
Francisco Álvarez**,** José-Manuel **Rey,** and Raúl G. Sanchís.
Computational Economics Online (2017) [November] 1-26. Print **53**(3) (2019) 951-975.
https://doi.org/10.1007/s10614-017-9770-9

31. Pricing Strategy versus Heterogeneous Shopping Behavior under Market Price Dispersion.
Francisco Álvarez**,** José-Manuel **Rey,** and Raúl G. Sanchís.
Abstract and Applied Analysis Volume 2016 (2016) Article ID 3254240, 8 pages.
http://dx.doi.org/10.1155/2016/3254240

30. Consumer's Response to Price Distribution and σ-Overload under Time Allocation.
Francisco Álvarez**,** José-Manuel **Rey,** and Raúl G. Sanchís.
Journal of Computational and Applied Mathematics **291** (2016) 242- 256.
https://doi.org/10.1016/j.cam.2015.03.008

29. Choice Overload, Satisficing Behavior, and Price Distribution in a Time Allocation Model.
Francisco Álvarez**,** José-Manuel **Rey,** and Raúl G. Sanchís.
Abstract and Applied Analysis, Volume 2014 (2014) Article ID 569054, 9 pages.
http://dx.doi.org/10.1155/2014/569054

28. Numerical Analysis of a Time Allocation Model Accounting for Choice Overload.
Raúl G. Sanchís**,** José-Manuel **Rey,** and Francisco Álvarez.
International Iournal of Computer Mathematics Online (2013) [June] 1-12
Print **91**(2) (2014) 315-326.
https://doi.org/10.1080/00207160.2013.799667

27. Sentimental Equilibria with Optimal Control.
José-Manuel **Rey**.
Mathematical and Computer Modelling **57**(7-8) (2013) 1965-1969.
https://doi.org/10.1016/j.mcm.2012.01.019

26. A Mathematical Model of Sentimental Dynamics Accounting for Marital Dissolution.
José-Manuel **Rey**.
PLoS ONE **5**(3) e9881 (2010).
https://doi.org/10.1371/journal.pone.0009881

25. On the Fractal Modeling of Biomass Distributions: an Application to Size Class in Fisheries.
Carlos García-Gutiérrez, Miguel Ángel Martín, and José-Manuel **Rey**,
Ecological Complexity **6** (2009) 246-253.
https://doi.org/10.1016/j.ecocom.2009.05.006

24. Basic Quantization Properties of Balanced-Entropy.
José-Manuel **Rey**.
Geoderma **134** (3-4) (2006) 425-427.
https://doi.org/10.1016/j.geoderma.2006.03.015

23. Inter-Scale Behavior of Balanced Entropy for Soil Texture.
José-Manuel **Rey**, Eloísa Montero, and Miguel Ángel Martín.
Geoderma **134** (3-4) (2006) 415-425.
https://doi.org/10.1016/j.geoderma.2006.03.015

22. The Balanced Entropy Index to Characterize Soil Texture for Soil Water Retention Estimation.
Miguel Ángel Martín, Yakov A. Pachepsky, José-Manuel **Rey,** Fco. Javier Taguas. and Walter J. Rawls.
Soil Science **170** (10) (2005) 759-766.
https://dx.doi.org/10.1097/01.ss.0000190507.10804.47

21. An Entropy-Based Heterogeneity Index for Size Distributions in Earth Science.
Miguel Ángel Martín, José-Manuel **Rey**, and Fco. Javier Taguas.
Ecological Modelling **182**(3-4) (2005) 221-228.
https://doi.org/10.1016/j.ecolmodel.2004.04.002

20. An Entropy-Based Parameterization of Soil Texture Via Fractal Modelling of Particle-Size Distribution.
Miguel Ángel Martín, José-Manuel **Rey**, and Fco. Javier Taguas.
Proceedings of the Royal Society of London, Series A **457** (2001) 937-948.
https://doi.org/10.1098/rspa.2000.0699

19. On the Role of Shannon's Entropy as a Measure of Heterogeneity.
Miguel Ángel Martín and José-Manuel **Rey**.
Geoderma **98** (2000) 1-2.
https://doi.org/10.1016/S0016-7061(00)00049-5

18. Dimension of a Measure.
Pertti Mattila, Manuel Morán and José-Manuel **Rey.**
Studia Mathematica **142**(3) (2000) 219-233.
https://doi.org/10.4064/sm-142-3-219-233

17. The Role of Billingsley Dimensions in Computing Fractal Dimensions on Cantor–Like Spaces.
José-Manuel **Rey**.
Proceedings of the American Mathematical Society **128** (2000) 561-572.
https://doi.org/10.1090/S0002-9939-99-05166-7

16. Singularity of Self–Similar Measures with respect to Hausdorff Measures.
Manuel Morán and José-Manuel **Rey.**
Transactions of the American Mathematical Society, **350** (1998) 2297-2310.
https://doi.org/10.1090/S0002-9947-98-02218-1

15. Geometry of Self–Similar Measures.
Manuel Morán and José-Manuel **Rey.**
Annales Academiae Scientiarum Fennicae Mathematica **22** (1997) 365-386.
http://www.acadsci.fi/mathematica/Vol22/moran.html

