

# José-Manuel REY

## MATHEMATICIAN

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ECOMAP- Director  
DEPARTMENT OF ECONOMIC ANALYSIS  
FACULTY OF ECONOMICS  
UNIVERSIDAD COMPLUTENSE de MADRID  
Campus de Somosaguas  
28223 Madrid (Spain)  
PHONE +34 91 394 24 07 | FAX +34 91 394 25 61  
EMAIL [j-man@ccee.ucm.es](mailto:j-man@ccee.ucm.es)  
URL [ecomap.es/rej](http://ecomap.es/rej)



## 1. EDUCATION

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- 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

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- > 2000 Associate Professor** (with tenure).  
Department of Economic Analysis.  
**Complutense University of Madrid** (Spain).
- > 2015 Associate Scholar**  
Department of Psychology.  
**Harvard University (USA)**.
- 2024 Visiting Scholar** (May-June).  
Department of Psychology.  
**Harvard University (USA)**.
- 2023 Visiting Scholar** (June).  
Department of Psychology.  
**Harvard University (USA)**.

- 2018**      **Visiting Scholar** (April-May).  
Department of Psychology.  
**Harvard University (USA).**
- 2017**      **Visiting Scholar** (February-June).  
Department of Psychology.  
**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

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- 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

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- 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

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##### ▷ 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]
- **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]
- **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]
- **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

- **Social Communication of Science.**  
Master's Degree in Data Analysis and Communication. Universidad CEU San Pablo.  
[yrs. 23/24, 24-25]

- **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

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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

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### 7.1 ARTICLES in REFEREED JOURNALS

34. 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>
33. 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>
32. (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://doi.org/10.1016/j.jmateco.2018.12.002>
31. 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>
30. 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>

29. Consumer's Response to Price Distribution and  $\sigma$ -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>
28. 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>
27. Numerical Analysis of a Time Allocation Model Accounting for Choice Overload.  
Raúl G. Sanchís, José-Manuel **Rey**, and Francisco Álvarez.  
*International Journal of Computer Mathematics Online* (2013) [June] 1-12  
Print **91**(2) (2014) 315-326.  
<https://doi.org/10.1080/00207160.2013.799667>
26. 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>
25. 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>
24. 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>
23. 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>
22. 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>
21. 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>
20. 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>

19. 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>
18. 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](https://doi.org/10.1016/S0016-7061(00)00049-5)
- 17 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>
16. 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>
15. 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>
- 14 Geometry of Self-Similar Measures.  
Manuel Morán and José-Manuel **Rey**.  
*Annales Academiæ Scientiarum Fennicæ 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 Politècnica de València. 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 Politècnica de València. 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](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](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&lpq=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

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### 8.1 COMMUNICATIONS in INTERNATIONAL CONFERENCES

34. **Jul 2024** *Sustainability of a romantic relationship via computational differential game modellig..*  
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 Politècnica 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** *Gauging 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*  
ERGOFRAC'T'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*  
ERGOFRAC'T'95 (International Meeting on Chaos, Fractals, and Ergodic Theory),  
Las Palmas de Gran Canaria (Spain).

## 8.2 PLENARY LECTURES at CONFERENCES

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.  
11<sup>th</sup> 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]

##### o 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

- 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

- 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 Mathematics)  
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.  
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

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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

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### 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

### 11.2 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

- 4 ¿Cómo se rompe una pareja? Anatomía matemática de una caída [Can science explain why couples break up? The mathematical anatomy of a fall]  
**José-Manuel Rey and Jorge Herrera de la Cruz**  
The Conversation, Spain/Europe/ Brasil editions. April 17, 2024.  
<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 \(Spain\)](#)
  - [SINC \(Spain\)](#)
  - [Mathematics for Planet Earth \(France\)](#)
  - [The Atlantic \(Washington, US\)](#)
  - [Need to Know on PBS \(NY, US\)](#)
  - [I \(Portugal\)](#)
  - [Ingenioren \(Denmark\)](#)
  - [El Universal \(Mexico\)](#)
  - [ABC \(Spain\)](#)
  - [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.