7.2 OTHER REFEREED ARTICLES and PUBLICATIONS

14. Successful love stories as differential games
Jorge Herrera de la Cruz, José-Manuel **Rey.**
Modelling for Engineering & Human Behaviour (2023) 343-351.
Torregrosa, JR, Cortés, Vidal-Ferrándiz, A (eds.)
IMM, Universitat Politécnica de Valéncia. ISBN: 978-84-09-57681-4
https://imm.webs.upv.es/jornadas/proceedings/Modelling2023.pdf

13. An algorithm for solving feedback Nash stochastic differential games with an application to the psychology of love
Jorge Herrera de la Cruz, José-Manuel **Rey.**
Modelling for Engineering & Human Behaviour (2022) 125-133.
Torregrosa, JR, Cortés, JC, Hervás, A, Vidal-Ferrándiz, A, and. López-Navarro, E. (eds.)
IMM, Universitat Politécnica de Valéncia. ISBN: 978-84-09-47037-2
https://imm.webs.upv.es/jornadas/proceedings/Modelling2022.pdf

12. Whatever Happened to Adam and Eve's Relationship? [in Spanish]
José-Manuel **Rey.**
Pensamiento Matemático **5**(1) (2015) 75-82.
http://www2.caminos.upm.es/Departamentos/matematicas/revistapm/index4_vol_V_numero1.html

11. Maximizing and Satisficing in a Time Allocation Model.
Raúl G. Sanchís, José-Manuel **Rey,** Francisco Álvarez.
International Journal of Complex Systems in Science. **4**(1) (2014) 1–6.
http://grupoecofractal.com/sites/default/files/user14/Max%20and%20Sat%20IJCSS%202014.pdf

10. Societal Mathematics and Social Syndromes.[in Spanish]
José-Manuel **Rey.**
Pensamiento Matemático **3**(1) (2013) 167-176.
http://www2.caminos.upm.es/Departamentos/matematicas/revistapm/index4_vol_III_numero1.html

9. Optimal Control of Long-Term Sentimental Dynamics.
José-Manuel **Rey.**
Modelling for Engineering and Human Behaviour.
Jódar, L., Acedo, L., Cortés, J.C., (eds.)
IMM, Polytechnic University of Valencia (2012). ISBN:78-84-695-2143-4.
https://jornadas.imm.upv.es/Modelling2011.pdf

8. The Double Helix of the Social Sciences.[in Spanish]
José-Manuel **Rey.**
Matematicalia **7** (2) June (2011).
http://www.matematicalia.net/articulos/v7n2jun2011/jmrey.pdf

7. Survival Odds: Are All Soldiers Equal?
   José-Manuel **Rey.**
   +*Plus Magazine*, **54** (2010).
   https://plus.maths.org/content/os/latestnews/jan-apr10/army/index
6. The Carol Syndrome.
   José-Manuel **Rey.**
   +*Plus Magazine*, **51** (2009).
   https://plus.maths.org/content/carol-syndrome
   ▷Winner of the Plus New Writers Award 2009 (Cambridge University, UK).
   ▷ Reprinted in [*The, Commutator*] **3**(1) (2012) (September)
5. If We All Go for the Blonde.
   José-Manuel **Rey.**
   +*Plus Magazine*, **47** (2008).
   https://plus.maths.org/content/if-we-all-go-blonde
   ▷ Winner of the Plus New Writers Award 2008 (Cambridge University, UK).
4. Negishi's Stability without Recontracting.
   José-Manuel **Rey.**
   An Eponymous Dictionary of Economics (A Guide to Laws and Theorems Named after Economists).
   Segura, J. and Rodríguez Braun, C. (eds.).
   Edward Elgar (2005).
   https://books.google.es/books?id=Z6Oy4L-6LSwC&lpg=PP1&hl=es&pg=PR3#v=onepage&q&f=false
3. A Formalism for the Dimensional Analysis of Time Series.
   Manuel Morán and José-Manuel **Rey**.
   IDEAS-RePec, Society for Computational Economics (1999).
   Series *Computing in Economics and Finance* 1999, number 1331.
   https://ideas.repec.org/p/sce/scecf9/1331.html
2. Geometry of Self-Similar Sets and Measures. [in Spanish]
   José-Manuel **Rey.**
   Universidad Complutense de Madrid, 1995, ISBN 84-669-0717-3.
   https://eprints.ucm.es/3513/
1. Detection of Chaos in Time Series. An Application to Spanish Sea Swell.
   Eugenia Mera, Manuel Morán, and José-Manuel **Rey.**
   Working Paper #9507, Faculty of Economics, Complutense University, 1995.
   https://eprints.ucm.es/26654/

7.3 REVIEW OF SCIENTIFIC PUBLICATIONS

>**Jan 2000**. Reviewer of Zentrablatt MATH (European Mathematical Society)
60 reviews published (by June 2021)

7.4 BOOKS

4. Mathematics for the Natural Sciences and Technology I [in Spanish]
   Miguel Ángel Martín, Manuel Morán, José-Manuel **Rey,** Miguel Reyes.
   Bruño, 2002. ISBN: 84-216-4317-7.
3. Mathematics for the Natural Sciences and Technology II [in Spanish]
   Miguel Ángel Martín, Manuel Morán, José-Manuel **Rey,** Miguel Reyes.
   Bruño, 2002. ISBN: 84-216-4810-1.
2. Mathematics for the Social Sciences I. [in Spanish]
   Miguel Ángel Martín, Manuel Morán, José-Manuel **Rey,** Miguel Reyes.
   Bruño, 2000. ISBN: 84-216-3695-2.
1. Mathematics for the Social Sciences II.[in Spanish]
   Miguel Ángel Martín, Manuel Morán, José-Manuel **Rey,** Miguel Reyes.
   Bruño, 2000. ISBN: 84-216-3696-0.

8 LIST of PRESENTATIONS

8.1 COMMUNICATIONS in INTERNATIONAL CONFERENCES

35. **Oct 2026** *The gravity of love: Quantifying the intrinsic decline of satisfaction in romantic relationships*
    2026 TLC Virtual Love Conference.
    The Love Consortium. Universiy ofr North Carolina, Chapell Hill. USA

34. **Jul 2024** *Sustainability of a romantic relationship via computational differential game modeling.*
    Mathematical Modelling in Engineering and Human Behavior 2024.
    Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
    Valencia (Spain). [presented by J. Herrera]

33. **Jul 2023** *Successful love stories as differential games.*
    Mathematical Modelling in Engineering and Human Behavior 2023.
    Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
    Valencia (Spain). [presented by J. Herrera]

32. **Jul 2022** *A computational stochastic dynamic model to assess the risk of breakup in a romantic relationship.*
    Mathematical Modelling in Engineering and Human Behavior 2022.
    Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.

31. **Jul 2019** *Differential love games*
    Mathematical Modelling in Engineering and Human Behavior 2019.
    Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
    Valencia (Spain). [presented by J. Herrera]

30. **Jun 2018** *1+1*
    V International Workshop "Mathematics Everywhere".
    Centro Internacional de Encuentros Matemáticos.
    Castro Urdiales, Cantabria (Spain).

29. **Jul 2017** *Optimal pricing from shopping time distributions*
Mathematical Modelling in Engineering and Human Behavior 2017.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain). [presented by R. G. Sanchís]

28. **Jul 2016** *Market dynamics under price and search cost dispersions*
Mathematical Modelling in Engineering and Human Behavior 2016.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain). [presented by R. G. Sanchís]

27. **Sep 2015** *Pricing strategy versus shopping behavior under market price dispersion*
Mathematical Modelling in Engineering and Human Behavior 2015.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain). [presented by R. G. Sanchís]

26. **Sep 2014** *Consumer's response to price distribution in a time allocation model.*
Mathematical Modelling in Engineering and Human Behavior 2014.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain). [presented by F. Álvarez]

25. **Sep 2013** *Maximizing and satisficing in a choice model based in time allocation.*
Mathematical Modelling in Engineering and Human Behavior 2013.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain). [presented by R. G. Sanchís]

24. **Sep 2012** *A time allocation model accounting for the paradox of choice.*
Mathematical Modelling in Engineering and Human Behavior 2012.
Institute for Multidisciplinary Mathematics. Polytechnic City of Innovation.
Valencia (Spain).

23. **Sep 2010** *Our love was to last forever. Hence we are breaking up now.*
11th Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics.
CeNDEF, University of Amsterdam.
Amsterdam (Netherlands).

22. **Jun 2008** *Love is not enough: a mathematical model explaining couple breakup.*
No Lineal 2008. Universitat Politécnica de Catalunya.
Barcelona (Spain).

21. **Sep 2007** *(Durable) love is a very unstable thing.*
EMPG38 (38th meeting of the European Mathematical Psychology Group.) University of Luxembourg
Luxembourg.

20. **Sep 2007** *Gauguing Shannon's entropy to evaluate heterogeneity of mass-size distributions.*
No Lineal 2007 .Universidad de Castilla-La Mancha.
Ciudad Real (Spain).

19. **Jul 2004** *Properties and uses of the balanced-entropy index for soil textural analysis.*
PEDOFRACT'04. International Workshop on Fractal Mathematics Applied to Soil and Related Systems.
El Barco de Ávila (Spain).

18. **Jun 2004** *A generalization of Shannon's entropy to evaluate heterogeneity of mass-size distributions.*
Workshop on Mathematical Economics.
Complutense University of Madrid.
Madrid (Spain).

17. **Feb 2003** *A simple entropy index to evaluate heterogeneity of mass-size distributions: application to soil texture.*
Applied Mathematics & Applications of Mathematics (AMAM 2003).
Nice (France).

16. **Jul 2002** *Dimensions of measures and correlation dimensions.*
X Congresso di Analisi Reale e Teoria della Misura (C.A.R.Te.Mi. X).
Ischia (Italy).

15. **Jun 2002** *Balancing entropy to measure biodiversity and soil texture.*
PEDOFRACT'04. International Workshop on Fractal Mathematics Describing Soil and Other Heterogenous Systems.
El Barco de Ávila (Spain).

14. **Jun 2001** *Properties of the dimension of a measure and the behavior of correlation dimensions.*
Fractals in Graz 2001. University of Graz.
Graz (Austria).

13. **Jul 2000** *Dimension of a measure.*
VI International Conference on Harmonic Analysis and Partial Differential Equations.
El Escorial (Spain).

12. **Sep 2000** *On the properties of dimensions of measures and how good correlation dimensions are..*
IX Congresso di Analisi Reale e Teoria della Misura (C.A.R.Te.Mi. IX).
Grado (Italia).

11. **Sep 2000** *An entropy-based parametrization of textures in disordered media.*
IX Congresso di Analisi Reale e Teoria della Misura (C.A.R.Te.Mi. IX).
Grado (Italia).

10. **Sep 1999** *Dimensional analysis of time series.*
International Workshop on Chaotic Dynamics and Fractals in Geosciences.
School of Agricultural Engineering. Technical University of Madrid.
Madrid (Spain).

9. **Jun 1999** *A formalism for the dimensional analysis of time series.*
CEF'99 (Computing in Economics and Finance).
Fifth International Conference of the Society for Computational Economics.
Boston College, Chesnut Hill, Massachusetts (USA).

8. **Feb 1999** *Dimension of a measure.*
International Workshop on the Structure of Hyperbolic Measures.
Complutense University of Madrid.
Madrid (Spain).

7. **Jan 1999** *Dimensions and measures in time series analysis.*
Workshop on Multifractals and Applications.
Isaac Newton Institute for Mathematical Sciences, Cambridge University.
Cambridge (UK).

6. **Sep 1998** *On the role of geometry in computing dimensions within fractal spaces.*
VIII Congresso di Analisi Reale e Teoria della Misura (C.A.R.Te.Mi. VIII),
Maiori (Italy)

5. **Sep 1998** *Billingsley dimension and fractal geometry.*
Conference on Fractal Geometry and Stochastics II.
Greifswald (Germany).

4. **Jul 1996** *Packing and Hausdorff geometry of self-similar measures.*
VII Congresso di Analisi Reale e Teoria della Misura (C.A.R.Te.Mi. VII).
Ischia (Italy).

3. **Jul 1995** *A new method for detecting chaotic dynamics in time series. An application to the analysis of significant wave height series.*
International Union of Geodesy and Geophysics (IUGG), XXI General Assembly,
Boulder, Colorado, (USA) [presented by M. Alfonso]

2. **May 1995** *Efficient ways of covering cylinders by balls in self-similar constructions*
ERGOFRACT'95 (International Meeting on Chaos, Fractals, and Ergodic Theory),
Las Palmas de Gran Canaria (Spain). [presented by M. Morán]

1. **May 1995** *Hausdorff singularity of self-similar measures*
ERGOFRACT'95 (International Meeting on Chaos, Fractals, and Ergodic Theory),
Las Palmas de Gran Canaria (Spain).

8.2 PLENARY LECTURES at CONFERENCES

10. **Oct 2025** *Ideas para una felicidad sostenible* **[Plenary Speaker]**
[Ideas for sustainable happiness].
Jornadas CRUE-Sostenibilidad
Universidad de Alcalá
Álcala de Henares (Spain).

9. **Nov 2018** *Cuatro ideas sobre el bienestar, con ciencia* **[Plenary Speaker]**
[Four scientific ideas about well-being].
I Encuentro de Economía Senior
Senior Economy Forum, IE Foundation, CaixaBank
Segovia (Spain).

8. **Jul 2018** *Will I love you forever? Equations of durable love* **[Plenary Speaker]**
Why do (not) we love? The science of romantic relationships.
Summer Course. Complutense University of Madrid.
El Escorial (Spain).

7. **Sep 2016** *Our love was to last forever* **[Plenary Speaker]**
Paradigmatic Models in Social Science.
11th International Workshop "Topics in Nonlinear Dynamics".
Italian Society for Chaos and Complexity.
Politecnico di Milano, Milano (Italy)

6. **Jul 2016** *And they lived (not) happily ever after.* **[Plenary Speaker]**
Why are (not) we happy? The science of happiness and its implications.
Summer Course. Complutense University of Madrid.
El Escorial (Spain).

5. **Jul 2018** *Romantic attraction and social interaction.* **[Plenary Speaker]**
Why do (not) we love? The science of romantic relationships.
Summer Course. Complutense University of Madrid.
El Escorial (Spain).

4. **May 2014** *Whatever happened to Adam and Eve's love relationship?* **[Plenary Speaker]**
III International Workshop "Mathematics Everywhere".
Centro Internacional de Encuentros Matemáticos.
Castro Urdiales, Cantabria (Spain).

3. **Jun 2012** *Societal mathematics and social syndromes.* **[Plenary Speaker]**
II International Workshop "Mathematics Everywhere".
Centro Internacional de Encuentros Matemáticos.
Castro Urdiales, Cantabria (Spain).

2. **Sep 2011** *Optimal control of long-term sentimental dynamics.* **[Plenary Speaker]**
Conference "Mathematical Modelling in Engineering Human Behavior".
Institute for Multidisciplinary Mathematics.Polytechnic City of Innovation,
Valencia (Spain).

1. **May 2011** *Society minus science equals crisis?* **[Plenary Speaker]**
Workshop "The Necessary Scientific Society: More Science, Less Crisis."
Universidad Internacional Menéndez Pelayo.
Sevilla (Spain).

8.3 INVITED SEMINAR TALKS

21. **Jun 2023** *Some key facts about micro and macro happiness.*
Department of Psychology.
Harvard University.
Cambridge, MA (USA).

20. **Mar 2017** *The Carol syndrome: romantic attractiveness and inhibition.*
Department of Psychology.
Harvard University.
Cambridge, MA (USA).

19. **Apr 2017** *The orchestra effect.*
Department of Psychology.
Harvard University.
Cambridge, MA (USA).

18. **Mar 2017** *1+1.*
Department of Psychology.
Harvard University.
Cambridge, MA (USA).

17. **May 2016** *Love Engineering*
Schools of Agricultural Engineering.
Technical University of Madrid (Spain).

16. **Apr 2015** *Is it possible to make love last?*
Real Colegio Complutense at Harvard,
Harvard University
Cambridge, MA (USA).

15. **Mar 2015** *Our love was to last forever.*
Department of Psychology.
Harvard University
Cambridge, MA (USA).

14. **Dic 2009** *The invisible hand and the platinum blonde.*
Research Seminar. Department of Mathematics. Public University of Navarre.
Pamplona (Spain).

13. **Dic 2007** *Control and failure of sentimental dynamics*
Research Seminar. Department of Mathematics. Public University of Navarre.
Pamplona (Spain)

12. **May 1999** *Geometry of self-similar measures.*
Seminar. Department of Mathematics.
Autonomous University of Madrid.
Madrid (Spain).

11. **Jun 1998** *A formalism for the dimensional analysis of time series.*
Research Seminar. Department of Mathematics.
University of Castilla-La Mancha
Ciudad Real (Spain).

10. **May 1997** *Billingsley dimensions on Cantor-like spaces.*
Fractal Geometry Seminar. Complutense University and Technical University.
Madrid (Spain).

9. **Nov 1996** *Nonlinear signal analysis: some results and practicalities.*
Nonlinear Dynamics Seminar. Centre for Nonlinear Dynamics and its Applications.
University College London

8. **Nov 1996** *Hausdorff and packing self-similar geometry.*
Research Seminar. Department of Mathematics.
University College London.
London (UK)

7. **Jun 1996** *Billingsley dimensions on self-similar spaces.*
Analysis Seminar. Mathematical Institute.
University of St. Andrews.
St. Andrews (Scotland).

6. **May 1996** *Geometric-size properties of self-similar measures.*
Analysis Seminar. Mathematical Institute.
University of St. Andrews.
St. Andrews (Scotland).

5. **Mar 1996** *Local representation of Hausdorff and packing dimensions.*
Fractal Geometry Seminar.
Complutense University and Technical University.
Madrid (Spain).

4. **Jun 1995** *Geometry of self-similar measures.*
Research Seminar. Department of Mathematical Analysis.
Complutense University of Madrid.
Madrid (Spain).

3. **Jun 1994** *Product measures on self-similar spaces.*
Research Seminar. Department of Mathematical Analysis.
Complutense University of Madrid.
Madrid (Spain).

2. **Dic 1993** *Detection of chaos in experimental signals.*
Mathematics Seminar. Schools of Engineering (Civil, Agricultural and Architecture).
Technical University of Madrid.
Madrid (Spain).

1. **Abr 1993** *Nonlinear time series analysis.*
Research Seminar. Department of Applied Mathematics.
School of Agricultural Engineering.
Technical University of Madrid.
Madrid (Spain).

8.4 INVITED LECTURES on POPULARIZATION OF SCIENCE [in Spanish]

- UNIVERSITY LEVEL

10. **Feb 2023** *La lógica del amor eterno. [The equations of eternal love.*]
Colegio Mayor Padre Poveda.
Madrid (Spain).

9. **Feb 2022** *La lógica de tu felicidad. Ideas de la ciencia. [The logic of happiness. Ideas from science.*]
Colegio Mayor Padre Poveda.
Madrid (Spain).

8. **Mar 2019** *La lógica del amor. Ecuaciones del amor duradero [The logic of love. Equations of durable love.*]
Colegio Mayor Marqués de la Ensenada.
Madrid (Spain).

7. **Mar 2011** *Mathematics and everything else.*
Faculty of Economics and Business Administration.
Autonomous University of Madrid (Spain).

6. **Nov 2010** *Game theory and economics.*
Faculty of Economics and Business Administration.
Autonomous University of Madrid (Spain).

5. **Dic 2010** *Not without mathematics*
School of Agricultural Engineering.
Technical University of Madrid (Spain).

4.**Nov 2007** *Could you live without mathematics?*
Faculty of Environmental Sciences.
University of Castilla-La Mancha. Toledo (Spain).

3.**Nov 2004** *Why is mathematics useful?*
Faculty of Computer Sciences.
Technical University of Madrid (Spain).

2.**Sep 2004** *Why mathematics?*
School of Agricultural Engineering.
Technical University of Madrid (Spain).

1. **May 2004** *What is mathematics for?*
Faculty of Education. University program for older students.
University of Valladolid (Spain).

- HIGH SCHOOL LEVEL

9. **Abr 2025** *La realidad matemática* [*The mathematical reality*]
I.E.S Cencibel, Villarrobledo (Albacete)

8. **Dec 2018** *¡Son las matemáticas, estúpido!* [*It's the mathematics, stupid!]*
I.E.S Cencibel, Villarrobledo (Albacete)

7. **May 2017** 1+1. *El papel de la ciencia en el bienestar humano* [*1+1. The role of science in well-being*]
Colegio Veritas (Madrid)

6. **Mar 2010** *Invitación a las matemáticas de las Ciencias Sociales* **[***Invitation to mathematics for the social sciences]*
Colegio Veritas (Madrid)

5. **Abr 2008** *¿Para qué sirven las matemáticas? [What are Maths for?]*
Colegio Veritas (Madrid)

4. **Jun 2004** *Mathematics and the real world.*
Colegio Joyfe (Madrid)

3. **May 2004** *Matemáticas y el mundo real [Mathematics and the real world.*
Colegio Nuevo Equipo (Madrid)

2. **May 2004** *Matemáticas y el mundo real [Mathematics and the real world.*
Colegio Arturo Soria (Madrid).

1.**Sep 2000** *Invitación a las matemáticas de las Ciencias Sociales* **[***Invitation to mathematics for the social sciences.]*
Colegio Nuevo Equipo (Madrid).

- GENERAL AUDIENCE

22. **Mar 2026** *¿Podemos explicar el amor con matemáticas? [Can we explain love with mathematics?]*
CosmoCaixa Museo de la Ciencia. Barcelona.

21. **Oct 2023** *Ciencia, Belleza y Sociedad. [Science, Beauty and Society]*
CaixaForum Madrid.

20. **May 2023** *Ciencia, Belleza y Sociedad. [Science, Beauty and Society]*
CaixaForum Palma de Mallorca.

19. **May 2023** *Ciencia, Belleza y Sociedad. [Science, Beauty and Society]*
CosmoCaixa Museo de la Ciencia. Barcelona.

18. **Abr 2023** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Zaragoza.

17. **Feb 2023** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Girona.

16. **Nov 2022** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Tarragona.

15. **Oct 2022** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Lleida

14. **Mar 2022** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CosmoCaixa Barcelona.

13. **Mar 2022** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Palma.

12. **Feb 2022** *¿Por qué (no) somos felices? Ideas de la ciencia de la felicidad [Why are (not) we happy?]*
CaixaForum Madrid.

11. **Mar 2021** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Palma.

10. **Feb 2021** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CosmoCaixa Barcelona.

9. **Jan 2021** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Lleida.

8. **Sep 2020** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Girona.

7. **Feb 2020** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Zaragoza.

6. **Feb 2020** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Sevilla.

5. **Ene 2020** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Tarragona.

4. **Feb 2019** *El eterno amor. Ecuaciones del amor verdadero [Endless Love. The equations of true love]*
CaixaForum Madrid.

3. **Apr 2018** *Mathematical Psychology: analysis of romantic relationships*. [in English]
Longwood Towers Speaker Series, Longwood Towers, Brookline, MA (USA)

2. **Mar 2018** *Psicología del amor y matemáticas. [Psychology of love and mathematics]*
Asociación de Gourmets de Madrid

1. **Abr 2004** *Why you need mathematics*
Military Prison. Alcalá de Henares (Madrid).

8.5 INVITED LECTURES on UNIVERSITY EDUCATION

2. **Apr 2007** *Pilot experience on the European Higher Education Space.*
School of Agricultural Engineering.
Technical University of Madrid (Spain).

1. **Jun 2006** *Teaching mathematics in the European Higher Education Space.*
Faculty of Economics. University of Alicante (Spain).

8.6 INVITED LECTURES at PRIVATE CORPORATIONS

6. **Oct 2024** *La lógica del bienestar humano*
[The logic of human well-being]
Fonditel. Pensiones EGFP S.A. Madrid (Spain).

5. **Sep 2022** *Ideas científicas sobre la felicidad.*
[Scientific ideas about happiness]
Agem Russell Bedford. San Sebastián (Spain).

4. **Jun 2022** *La ciencia de la felicidad y sus implicaciones.*
[The science of happiness and its implications]
Jornadas de Compliance & DPO. Telefónica S.A: Buitrago de Lozoya. Madrid (Spain).

3. **May 2022** *La lógica de nuestra felicidad.[The logic of our happiness]*
Proyecto Cultura Global ONCE.
ONCE Illes Balears. Palma de Mallorca (Spain).

2. **Feb 2022** *Bases científicas del bienestar: las claves de tu felicidad.*
[Science of well-being: keys to happiness]
Jornadas de Políticas Públicas, Regulación y Competencia
Telefónica S.A. Madrid (Spain)

1. **Nov 2021** *Fabricando experiencias, transformando equipos*
[Creating experiences, Transforming teams]
San Pablo Inmobiliaria. Burgos (Spain).

8.7 COURSES GIVEN

5. **Apr 2009** *Stellar mathematical moments in History.* (9 hours)
Training Program for Mathematical Teachers.
Territorial Centre of Training and Innovation (CTIF) Madrid Sur, Leganés (Spain).

4. **Jan 2009** *The invisible universe of mathematics.* (21 hours)
Training Program for Mathematical Teachers.
Territorial Centre of Training and Innovation (CTIF) Madrid Sur, Fuenlabrada (Spain).

3. **Feb 2008** *Societal mathematics and social syndromes.* (6 hours)
Training Program for Mathematical Teachers.
Centre of Training and Innovation. CAP Getafe (Spain).

2. **May 2007** *Mathematics of strategy.* (6 hours)
Training Program for Mathematical Teachers.
Territorial Centre of Training and Innovation. CAP Fuenlabrada (Spain).

1. **Jul 2005** *Multidimensional chaos.* (5 hours)
Summer School.
University of Teruel (Spain).

9 ORGANIZATION OF CONFERENCES AND SCIENTIFIC EVENTS

9.1 INTERNATIONAL CONFERENCES

6. **May 2012** PEDOFRACT'12. International Workshop on Scaling in Particulate and Porous Media: Modeling and Use in Predictions
A Coruña (Spain)
Member of the Organizing Committee. Member of the Scientific Committee.

5. **Jul 2007** PEDOFRACT'07. International Workshop on Scale Dependences in Soil and Hydrologic Systems.
El Barco de Ávila (Spain)
Member of the Organizing Committee.

4. **Jul 2004** PEDOFRACT'04. International Workshop on Fractal Mathematics describing Soil and Related Heterogeneous Systems.
El Barco de Ávila (Spain)
Member of the Organizing Committee.

3. **Feb 2003** Mathematical Modelling, Characterization and Computer Simulation of Particle-Size and Other Distributions in Soil and Fragmented Systems. AMAM 2003 (Applied Mathematics and Applications of Mathematic.)
Nice (France)
Member of the Organizing Committee.

2. **Jul 2002** PEDOFRACT'02. International Workshop on Fractal Mathematics describing Soil and Heterogeneous Systems.
El Barco de Ávila (Spain)
Member of the Organizing Committee.

1. **Feb 1999** International Workshop on the Structure of Hyperbolic Measures.
Complutense University of Madrid (Spain).
Member of the Organizing Committee.

9.2 COURSES

4. **Jul 2018** Why do (not) we love? The science of romantic relationships.
Summer Course. Complutense University of Madrid.
El Escorial (Spain), July 4-5
Director of the course.

3. **Jul 2016** Why are (not) we happy? The science of happiness and its implications.
Summer Course. Complutense University of Madrid.
El Escorial (Spain), July 11-13
Co-Director of the course.

2. **May 2011** The Necessary Scientific Society: More Science, Less Crisis. (14 hours)
Universidad Internacional Menéndez Pelayo. Sevilla (Spain)
Director of the course.

1. **Jan 2009** The invisible universe of mathematics. (21 hours)
Territorial Centre of Training and Innovation (CTIF) Madrid Sur, Fuenlabrada.(Spain.)
Director and Speaker.

9.3 SPEAKER SERIES-GENERAL AUDIENCE

18. **Oct 2023** La lógica de la belleza [The logic of beauty].
CaixaForum Madrid. 4/10 – 25/10
Coordinador/Organizer.

17. **May 2023** La lógica de la belleza [The logic of beauty].
CaixaForum Palma. 4/20 – 5/11
Coordinador/Organizer.

16. **Abr 2023** La lógica de la belleza [The logic of beauty].
CosmoCaixa Barcelona. 4/13 – 5/4
Coordinador/Organizer.

15. **Abr 2023** La lógica de la felicidad [The logic of happiness].
CaixaForum Zaragoza. 4/4 – 4/25
Coordinador/Organizer.

14. **Feb 2023** La lógica de la felicidad [The logic of happiness].
CaixaForum Girona. 2/1 – 2/22
Coordinador/Organizer.

13. **Nov 2022** La lógica de la felicidad [The logic of happiness].
CaixaForum Tarragona. 11/7 – 11/28
Coordinador/Organizer.

12. **Oct 2022** La lógica de la felicidad [The logic of happiness].
CaixaForum Lleida. 10/19 –11/9
Coordinador/Organizer.

11. **Mar 2022** La lógica de la felicidad [The logic of happiness].
CosmoCaixa Barcelona. 3/16 – 4/6
Coordinador/Organizer.

10. **Mar 2022** La lógica de la felicidad [The logic of happiness].
CaixaForum Palma de Mallorca. 3/3 – 3/24
Coordinador/Organizer.

9. **Feb 2022** La lógica de la felicidad [The logic of happiness].
CaixaForum Madrid. 2/2 – 2/23
Coordinador/Organizer.

8. **Mar 2021** La lógica del amor [The logic of love].
CaixaForum Palma de Mallorca. 3/4 – 3/17
Coordinador/Organizer.

7. **Feb 2021** La lógica del amor [The logic of love].
CosmoCaixa Barcelona. 2/3 – 2/17
Coordinador/Organizer.

6. **Jan 2020** La lógica del amor [The logic of love].
CaixaForum Lleida. 1/19 – 2/2
Coordinador/Organizer.

5. **Mar 2020** La lógica del amor [The logic of love].
CaixaForum Girona. 2/25 – 10/6
Coordinador/Organizer.
4. **Feb 2020** La lógica del amor [The logic of love].
CaixaForum Zaragoza. 2/4 – 2/25
Coordinador/Organizer.
3. **Feb 2020** La lógica del amor [The logic of love].
CaixaForum Sevilla. 1/23 – 2/13
Coordinador/Organizer.
2. **Ene 2020** La lógica del amor [The logic of love].
CaixaForum Tarragona. 1/13 – 1/27
Coordinador/Organizer..
1. **Feb 2019** La lógica del amor [The logic of love].
CaixaForum Madrid. 1/28 – 2/18
Coordinador/Organizer..

10 PhD THESES SUPERVISED

1. **Jun 2013** *Time microeconomics: on the allocation of time and choice overload*
authored by Raúl G. Sanchís.
European Mention Doctorate.
Doctoral Dissertation Award (2013 Best Thesis in Economics).
Complutense University of Madrid (Spain).

11 OTHER SCIENTIFIC MERITS

11.1 Scientific EDITOR

- (> 2021) Journal *Mathematics*

11.2 REFEERING for PEER-REVIEW JOURNALS

- SIAM Journal of Mathematics.
- Nonlinearity.
- Pure and Applied Geophysics.
- Applied Mathematical Letters.
- Journal of Theoretical Biology.
- PLoS ONE.
- Chaos-An interdisciplinary Journal of Nonlinear Science.
- Health.
- Stochastics: An International Journal of Probability and Stochastic Processes.
- Chaos, Solitons & Fractals.
- Entropy

11.3 Scientific REVIEWER

- (> 2000) Zentralblatt MATH. European Mathematical Society.

11.4 MEMBER of PhD COMMITTEES

Oct 2021 Modeling social phenomena via emergent properties of interconnected networks within a community
by Mariamo Mussa Juane
Faculty of Physics. University of Santiago de Compostela. (Spain).
(Head of the Committee)

Nov 2020 Numerical resolution of Deterministic and Stochastic in Feedback Nash Equilibria
by Jorge Herrera de la Cruz
Faculty of Mathematics. Complutense University of Madrid (Spain).
(Head of the Committee)

Dec 2016 Quantifying patterns of complexity controlled by parent material at different spatial scales: from drainage network architecture at landscape scale to soil texture
by Joaquín Cámara Gajate.
School of Agricultural Engineering.Technical University of Madrid (Spain).

Oct 2010 Characterization and modeling of soil texture and structure using image processing techniques and fractal geometry. Application to diffusion in porous media.
by Carlos García-Gutiérrez.
School of Agricultural Engineering.Technical University of Madrid (Spain).

Jun 2006 Dimension print and self-similar measures with overlapping.
by Victor Ruiz Morcillo
Faculty of Computer Science. Technical University of Madrid (Spain).

Jun 2004 Continuous Lipschitz dynamic programming. Application to the optimal exploitation of renewable resources under increasing returns.
by José María Maroto
Faculty of Economics. Complutense University of Madrid (Spain).

May 2003 Application of multifractal analysis techniques to mass-size distributions of soil particles obtained by laser diffraction.
by Eloísa Montero
School of Agricultural Engineering.Technical University of Madrid (Spain).

Mar 1999 Efficient strategies in future and option markets.
by Juan Garrido
Faculty of Economics. Complutense University of Madrid (Spain).

Apr 1997 Multifractal Analysis of pore size distribution in soil.
by Javier Caniego
School of Agricultural Engineering.Technical University of Madrid (Spain).

Oct 1995 Fractal modeling of particle size distribution in soil.
by Francisco Javier Taguas
School of Agricultural Engineering.Technical University of Madrid (Spain).

11.5 EDITORIAL EXPERIENCE

1998-2002 Editorial Coordinator of Mathematics for the Publishing Company Bruño.

11.6 OTHER WRITINGS

6 Me gusta. Le gusto. ¿Ahora qué? La probabilidad de vivir una historia de amor.
[We're into each other. Now what? What are the chances of living a love story?] **[Cover story]**
José-Manuel Rey
The Conversation, Spain August 4, 2025. Artículo destacado de portada.
https://theconversation.com/me-gusta-le-gusto-ahora-que-la-probabilidad-de-vivir-una-historia-de-amor-235911

5 La realidad matemática [The mathematical reality]
José-Manuel Rey
The Conversation, Spain March 14, 2025.
https://theconversation.com/la-realidad-matematica-252048

4 ¿Cómo se rompe una pareja¿ Anatomía matemática de una caída
[Can science explain why couples break up? The mathematical anatomy of a fall] **[Cover story]**
José-Manuel Rey and **Jorge Herrera de la Cruz**
The Conversation, Spain/Europe/ Brasil. April 17, 2024. Artículo destacado de portada.
https://theconversation.com/como-se-rompe-una-pareja-anatomia-matematica-de-una-caida-226271

3 Cómo celebrar el Día de Pi en el bar
[How to celebrate Pi Day at the bar]
José-Manuel Rey
The Conversation, March 13, 2019.
https://theconversation.com/como-celebrar-el-dia-de-pi-en-el-bar-113496

2 El amor eterno ¿es científicamente posible?
[Is eternal love scientifically possible?]
José-Manuel Rey
The Conversation, February 13, 2019.
https://theconversation.com/el-amor-eterno-es-cientificamente-posible-111802

1 "1+1"
Rubén Pacheco and **José-Manuel Rey** (2015)
Screenplay for the short film "1+1" directed by Rubén Pacheco (2016).

11.7 MEDIA COVERAGE

- The research on the mathematical modeling of sentimental relationships in José-Manuel **Rey.** A mathematical model of sentimental dynamics accounting for marital dissolution.*PLoS ONE* **5**(3) e9881 (2010).
was covered by media worldwide, e.g.
  - It Takes 30 (Harvard Medical School, US)
  - PhysOrg.com (UK)
  - The Globe and the Mail (Canada)
  - KLTV (Texas, US)
  - Epoca (Brasil)
  - Pravda (Russia)
  - Público (Spain)
  - Mathematics for Planet Earth (France)
  - The Atlantic (Washington, US)
  - Need to Know on PBS (NY, US)
  - I (Portugal)
  - Ingenioren (Denmark)
  - El Universal (Mexico)
  - ABC (Spain)

- SINC (Spain)
- Muy Interesante (Spain)

- The mathematical modeling on attractive women and dating in José-Manuel **Rey.** The Carol Syndrome. *+Plus Magazine,***51** (2009) was covered by
  - Salon.com

11.8 MEDIA COLLABORATIONS

> 2011 "Julia en la Onda" (Radio Station ONDA CERO, Spain)
Scientific Commentator for social issues.